



Education and Training Committee

Inquiry into agricultural education and training in Victoria

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Functions of the Committee

The functions of the Education and Training Committee are set out in section 9 of the *Parliamentary Committees Act 2003* (Vic). That section states:

The functions of the Education and Training Committee are, if so required or permitted under this Act, to inquire into, consider and report to the Parliament on any proposal, matter or thing concerned with education or training.

Terms of reference

The following reference was made by the Legislative Assembly on 10 February 2011:

To the Education and Training Committee — for inquiry consideration and report no later than 31 January 2012 on agricultural education in Victoria, and the Committee is asked to consider:

- (a) an evaluation of the current extent of agricultural-related courses delivered in Victoria;
- (b) an evaluation of the effectiveness of current agricultural programs;
- (c) whether the workforce training needs of agriculture are being met; and
- (d) an overview of well regarded agricultural education in other Australian States and Territories, or other countries.

The reporting date was extended to 16 November 2012 by resolution of the Legislative Assembly on 7 December 2011.

Chair's foreword

There is much to celebrate about the Victorian agriculture sector. We are Australia's largest food and fibre exporting state, the sector is at the forefront of research and technology and there are strong signs that Victoria will be able to capitalise on future global demand for agricultural products.

However, the contribution the agriculture sector makes and its achievements are not broadly recognised within the community. The period of drought, gloomy media coverage and the increasing urban-rural divide has resulted in negative perceptions about the agriculture sector becoming ingrained in the minds of many in the community, leading to fewer young people choosing to pursue a career in agriculture.

The evidence gathered by the Education and Training Committee in this extensive Inquiry demonstrates there is a clear need to re-write the agricultural narrative. We need to sell the message to young people and the broader community that agriculture is a flourishing sector and that there is something for everyone in agriculture, whether your interests lie in business, technology, engineering or the environment.

This report presents a vision for the future of agricultural education and training in Victoria. The Committee believes we can better engage young people in agriculture, planting the seed in schools by providing more opportunities for students to participate in hands-on agricultural activities and incorporating agriculture into the mainstream curriculum. We also need to ensure that students are getting the right advice and information about agricultural careers.

The Committee has also provided a framework for the strengthening of Victoria's agricultural education and training system by ensuring providers at all levels have the capacity, expertise and resources to deliver high quality agricultural education and training and better aligning the system with the needs of students and the agriculture sector.

Crucially, the Committee believes that the challenges facing agricultural education and training cannot be addressed by the agriculture sector, the education and training sector or government working alone. Collaboration needs to occur between all stakeholders to affect lasting change and build a system of agricultural education and training that supports a world-class agriculture sector both in Victoria and Australia-wide.

On behalf of the members of the Education and Training Committee, I would like to thank all those individuals and organisations — students, teachers, industry organisations, education and training providers and others — who provided oral evidence and written submissions to the Inquiry. In particular, the Committee would like to thank the schools and organisations which generously hosted the Committee's visits and also those participants from rural and regional Victoria and interstate who travelled significant distances to speak to the Committee at public hearings.

The Committee also greatly appreciated the time, generosity and information provided by the individuals and organisations it met with in New Zealand. The Committee was impressed by the collaborative approach between the agriculture sector and the education and training providers with respect to promoting agricultural education and training in that country.

In addition, the Committee would like to express its gratitude to the staff of the Committee's Secretariat — Ms Kerryn Riseley, Ms Anita Madden, Ms Stephanie Dodds and Ms Natalie

Tyler for all their hard work and assistance. I would especially like to acknowledge the work of Ms Madden, the Research Officer who had primary carriage of this Inquiry. Ms Madden's strong analytical and writing skills and her meticulous approach have resulted in a report of which all Committee members can be proud.

Finally, I would like to personally thank my fellow Committee members, Ms Gayle Tierney MLC, Mr Peter Crisp MP, Mr Nazih Elasmir MLC and Ms Elizabeth Miller MP for their dedication and cooperative approach throughout this Inquiry. In particular, I would like to acknowledge the contribution of the Committee's Deputy Chair, Ms Tierney, whose hard work and thorough understanding of the issues faced by the agriculture sector were invaluable to the work of the Committee.

This report provides a strong framework for ensuring that Victoria has a system of agricultural education and training that supports a prospering agriculture sector. The Committee's work makes it clear that we need to start work now on reinvigorating our agricultural education and training system so we can harvest the benefits into the future.



David Southwick MP
Chair

Executive summary

Victoria's agriculture sector makes a significant contribution to employment, growth and investment in this state. The sector is particularly vital to the prosperity of many rural and regional communities across Victoria. The sector is diverse, with important industries in Victoria including dairy, beef cattle, sheep, wheat and fruit and vegetable production.

This Inquiry comes at a time when the agriculture sector is facing significant local, national and global challenges. It is predicted that agricultural food production must more than double by 2050 to meet the world's increasing demand for food.ⁱ Satisfying this appetite will require the agriculture sector to be more productive, while at the same time reducing energy and water use and responding to other environmental concerns.

The agriculture sector is also facing changes in response to economic and market forces. The nature of farming in Australia is rapidly changing, with a shift to fewer and larger farms and an increasing reliance on technology and skilled workers. In addition, the sector is experiencing skills shortages across a number of agricultural occupations and industries Australia-wide.

Education and research will be vital in ensuring that the sector can tackle these challenges and that agriculture in Victoria continues to thrive. However, at present, the agricultural workforce is ageing and has lower qualifications levels than the Australian workforce as a whole.

There is currently low demand for formal agricultural education and training throughout Australia. This is despite the plethora of career opportunities in the agriculture sector and research suggesting that agricultural education and training is linked to increased productivity, profitability and innovation.

The Committee's Inquiry considered agricultural education and training across four sectors: the school; vocational education and training (VET); higher education; and non-formal education and training sectors. The findings and recommendations in this report provide a framework for creating a strong agricultural education and training system that attracts new entrants into agriculture and meets the needs of the sector.

The Committee's vision for the future is summarised in figure one, which brings together the overarching themes and recommendations in the report and highlights the need for a coordinated response to the provision of agricultural education and training both in this state and nationally.

The work of the Committee provides an important opportunity to reinvigorate agricultural education and training in Victoria. The Committee believes that by implementing the recommendations in this report, Victoria's agriculture sector can be at the forefront of sustainable food and fibre production into the future.

ⁱ Food and Agriculture Organisation of the United Nations, *The state of the world's land and water resources for food and agriculture: Managing systems at risk* (2011), 9. Available at <<http://www.fao.org/docrep/015/i1688e/i1688e00.pdf>> viewed 20 September 2012.

Increasing participation in agricultural education and training

The Committee believes that building the demand for agricultural education and training underpins the efforts to reinvigorate agricultural education and training in Victoria.

The Committee found that there has been declining enrolments in Victorian Certificate of Education (VCE) Agricultural and Horticultural Studies and in agricultural-related undergraduate courses in Victoria over the past decade. Although enrolments in agricultural VET qualifications have been increasing, the Committee also heard that a number of training providers struggle to attract a viable cohort of students in some regions and courses.

This low demand for formal agricultural education and training puts at risk the ability of the agriculture sector to meet its future workforce demands and places financial pressures on education and training providers.

On a positive note, the evidence suggests that the Victorian agriculture sector has strong participation rates in non-formal education and training such as field days, workshops and farmer networks. This popularity stems from the short and relevant nature of the training.

This report makes a number of recommendations that are designed to increase student demand for formal agricultural education and training. Several of these recommendations are targeted at promoting a positive image of agriculture, improving awareness of agricultural careers and better meeting the needs of the agriculture sector.

Other recommendations in the report are aimed at making agricultural education and training more accessible in Victoria. These measures include improving access to training in rural and regional areas and increasing access to government-subsidised training in the VET sector.

As the issue of participation in agricultural education and training is most pronounced in the higher education sector, the Committee has recommended that agricultural higher education providers consider opportunities to improve the marketing and course design of their courses.

Promoting a positive image of the agriculture sector

A priority of the Committee is to lift the image of agriculture in the community.

Stakeholder consultation identified that the poor public image of agriculture is a key factor contributing to the low student demand for agricultural education and training. Community perceptions about the agriculture sector are based on a traditional notion of farming and have been influenced by the long period of drought and other natural disasters, as well as the media's portrayal of the sector.

The Committee found that these negative perceptions are deeply entrenched. The Committee firmly believes that the agriculture sector needs to lead the development of a nationally coordinated promotional campaign to lift the image of agriculture in the community and increase student aspiration for agricultural careers. Agriculture is Victoria's mining sector and needs to be promoted accordingly.

Stakeholder consultation identified that there are a range of possible angles that could be highlighted in the proposed promotional campaign, including the diversity of careers

in the sector, the technological and scientific nature of modern agriculture and the role of farmers as managers of complex and profitable businesses.

Improving agricultural careers awareness

The Committee found a lack of understanding amongst students and the wider community about the wide range of careers available in the agriculture sector, with most people associating a career in agriculture with being a farmer. This means that many students do not contemplate a career in agriculture. The Committee also heard that students who are interested in pursuing a career in agriculture can be discouraged by their careers advisers or parents or find it difficult to access information about agricultural careers.

A range of factors contribute to the low awareness of agricultural careers, including poorly articulated career pathways and a lack of comprehensive and easily accessible careers resources.

The recommendations in this report aim to equip students, parents, teachers and school careers advisers with a greater understanding of the range of careers available in the agriculture sector. Major recommendations in this regard include developing an agricultural careers awareness program for Victorian school students, improving the quality of agricultural careers advice in schools and developing clearly articulated career pathways in agriculture. The Committee has also recommended that the Victorian Government work towards the professionalisation of the careers adviser workforce, which will benefit all students, not just those interested in agriculture.

This report also proposes that the agriculture sector develop a national agricultural careers resource that covers the entire sector and is easily accessible for students and careers advisers. This resource should demonstrate to students with a specific interest, such as the environment, animals, agribusiness or technology, that there are great career opportunities to suit them in agriculture.

Improving agricultural education and training in schools

The Committee considers that there should be a greater focus on improving the agricultural literacy of all students in Victorian schools and supporting existing schools throughout the state to deliver high quality agricultural education programs.

Stakeholders told the Committee that it is important that all students develop a basic understanding of where their food and fibre comes from, as this will help to create a community that values and understands the role of the agriculture sector. Agricultural education is also important in the senior secondary years to provide students with a career pathway into further study or work in agriculture.

The Committee found that there are examples of quality school programs operating in Victoria. These include national programs such as Cows Create Careers and the Stephanie Alexander Kitchen Garden Program and local programs that have been designed by schools in partnership with the agriculture sector. Despite this, the Committee found that it does not appear uncommon for agricultural education to be overlooked in Victorian schools. There are also worryingly low numbers of students studying agriculture at the VCE level.

This report calls for agricultural education to have a greater prominence in Victorian schools. To achieve this, the Committee recommends integrating food and fibre production into relevant subjects in the curriculum and supporting teachers to make

these links through increased professional development opportunities and the provision of quality teaching resources. In addition, the report recommends providing greater support to schools in the delivery of agricultural education and training and promoting partnerships between schools and the agriculture sector.

The Committee also believes that teachers are vital to the success of agricultural education in schools and influencing student attitudes towards agriculture. The Committee is concerned by reports of a shortage of agriculture teachers in Victoria and recommends there would be benefit in exploring opportunities to expand the training options for pre-service teachers wishing to become agriculture teachers.

Enhancing the quality of agricultural education and training

A priority of the Committee is to build a high quality agricultural education and training system in Victoria. This will ensure that the agriculture sector has access to a workforce with the right skills, education and training, as well as encouraging greater participation in formal education and training by the existing workforce.

Encouragingly, the evidence presented to the Committee demonstrates that the quality of agricultural education in Victoria is generally high. Despite this, the Committee heard that many opportunities still exist to improve the delivery of agricultural education and training in this state.

To this end, the Committee makes a range of recommendations and findings designed to more closely align the formal education and training sectors with the needs of the students and the agriculture sector. Within the VET sector, there is a strong focus on fostering a more flexible and consultative training system and ensuring that there is a high quality teaching workforce available. In particular, the Committee identified the need to support training providers to deliver skill sets in a flexible manner to the agriculture sector.

Within the higher education sector, the Committee found there would be benefit in the agriculture sector and higher education and training providers exploring opportunities to enhance the work experience opportunities and training offered to students during their degrees and in their early careers.

Stakeholders in the Inquiry were also passionate about the future of Victoria's agricultural colleges, which have a long and proud history of providing agricultural education and training in this state. The Committee has made two recommendations that are designed to better utilise the facilities and support the ongoing delivery of high quality agricultural education and training at these colleges.

Promoting collaborative relationships

The Committee heard there is a need for greater collaboration within the agriculture sector and between the various stakeholders involved in agricultural education and training.

The agriculture sector is made up of a variety of different industries and representative bodies. This diversity has led to different approaches being taken by industries in the sector to agricultural education and training, particularly with respect to school-based activities, resources and careers promotion. This report calls for the agriculture sector to consider how it can improve collaboration within the sector on agricultural education and training and careers awareness initiatives.

The report also finds that there is a lack of coordination between the agriculture sector, the education and training sector and government with respect to efforts to improve the quality of agricultural education and training and attract more students into agricultural careers and training. In response, the Committee recommends the establishment of a Victorian agricultural education and training council composed of representatives from the agriculture sector, the education and training sector and government to improve cross-sector collaboration. The council's functions would include working with the Victorian Government to implement the recommendations in this report that would benefit from collaboration. It would also be responsible for working at the national level to address issues related to agricultural education and training.

Figure 1: The Education and Training Committee’s framework for the future of agricultural education and training in Victoria

<p>Vision</p> <p><i>A system of agricultural education and training that supports a world-class agriculture sector into the future.</i></p>	<p>Mission</p> <ul style="list-style-type: none"> ● The community values and understands the role of the agriculture sector. ● Young people aspire to careers in the agriculture sector. ● Education and training providers have the capacity, expertise and resources to deliver high quality agricultural education and training. ● There is a strong demand for agricultural education and training in all sectors of the education and training system. ● The agriculture sector has access to a workforce with the right skills, education and training. ● The agriculture sector values and promotes education and training and has in place clear career pathways.
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Overarching priority areas

Increasing participation in agricultural education	Promoting a positive image of the agriculture sector	Improving agricultural careers awareness	Improving agricultural education and training in schools	Enhancing the quality of agricultural education and training	Promoting collaborative relationships
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Broad objectives of the recommendations in this report

Make agricultural education and training more accessible <i>(recommendations 24, 25, 26, 27, 38 and 41)</i>	Develop a national promotional campaign to improve the image of agriculture <i>(recommendation 1*)</i>	Establish clear career pathways into the agriculture sector <i>(recommendation 5*)</i>	Integrate agricultural education into the school curriculum <i>(recommendations 7 and 8)</i>	Ensure that education and training courses meet the needs of students and the agriculture sector <i>(recommendations 11, 28, 29, 30* and 31)</i>	Promote collaboration between the agriculture sector, the education and training sector and government <i>(recommendations 13*, 30*, 43*, 44 and 45)</i>
Improve the marketing and design of agricultural higher education courses <i>(recommendations 39 and 40)</i>		Improve the agricultural careers awareness of careers advisers, students and parents <i>(recommendations 2*, 3 and 4*)</i>	Support the delivery of agricultural education and programs in schools <i>(recommendations 9, 12*, 13*, 16, 17, 18*, 20, 21 and 22)</i>	Support and revitalise Victoria’s agricultural colleges <i>(recommendations 33 and 34)</i>	Minimise the duplication of efforts and resources by supporting existing resources and programs <i>(recommendations 12*, 13*, 18* and 19)</i>
Explore strategies to attract more students into agricultural education, training and research <i>(recommendations 10, 42* and 43*)</i>			Ensure there is a sufficient number of qualified and highly motivated school teachers to deliver agricultural education <i>(recommendations 14 and 15)</i>	Ensure there is a sufficient number of qualified and technically experienced VET teachers <i>(recommendations 35 and 36)</i>	Promote collaboration within the agriculture sector <i>(recommendations 1*, 2*, 4*, 5* and 42*)</i>
Increase the agriculture sector’s engagement in education and training <i>(recommendation 6)</i>				Support the delivery of agricultural VET <i>(recommendation 23)</i>	

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Glossary

ACARA	Australian Curriculum, Assessment and Reporting Authority, an independent authority responsible for national curriculum, student assessment and data collection. One of ACARA's key functions is the development and implementation of the Australian Curriculum.
Agriculture	<p>Activities involving:</p> <ul style="list-style-type: none">• grain, sheep and beef cattle farming• dairy cattle farming• poultry farming• other livestock farming• mushroom and vegetable growing• fruit and tree nut growing• other crop growing. <p>Agriculture also includes providing services that are integral to these activities.</p>
AHC10 training package	AHC10 Agriculture, Horticulture and Conservation and Land Management training package, which contains the VET qualifications for the agriculture sector.
Apprenticeship	An entry pathway into an industry sector which combines paid employment with off-the-job training or workplace-based training organised through a registered training organisation. The contract of employment can only be terminated by mutual agreement between the apprentice and employer.
Australian Qualifications Framework	The national policy for regulated education and training qualifications in Australia. The Framework covers school, vocational education and training and higher education qualifications.
AQTF	Australian Quality Training Framework, the national set of standards which promote nationally consistent, high quality training and assessment services in the VET sector.
ATAR	Australian Tertiary Admissions Rank, a score used to rank and select Australian school leavers for admission to higher education courses.

Australian Curriculum	A new national curriculum currently being developed by the Australian Government in consultation with the state and territory governments. The Australian Curriculum will be rolled out progressively from 2013.
AusVELS	The curriculum made up of the incorporation of the Australian Curriculum into the Victorian Essential Learning Standards.
CEAV	Career Education Association of Victoria, an association that represents school-based careers advisers in Victoria.
Credit transfer	A means of a student gaining credit for subjects or competencies they completed at the same or another higher education provider or VET provider.
DEECD	Department of Education and Early Childhood Development, the Victorian Government department responsible for education, early childhood development and children's services. DEECD's responsibilities include training and tertiary education which, until 2012, it carried out through a unit called Skills Victoria.
DIPDC	Dairy Industry People Development Council, a body established by the dairy industry to lead workforce development strategies for the industry.
DPI	Department of Primary Industries, the Victorian Government department responsible for agriculture, fisheries, earth resources, energy and forestry.
Extension	A term often used to describe some forms of non-formal education and training, particularly where the non-formal education and training has a focus on encouraging the adoption of research and technology or farming practice changes.
Field of education	A statistical measure used in Australia to define the subject matter of an educational activity. Agriculture is grouped into the 'Agriculture, environmental and related studies' field of education.
GippsTAFE	Central Gippsland Institute of TAFE, a TAFE institute with campuses in metropolitan Melbourne and Gippsland which provides agricultural VET.
GOTAFE	Goulburn Ovens Institute of TAFE, a TAFE institute based in north-central Victoria which provides agricultural VET.
ICT	Information and communications technology.
LLEN	Local Learning and Employment Network. The core objective of a LLEN is to improve education, training and employment options for young people within its geographic area.
MLA	Meat and Livestock Australia, a producer-owned company providing marketing and research programs for the cattle, sheep and goat industries.

MSLE	Melbourne School of Land and Environment, a school within The University of Melbourne, which provides a range of agricultural undergraduate and postgraduate courses.
National training package	A set of nationally endorsed standards and qualifications for recognising and assessing people's skills in the VET sector.
NCDEA	National Centre for Dairy Education Australia, a centre run by GOTAFE and Dairy Australia which delivers dairy-specific training throughout Australia.
NCVER	National Centre for Vocational Education Research, an independent body responsible for collecting, evaluating and communicating research and statistics about VET in Australia.
NMIT	Northern Melbourne Institute of TAFE, an institution based in Epping which provides both VET and higher education courses, including in agriculture.
Non-formal education and training	All forms of education and training that fall outside the formal accredited training system, for example non-accredited short courses, conferences, field days and farmer-directed groups. Non-formal education and training is sometimes called extension.
PICSE	Primary Industry Centre for Science Education, a Centre which delivers strategies to encourage more young people to enter primary industries. The Centre's program, which operates in most parts of Australia, is also known as PICSE.
PIEF	Primary Industries Education Foundation, a not-for-profit organisation responsible for promoting primary industries education across Australia.
Primary Skills Victoria	The former industry training advisory body to the Victorian Government for the primary industries sector. The Victorian Government has introduced a new industry participation model to replace the network of industry training advisory bodies. Primary Skills Victoria will continue to operate until 1 January 2013 and its continuation will depend on whether it receives industry support and investment.
Refocusing Vocational Training in Victoria	A policy introduced by Victorian Government in 2012 which reforms the vocational education and training system.
RPL	Recognition of prior learning, the formal recognition of the skills and knowledge that a person has obtained through their previous study, work and life experiences. RPL can be used for the partial or full recognition of a VET qualification.

RTO	Registered training organisation, an organisation registered by a registering body, such as the Victorian Registration and Qualifications Authority, which issues nationally recognised VET qualifications.
School-based Apprenticeships and Traineeships	Pathways which enable school students to work towards a nationally recognised VET qualification. Students enter into a training contract with an employer, and participate in structured workplace learning while completing the VCE VET program or another VET qualification.
Skill sets	The grouping of units of competency into a related set below the level of a full qualification. Skill sets enable a person to perform specific functions or tasks.
Skills Victoria	A former unit of DEECD which, until 2012, was responsible for training and tertiary education opportunities.
South West TAFE	South West Institute of TAFE, a TAFE institute based in Southwest Victoria which provides agricultural VET, including at former agricultural college, Glenormiston College.
TAFE	Technical and further education. TAFE institutes are Australia's largest providers of vocational education and training.
Thin market	A training market where the actual and potential number of students may be too small to attract training providers. Thin training markets can occur in specific occupational, industry or geographic areas.
Traineeship	An entry pathway into an industry sector which combines paid employment with off-the-job training or workplace-based training organised through an RTO. The contract of employment can be terminated by either the trainee or the employer.
Training brokers	People who act as intermediaries between industry and training providers by identifying training needs and working with providers to ensure that the training provision suits the needs of the industry.
UNE	University of New England, a university based in Armidale, New South Wales, which provides a range of agricultural undergraduate and postgraduate courses.
VAAHE	Victorian Association of Agricultural and Horticultural Educators, the professional association for school agricultural educators in Victoria.
VCAA	Victorian Curriculum Assessment Authority, a statutory body which administers Victoria's curriculum frameworks.

VCAL	Victorian Certificate of Applied Learning, a senior secondary school certificate offered as an alternative to the VCE. VCAL provides students with work-related experience and the opportunity to build their literacy and numeracy skills.
VCE	Victorian Certificate of Education, the senior secondary school certificate offered at most Victorian schools and undertaken by the majority of senior secondary students.
VELS	Victorian Essential Learning Standards, common state-wide standards that outline the essential learning for all students in Victorian schools from Prep to Year 10.
VET	Vocational education and training, education and training which has a focus on developing practical work skills.
VET in Schools	A program which enables secondary school students to undertake vocational training as part of their studies.
VTAC	Victorian Tertiary Admissions Centre, the central office that administers the application and offer process for places in tertiary courses at university, TAFE and independent tertiary colleges in Victoria.
VTG	Victorian Training Guarantee, an entitlement to government-subsidised training places in an accredited VET course for people who meet certain eligibility criteria.

Chapter 1: Introduction

Key findings

- The agriculture sector makes a significant contribution to Victoria's economy, generating 2.5% of the annual gross state product and employing 3% of the state's workforce.
- The nature of Victoria's 33 000 farms is changing, with a trend towards fewer, larger and more productive farms.
- The agricultural workforce is older and less qualified than the workforce in many other sectors.
- The agriculture sector is experiencing skills shortages across a number of occupations. These skills shortages are predicted to continue into the future.
- Education and training offers a number of benefits for the agriculture sector, including increased productivity, innovation and profit. Despite this, there is relatively low demand for agricultural education and training.
- The changing nature of agriculture and the need to respond to a range of economic, environmental and market challenges means that the workforce will increasingly require higher skill levels and qualifications.

Introduction

On 10 February 2011 the Victorian Parliament's Legislative Assembly gave the Education and Training Committee terms of reference to conduct an inquiry into agricultural education and training. The terms of reference ask the Committee to consider the extent and effectiveness of current agricultural education and training programs in Victoria and assess whether the workforce training needs of the agriculture sector are being met.

Agriculture plays an important role in our society. It provides us with food and fibre and contributes to economic growth, employment, natural resource management and advances in scientific research and technology.

Education and training underpins Victoria's strong and dynamic agriculture sector. Quality post-school agricultural education and training is vital for ensuring a skilled agriculture workforce, whereas school-based agricultural education helps to raise community awareness about the sector's role in our daily lives and offers interested students a career pathway into agriculture.

This Inquiry comes at a time when the agriculture sector is facing a number of challenges that have implications for agricultural education and training. The sector is experiencing widespread skills shortages and there is an increasing need for higher skills and qualifications within the workforce. At the same time, the number of graduates from agricultural education and training courses are not meeting the agriculture sector's demand.

The recommendations in this report focus on ensuring that Victoria's education and training system is strategically placed to respond to these challenges. They aim to increase participation in all sectors of agricultural education and training and ensure that available training meets the needs of both students and the agriculture sector.

Although this Inquiry focused on the Victorian context, this report highlights that a number of the issues impacting on agricultural education and training are not unique to Victoria. Accordingly, this report recommends a national, coordinated approach to raising the profile of agriculture and attracting more people into agricultural careers.

Going forward, the agriculture sector will need to meet the world's increasing demand for food and fibre while still conserving the land and natural resources for future generations. By providing high quality agricultural education and training and attracting a new generation of young people into the sector, we can help to ensure the long term viability and sustainability of the agriculture sector in Victoria.

1.1 The scope of this Inquiry

This section sets out the terms of reference for the Inquiry and defines key concepts.

1.1.1 Terms of reference

The terms of reference for the Inquiry ask the Committee to consider:

- the current extent of agricultural-related courses delivered in Victoria
- the effectiveness of current agricultural programs
- whether the workforce training needs of agriculture are being met
- well-regarded agricultural education in other Australian states and territories, or other countries.

1.1.2 What types of agricultural education and training is the Committee reviewing?

The terms of reference did not specify which educational levels the Committee should consider. In conducting this Inquiry the Committee has taken a broad approach, reviewing the agricultural education and training offered in the school, vocational education and training (VET), higher education and non-formal education and training sectors.

1.1.3 What is agriculture?

There is no universally agreed definition of the term 'agriculture'. The term is used in this report to refer to selected activities within the Agriculture, Forestry and Fishing Division of the Australian and New Zealand Standard Industrial Classification, which is the classification used to collect and analyse industry statistics in Australia and New Zealand. These activities are:

- grain, sheep and beef cattle farming
- dairy cattle farming
- poultry farming
- other livestock farming
- mushroom and vegetable growing
- fruit and tree nut growing
- other crop growing.¹

¹ Australian Bureau of Statistics, *1292.0 – Australian and New Zealand Standard Industrial Classification (ANZSIC)* (2006), 51. Available at [http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/10AD7A6DDB4190BFCA257122001ACD9E/\\$File/12920_2006.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/10AD7A6DDB4190BFCA257122001ACD9E/$File/12920_2006.pdf) viewed 2 August 2012.

The term 'agriculture' is also commonly used in its broader sense to refer to the professional roles that provide services that are integral to the above agricultural activities. These roles include agricultural scientists, agronomists, agricultural economists and agricultural engineers. The Committee has included these service roles in its consideration of agriculture in this report.

After careful reflection, the Committee has decided not to include forestry and fishing activities in its definition of agriculture, as it considers that the forestry and fishing sectors may benefit from a separate and more detailed consideration of their education and training needs to ensure that any response is appropriately tailored to these sectors. However, the Committee notes that it has emphasised the need to teach school students about food and fibre production, which includes forestry and fishing, in chapters three and four on schools.

Agriculture is often grouped with the forestry and fishing sectors for data collection purposes. Accordingly, where data is not available for the agriculture sector, data relating to these three sectors has been used.

1.2 An overview of the Victorian agriculture sector

Agriculture makes a valuable contribution to Victoria's economy, generating around 2.5% of the gross state product each year and employing approximately 3% of the total Victorian workforce.²

The Victorian agriculture sector is made up of a diverse range of industries. Dairy is the largest industry, with almost 70% of Australia's registered dairy farms located in Victoria and 86% of Australia's dairy exports produced in Victoria.³ Other significant industries include beef cattle, sheep farming, grain growing and fruit and vegetable production.

There are approximately 33 000 farms in Victoria and these farms cover 60% of Victoria's landmass.⁴ The nature of Victoria's farms has evolved significantly over the past 40 years. Key changes include:

- the number of individual farms has more than halved
- the average physical size of farms has doubled
- farm production has become increasingly mechanised, leading to an increase in production and a decrease in the need for low-skilled farm labour.⁵

Employment in agriculture has declined in Victoria over the past 15 years.⁶ However, the sector remains a significant employer in rural and regional Victoria. For example,

² Department of Education and Early Childhood Development (Victoria) (DEECD), *Submission 82*, 5; AgriFood Skills Australia, *2012 Environmental scan of the agrifood industry* (2012), 2.

³ Department of Primary Industries (Victoria), *Victorian food and fibre export performance: 2010–11 financial year* (2012). Available at <<http://www.dpi.vic.gov.au/agriculture/investment-trade/market-news-and-trends/victorian-food-and-fibre-export-performance-10-11>> viewed 16 April 2012; SED Consulting, *Workforce development plan for the Victorian grains and dairy industries*, report for Skills Victoria (2010), 37.

⁴ DEECD, *Submission 82*, 5.

⁵ *ibid.*, 5.

⁶ *ibid.*, 5.

agriculture employs approximately 22% of the workforce in the Wimmera region,⁷ 23% of the workforce in the Moira Shire⁸ and 32% of the workforce in the Corangamite Shire.⁹

The agriculture, forestry and fishing sectors are characterised by an older workforce. Nationally within these sectors, 58% of the workforce is aged 45 years or older, compared to 38% of all industries.¹⁰ This older age profile has significant implications for workforce planning for the agriculture sector (see section 1.4.1).

Workers within the agriculture, forestry and fishing sectors tend to have lower levels of qualifications than the workforce as a whole: 52% do not hold post-school qualifications, compared to 39% for all other industries.¹¹ Although starting from basic levels, the educational attainment of workers within these sectors has shown relatively strong growth over the past three decades.¹² The education profile of the agriculture sector is expected to continue to shift as the demographic and age profile of the sector changes.¹³

1.3 An overview of agricultural education and training in Victoria

This section provides a brief overview of how agricultural education and training is delivered across the school, VET, higher education and non-formal education and training sectors in Victoria. Figure two summarises the agricultural education and training opportunities in Victoria.

Victorian schools have the flexibility to integrate agriculture into the curriculum from Prep to Year 10. Learning is typically focused on the cultivation of plants and animals for food and providing an understanding of farming as part of science and technology studies.¹⁴ Students undertaking their senior secondary certificate have the option of studying Agricultural and Horticultural Studies as part of their Victorian Certificate of Education (VCE), or working towards an agricultural-related VET qualification as part of the VET in Schools program. Agricultural education and training in schools is discussed in chapters three and four of this report.

The 'hands on' nature of agriculture means that the VET sector plays an important role in training new entrants to the sector and enabling existing workers to upgrade their skills. Within Victoria, public and private training providers deliver nationally accredited courses in agriculture, ranging from certificate I to advanced diploma level. Chapters five and six examine VET in more detail.

The higher education sector trains many of the professionals that work within the agriculture sector, as well as the future agricultural research workforce. The University of Melbourne, La Trobe University, Marcus Oldham College and the Northern Melbourne Institute of TAFE all offer higher education qualifications in agriculture-related disciplines. These disciplines include agriculture, agricultural science, agribusiness and farm management. Higher education is explored at length in chapters seven and eight.

⁷ Wimmera Development Association, *Submission 44*, 1.

⁸ Mr Greg Laidlaw, Rural and Workforce Development Officer, Moira Shire Council, *Submission 35*, 1.

⁹ Corangamite Shire, *Submission 58*, 1.

¹⁰ Department of Education, Employment and Workplace Relations (Australia), *Australian jobs* (2011), 15.

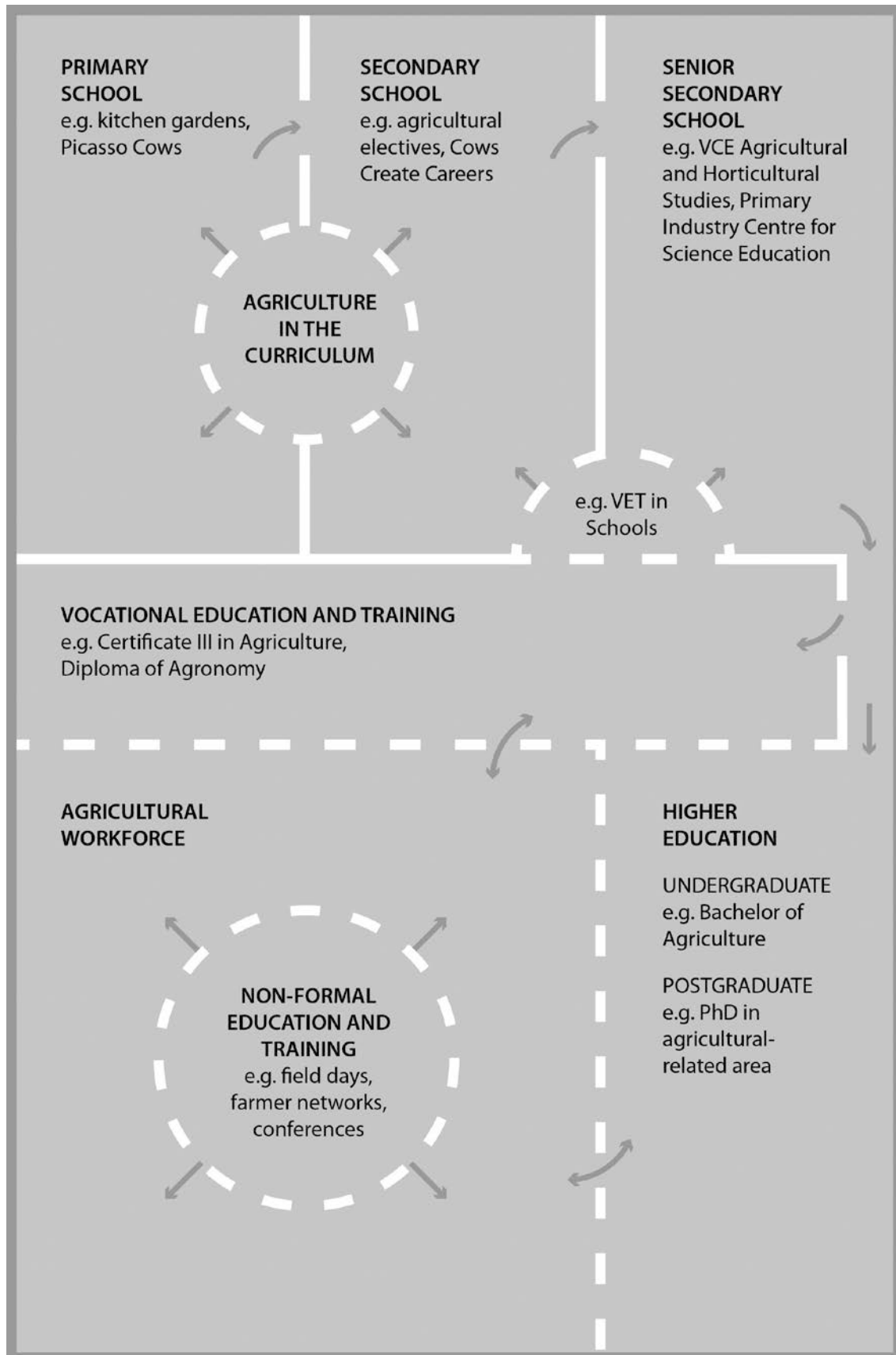
¹¹ DEECD, *Submission 82*, 6.

¹² Productivity Commission, *Trends in Australian agriculture*, Productivity Commission research paper (2005), 106.

¹³ DEECD, *Submission 82*, 6.

¹⁴ *ibid.*, 1.

Figure 2: Overview of the agricultural education and training sector



Non-formal agricultural education and training takes many forms, including field days, short courses, farmer networks and seminars. It is used extensively by existing workers in the agriculture sector to enhance their skills and knowledge. Non-formal education and training is offered throughout Victoria by a range of providers, including the Department of Primary Industries, industry bodies, farming systems groups and the private sector. Non-formal education and training is considered more fully in chapter nine of this report.

1.4 The context for this Inquiry

This section outlines the context within which this Inquiry takes place.

1.4.1 Skills shortages in agriculture

The agriculture sector is experiencing skills shortages across a number of occupations and industries, and these shortages are predicted to continue over the next five years.

Both the Victorian Government and the Australian Government publish lists of occupations experiencing skills shortages. Figure three lists those agriculture occupations identified as experiencing shortages at the state and national level.

Figure 3: Agriculture occupations in demand

Department of Education, Employment and Workplace Relations skills shortage list – national (2011) ¹⁵	Migration skilled occupation list – national (2011) ¹⁶	Victorian skills needs (2011) ¹⁷
Agricultural consultant and scientist	Agricultural engineer	Vegetable grower
Shearer	Agricultural consultant	Vegetable farm worker
	Agricultural scientist	Animal technician
		Grain farmer
		Agriculture machinery operator
		Pig farmer
		Dairy farmer
		Mixed farmer
		Sheep farmer
		Agricultural consultant and agronomist

¹⁵ Department of Education, Employment and Workplace Relations (Australia), *Skills shortages Australia* (2011), 1, 4. Available at <http://www.deewr.gov.au/Employment/LMI/SkillShortages/Documents/SSL_AUS.pdf> viewed 17 April 2012.

¹⁶ Department of Immigration and Citizenship (Australia), *Skilled occupation list (SOL): Schedule 1* (2012), 2. Available at <http://www.immi.gov.au/skilled/_pdf/sol-schedule1.pdf> viewed 17 April 2012.

¹⁷ Deloitte Access Economics, *Victorian skill needs in 2011: A summary of industry intelligence*, report for Skills Victoria (2011), 72.

The Committee also heard evidence that a number of employers and regions within Victoria are experiencing difficulty recruiting staff at all levels within agriculture. For example, Ms Jo Bourke, Executive Director of the Wimmera Development Association, told the Committee:

There are shortages in skilled, semiskilled and unskilled labour. Through the Wimmera Development Association we manage the skilled migration program and that is specifically for skilled vacancies, and they range from farm management to technical support services in agriculture.¹⁸

It is difficult to quantify the extent of the skills shortages in the agriculture sector. A 2010 report by the independent farm policy research organisation, Australian Farm Institute, into the human resource needs of the agriculture sector found that there is no reliable measure of the skills gap in the agriculture sector.¹⁹ As Mr Brian Duggan, Manager of Workplace Relations and Legal Affairs at the National Farmers' Federation, the peak national body representing farmers, explained to the Committee:

Effectively I am saying we have members telling us across the board there is shortages but we are unable to verify it by independent data.²⁰

From an overall labour perspective, the predicted outlook for the sector in Victoria is relatively flat to declining employment opportunities over the next three years.²¹ Nationally, agriculture, forestry and fishing employment is expected to grow by 27 400 jobs over the next five years.²²

The ageing nature of the agriculture workforce is predicted to lead to further skills shortages in the future. AgriFood Skills Australia, the key body on skills and workforce development for the Australian agrifood industry, predicts that by 2018, 56.2% of the current workforce will be aged over 55 years and 33.4% will be aged 65 years or over.²³

Participants in the Inquiry identified a number of causes for the skills shortages affecting the agriculture sector, including competition for skilled labour from the mining sector, difficulty attracting young people into the sector, low numbers of agriculture graduates from higher education, low workforce participation in education and training and the inability of employers to offer attractive wages and conditions.²⁴

1.4.2 A sector undergoing change

Traditionally the agriculture sector has placed a strong focus on skilling its workforce through on-the-job learning and practical experience.²⁵ However, the agriculture workforce is increasingly requiring higher skill levels and qualifications in response to the changing nature of agriculture and shifts in the sector's labour requirements.²⁶

¹⁸ Ms Jo Bourke, Executive Director, Wimmera Development Association, *Transcript of evidence*, Horsham, 29 November 2011, 2. See also Corangamite Shire, *Submission 58*, 3.

¹⁹ Australian Farm Institute, *Towards a better understanding of current and future human resource needs of Australian agriculture* (2010), xiii.

²⁰ Mr Brian Duggan, Manager, Workplace Relations and Legal Affairs, National Farmers' Federation, *Transcript of evidence*, Canberra, 20 March 2012, 3.

²¹ Deloitte Access Economics, above n 17, 69; DEECD, *Submission 82*, 5.

²² Department of Education, Employment and Workplace Relations (Australia), above n 10, 15.

²³ AgriFood Skills Australia, *2011 Environmental scan of the agrifood industry* (2011), IV.

²⁴ Mr Brian Duggan, above n 20, 2; Primary Skills Victoria, *Submission 84*, 9; Faculty of Earth Sciences, Northern Melbourne Institute of TAFE, *Submission 29*, 3.

²⁵ Department of Education, Employment and Workplace Relations (Australia), above n 10, 15.

²⁶ National Farmers' Federation, *Labour shortage action plan* (2008), 40; AgriFood Skills Australia, above n 23, IV; DEECD, *Submission 82*, 6.

A 2005 Productivity Commission research paper showed that the Australian agriculture sector had achieved strong productivity growth over the previous three decades.²⁷ Productivity will need to continue to increase to meet the world's growing demand for food. At the same time, the sector will need to respond to a range of economic, environmental and market challenges. These challenges include:

- more onerous quality assurance standards²⁸
- the use of more complex technologies on farms²⁹
- animal welfare requirements³⁰
- natural resource constraints³¹
- increased climate variability³²
- biosecurity requirements.³³

A number of participants in the Inquiry emphasised the crucial role that education and training will play in skilling the agriculture workforce to meet these challenges. Ms Geraldine Christou, Manager of Economic Development at the Greater Shepparton City Council, told the Committee:

We are acutely conscious that all this agriculture needs to be underpinned by high quality education and training if it is to survive and prosper in today's changing and competitive world, particularly with the challenges that this industry currently faces.³⁴

The labour requirements within the agriculture sector are also becoming increasingly specialised. The shift towards larger, corporately owned farms will see a demand for highly skilled and professional farm managers to run these properties.³⁵ The agriculture sector is also placing greater reliance on contractors and consultants with specialist skills and knowledge to carry out increasingly complex farming operations.³⁶

²⁷ Productivity Commission, above n 12, XXXVIII.

²⁸ DEECD, *Submission 82*, 6; Australian College of Agriculture and Horticulture, *Submission 18*, 6; Community College Gippsland, *Submission 50*, 6.

²⁹ Charles Sturt University, *Submission 38*, 1; Birchip Cropping Group, *Submission 67*, 1.

³⁰ Community College Gippsland, *Submission 50*, 6; Department of Employment, Economic Development and Innovation (Queensland), *Submission 73*, 4; DEECD, *Submission 82*, 22.

³¹ Tasmanian Institute of Agricultural Research, *Submission 36*, i; Community College Gippsland, *Submission 50*, 6; Primary Industry Centre for Science Education (PICSE), School of Agricultural Science, University of Tasmania, *Submission 71*, i.

³² Mr Brian Duggan, above n 20, 2; Tasmanian Institute of Agricultural Research, *Submission 36*, i; University of Ballarat, *Submission 32*, 2; Australian College of Agriculture and Horticulture, *Submission 18*, 6; DEECD, *Submission 82*, 22; Community College Gippsland, *Submission 50*, 5; PICSE, *Submission 71*, i.

³³ Australian College of Agriculture and Horticulture, *Submission 18*, 6; Department of Employment, Economic Development and Innovation (Queensland), *Submission 73*, 4; DEECD, *Submission 82*, 22; Community College Gippsland, *Submission 50*, 5.

³⁴ Ms Geraldine Christou, Manager, Economic Development, Greater Shepparton City Council, *Transcript of evidence*, Shepparton, 3 November 2011, 2. See also Mr John Spasevski, Director, Market Facilitation, Skills Victoria, DEECD, *Transcript of evidence*, Melbourne, 24 October, 2011, 16; PICSE, *Submission 71*, 1; Joint submission of Dairy Industry People Development Council (DIPDC) and Dairy Australia, *Submission 89*, 5-6; Community College Gippsland, *Submission 50*, 5-6; Tasmanian Institute of Agricultural Research, *Submission 36*, ii.

³⁵ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 49; Marcus Oldham College, *Submission 19*, 7.

³⁶ Primary Skills Victoria, *Submission 84*, 8.

1.4.3 Demand for agricultural education and training

There is growing concern about the low demand for agricultural education and training places, particularly in the higher education sector.³⁷

Enrolments in undergraduate agriculture courses in the higher education sector have significantly declined in Victoria over the last decade.³⁸ Several participants in the Inquiry referred to research undertaken by Professor Jim Pratley from the Australian Council of Deans of Agriculture which found that there is a significant gap between the number of agriculture graduates from Australian universities and the number of available jobs in the agriculture sector. Professor Pratley's research published this year estimates that there are approximately 700 graduates from agricultural-related degrees per year compared with an estimated 4000 advertised agriculture jobs.³⁹

Within the VET sector there are more positive enrolment signs. In Victoria the number of full-time students enrolled in VET courses in the narrow fields of 'agriculture' and 'horticulture and viticulture' has shown an overall increase in the last nine years to 2010.⁴⁰ This increase is in line with national trends.⁴¹ Despite this, anecdotal evidence from training providers suggests that the number of graduates from VET courses is not meeting the agriculture sector's demand for workers in some regions and occupations.⁴²

Low student enrolments put resourcing pressures on education and training providers and can even threaten the viability of course provision. As La Trobe University explained:

Declining student numbers creates financial pressure on University Departments which offer such courses, as the Commonwealth funding for the institution is based on student numbers. This has led to staff cuts, increased staff workloads and, at some institutions, to course closures. The number of providers of agricultural-based courses has declined nationally from 15 to 7 between 2000 and 2010.⁴³

Overwhelmingly, participants in the Inquiry identified the poor image of agriculture and a lack of knowledge about agriculture careers as key reasons for the low demand for agricultural education and training. These issues will be explored further in chapter two.

³⁷ See, for example, Nick Heydon, 'UWS closes ag course offering', *The Land*, 18 February 2012. Available at <<http://theland.farmonline.com.au/news/state/agribusiness-and-general/general/uws-closes-ag-course-offering/2457692.aspx>> viewed 26 September 2012; Robert Henson, 'Graduate drought', *The Guardian*, 22 February 2012. Available at <www.theguardian.com.au/news/.../graduate-drought/2463051.aspx> viewed 14 July 2012; Simon Livingstone, 'Ag education fails the test', *Weekly Times Now*, 14 March 2012. Available at <http://www.weeklytimesnow.com.au/article/2012/03/14/454581_print_friendly_article.html> viewed 26 September 2012.

³⁸ The Allen Consulting Group, *Rebuilding the agricultural workforce*, report for Business/Higher Education Round Table (2012), 17.

³⁹ Jim Pratley, *Professional agriculture – A case of supply and demand*, included in *Submission 97*, appendix A, 8.

⁴⁰ National Centre for Vocational Education Research, *Submission 28*, 5.

⁴¹ *ibid.*, 5.

⁴² Ms Sylvia Vagg, Manager, Educational Development, National Centre for Dairy Education Australia, *Transcript of evidence*, Melbourne, 7 November 2011, 5; Longerenong College, *Submission 39*, 2; The State Agriculture Provider Network, *Submission 40*, 1.

⁴³ La Trobe University, *Submission 88*, 1.

1.4.4 The benefits of agricultural education and training

Participants in the Inquiry identified that agricultural education and training has a number of benefits for the agriculture sector and individual workers.

The Committee heard that agricultural education and training can contribute to productivity, innovation and profitability within the agriculture sector.⁴⁴ The joint submission of the Dairy Industry People Development Council and Dairy Australia on behalf of the Victorian dairy industry states that these benefits arise because education and training helps individuals to make better and more informed decisions:

the dairy industry believes that improved and informed decision making, driven by increased capacity of both the farmer and the supporting service industries hold an important key to resolving the Total Factor Productivity issue and ensuring Victorian dairy farmers can take advantage of the emerging global demand for dairy product. Dairy advisors have consistently observed that it is those farmers with the most capacity for good decision making who can best take advantage of these volatile situations. Equally, it is those with improved levels of education and learning who make best use of the opportunity technology presents.⁴⁵

This view is also supported by research presented to the Committee by Professor Sue Kilpatrick, an expert in the economics of education. Professor Kilpatrick's research found that farm businesses whose management teams engage in learning activities are more profitable than other farm businesses.⁴⁶ The relationship between learning and profitability is that farmers who participate in training show a greater ability and willingness to make successful changes to farm management practices.⁴⁷

Obtaining a qualification also improves the chances of an individual gaining employment.⁴⁸ The Committee heard that education and training can provide people with greater career options in regional and rural communities. Mr Anthony Chapman, the Seed and Field Services Manager at the Wimmera Grain Company, told the Committee that having a Bachelor of Business assisted him when his family decided to lease their farm:

because I had the education I was able to get other jobs. Again, I was not disillusioned with agriculture because I was only 28 at the time ... I could get another job in agriculture. Not being disillusioned I was willing to stay in the area and then work in the area and not move away, which can sometimes happen. There are farmers who feel trapped. They have not got an education, they sort of stick around and they get into probably a poorer economic position and then their lives are always supported by government in some way; their mental health goes down. Through having education we have a scenario where our family has benefited.⁴⁹

Finally, it was noted that agricultural education and training raises the sector's awareness of the social and environmental issues surrounding agriculture. With the growing community interest around environmental and animal welfare issues, the agriculture sector is increasingly being expected to engage with the community on these issues and respond to concerns. Mr David Brennan, Chief Executive Officer of the

⁴⁴ Rural Industries Skill Training, *Submission 81*, 3; AgriFood Skills Australia, *Submission 51*, 8; Vegetable Growers' Association of Victoria, *Submission 49*, 1; United Dairyfarmers of Victoria, *Submission 33*, 1. Longerenong College, *Submission 39*, 7.

⁴⁵ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 13.

⁴⁶ Professor Sue Kilpatrick, *Submission 2*, 2.

⁴⁷ *ibid.*, 2.

⁴⁸ Department of Education, Employment and Workplace Relations (Australia), *Skills for all Australians* (2012), 4. Available at <<http://www.deewr.gov.au/Skills/Documents/SkillsforAustraliasFuture.pdf>> viewed 1 May 2012.

⁴⁹ Mr Anthony Chapman, Seeds and Field Services Manager, The Wimmera Grain Company, *Transcript of evidence*, Horsham, 29 November 2011, 2.

Wimmera Catchment Management Authority which is responsible for water and land management in the Wimmera region, explained how education and training can help farmers to engage with the community on these issues:

Often NRM [natural resource management] or environmental issues are seen as a constraint or a limiting factor in agriculture and, equally, there is a lot of concern ... about the role that farmers do that often, whether it is real or perceived, leads to a negative environmental outcome. We want to make sure that farmers are trained up so they have an appreciation of the entire value chain and the complexity that often surrounds agriculture and the misconceptions with good environmental stewardship and agricultural productivity.⁵⁰

1.4.5 The policy context

There are no overarching policies at the state or federal level on agricultural education and training. However, a number of recent broader reforms within the school, VET and higher education sectors are relevant in the context of this report and these are outlined below. The implications of these reforms for agricultural education and training are considered in the relevant chapters of the report.

Schools

The Australian Government is currently developing a new national curriculum in consultation with the state and territory governments. The Australian Curriculum will set out what all students are to be taught, and the expected standards of achievement throughout their schooling.⁵¹ The Australian Curriculum will be progressively implemented in Victoria from 2013 onwards.⁵²

Vocational education and training

The introduction of the Securing Jobs for Your Future—Skills for Victoria policy package in 2009 has led to the creation of a demand-driven and contestable training system within Victoria.⁵³ The key elements of this package are:

- There are now an unlimited number of government-subsidised training places available to people who meet the eligibility criteria set out in the Victorian Training Guarantee.
- Private providers can compete with public providers to deliver government- subsidised training places provided they satisfy set criteria.⁵⁴

In April 2012 the Victorian Government announced new changes to the VET system in Refocusing Vocational Training in Victoria.⁵⁵ This policy introduced changes to the funding of VET, quality assurance processes and the model for industry consultation.

⁵⁰ Mr David Brennan, Chief Executive Officer, Wimmera Catchment Management Authority, *Transcript of evidence*, Horsham, 29 November 2011, 2.

⁵¹ Australian Curriculum, Assessment and Reporting Authority, *Structure of the Australian Curriculum* (October 2011 edition), 1. Available at <http://www.acara.edu.au/verve/_resources/Structure_of_the_Australian_Curriculum_2011.pdf> viewed 18 April 2012.

⁵² Mr John Firth, Chief Executive Officer, Victorian Curriculum and Assessment Authority, *Transcript of evidence*, Melbourne, 24 October 2011, 3.

⁵³ Essential Services Commission (Victoria), *Vocational education and training fee and funding review – Issues paper* (2011), 19.

⁵⁴ Essential Services Commission (Victoria), *VET fee and funding review. Volume II: Technical analysis* (2011), 17-18.

Training reform has also been a major focus at the national level. Most recently, the Council of Australian Governments, Australia's peak intergovernmental forum, reached agreement on a significant set of reforms to the national training system.⁵⁶ These reforms include measures to improve the quality of training delivery and the engagement of industry with the VET sector.⁵⁷

Higher education

The Victorian Government has established the Regional Partnerships Facilitation Fund to help address lower rates of participation and attainment in higher education in rural and regional areas. The Fund supports higher education and VET providers to create partnerships that provide greater access to higher education in rural and regional areas.⁵⁸

At the national level, the reform agenda, Transforming Australia's Higher Education System, has led to the introduction of demand-driven funding for undergraduate places.⁵⁹ Other reforms of relevance to this Inquiry include initiatives designed to improve the pathways between the higher education and VET sectors and reforms to the income support measures for students in order to encourage greater participation in higher education.⁶⁰

1.4.6 What other work has been done in this area?

There has been significant attention given to the issue of agricultural education and training and the need to attract more people into the agriculture sector.

Of particular relevance is the Senate Standing Committee on Education, Employment and Workplace Relations' report *Higher education and skills training to support agriculture and agribusiness in Australia* which was released in June 2012. The Senate Committee's recommendations place a strong emphasis on the need for ongoing promotion of agriculture in Australian schools and increased coordination and collaboration between different parts of the agriculture sector. The Senate Committee also recommended further research to ensure appropriate delivery of agricultural education and training both at the VET and higher education levels.⁶¹

In May 2012 the Victorian Parliament's Rural and Regional Committee delivered its report *Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce*. This inquiry touched on a number of similar issues to the present Inquiry and both committees worked cooperatively throughout the inquiry

⁵⁵ Department of Education and Early Childhood Development (Victoria), *Refocusing vocational training in Victoria* (2012).

⁵⁶ Julia Gillard, *Council of Australian Governments meeting communiqué* (Media release, 13 April 2012). Available at <<http://www.pm.gov.au/press-office/council-australian-governments-meeting-communiqu%C3%A9>> viewed 19 April 2012.

⁵⁷ Council of Australian Governments, *National Partnership agreement on skills reform* (2012), 3. Available at <<http://www.coag.gov.au/node/319>> viewed 19 April 2012.

⁵⁸ DEECD, *Submission 82*, 20.

⁵⁹ Department of Industry, Innovation, Science, Research and Tertiary Education (Australia), *Fact sheet: Demand driven funding for undergraduate student places*, <<http://www.deewr.gov.au/HigherEducation/Resources/Pages/FundingUndergradStudent.aspx>> viewed 19 April 2012.

⁶⁰ Australian Government, *Transforming Australia's higher education system* (2009) Commonwealth of Australia, 9.

⁶¹ The Senate Education, Employment and Workplace Relations References Committee, *Higher education and skills training to support agriculture and agribusiness in Australia* (2012), vii-viii.

process, including holding a concurrent hearing in Shepparton. The Rural and Regional Committee's report makes a number of recommendations relevant to agricultural education and training, with that Committee stressing the need for increased promotion of agriculture and agricultural careers in Victorian schools and strategies to promote more modern and positive images of agriculture.⁶²

In preparing this report, the Committee has also drawn extensively on several national reports into agricultural education and training and related areas. These include:

- The Allen Consulting Group's 2012 report *Rebuilding the agricultural workforce*, prepared for the Business/Higher Education Round Table.⁶³ The report focuses primarily on the issue of declining enrolments in agriculture at the higher education level and sets out a comprehensive strategic approach for responding to the issue.
- The 2009 *Workforce, training and skills issues in agriculture – Final report* prepared by the Industries Development Committee Workforce, Training and Skills Working Group for the Primary Industries Ministerial Council.⁶⁴ The report focuses on facilitating a strategic and collaborative approach between government and the agriculture sector to address the workforce, skills and training issues affecting agriculture.
- The House of Representatives Standing Committee on Agriculture, Fisheries and Forestry's 2007 report *Skills: Rural Australia's need*.⁶⁵ This report recommended a more coherent approach to agricultural education and training in Australia.
- The 1991 *Report of the review of agricultural and related education* for the Australian Government which is frequently referred to as the McColl Report.⁶⁶ Although now over twenty years old, the McColl Report made a number of findings that are still relevant today, including the need to nationally promote agriculture and improve student knowledge about the agriculture sector.⁶⁷

While the current Inquiry was underway, the New South Wales Government also announced an independent review into agricultural education and training in that state. The review is being conducted by Professor Pratley and will be completed by 30 June 2013.⁶⁸

⁶² Rural and Regional Committee, Parliament of Victoria, *Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce* (2012), xxiii-xxx.

⁶³ The Allen Consulting Group, above n 38.

⁶⁴ Industries Development Committee Workforce, *Workforce, training and skills issues in agriculture – Final report*, report for Primary Industries Ministerial Council (2009). See also Senator the Hon. Joe Ludwig, Minister for Agriculture, Fisheries and Forestry, Senator for Queensland, *Submission 20*.

⁶⁵ House of Representatives Standing Committee on Agriculture, Fisheries and Forestry, *Skills: Rural Australia's need. Inquiry into rural skills training and research* (2007).

⁶⁶ James McColl, Alan Robson and John Chudleigh, *Report of the review of agricultural and related education – Volume 1* (1991) Department of Employment, Education and Training (Australia) and Department of Primary Industries and Energy (Australia).

⁶⁷ *ibid.*, xxi.

⁶⁸ Minister for Education and Minister for Primary Industries (NSW), *Putting agricultural education and training back on the agenda* (Media release, 26 July 2012).

1.5 The Inquiry process

The Committee called for public submissions to this Inquiry in July 2011. Advertisements appeared in *The Age*, *The Herald Sun*, *The Weekly Times*, *Stock & Land*, the Department of Education and Early Childhood Development's *Inspire* magazine and eight regional newspapers throughout Victoria. The Committee also placed articles about the Inquiry in a number of stakeholder publications.

The Chair of the Committee wrote directly to over 400 key stakeholders inviting submissions to the Inquiry. These stakeholders included government agencies; education and training providers; and organisations representing the agriculture sector.

The Committee received 102 submissions. A list of stakeholders who made a submission is at appendix A.

The Committee held 14 days of public hearings during the period October 2011 to March 2012. These hearings were conducted in Melbourne, Shepparton, Ballarat, Horsham, Glenormiston, Ellinbank, Canberra and at four schools. The Committee's school visits took place at Pyramid Hill College, Padua College in Mornington, Elisabeth Murdoch College in Langwarrin and Collingwood College. During these school visits the Committee toured the agricultural facilities and took evidence from a range of stakeholders.

Appendix B lists the participants who gave evidence to the Committee during the public hearings. The Committee has identified all school students who gave oral evidence to the Committee by first name only.

To further inform its consideration of agricultural education and training, the Committee visited New Zealand between 14 and 17 May 2012. The Committee met with a number of stakeholders to obtain information on effective agricultural programs operating in New Zealand. These stakeholders included DairyNZ, Beef+Lamb New Zealand, Massey University, the Ministry of Primary Industries and the Ministry of Education (see appendix C).

The Committee's secretariat conducted a literature review on agricultural education and training and the bibliography at the end of this report sets out the results of this work.

Finally, Committee representatives attended a number of conferences and forums relevant to this Inquiry. These events are set out in appendix D.

1.6 Outline of this report

This report is divided into ten chapters:

- This chapter, chapter one, provides an overview of the Inquiry, including its scope, context and conduct.
- Chapter two examines the reasons for low participation in agricultural education and training. It considers strategies to increase student aspiration for careers in agriculture and improve the participation of the existing agriculture workforce in formal agricultural education and training.

- Chapters three and four focus on agricultural education and training in schools. They consider how agriculture is and should be taught in Victorian schools and the support teachers and schools need to deliver high quality agricultural education.
- Chapters five and six look at agricultural training in the VET sector and make suggestions for improving the delivery of agricultural VET training. Topics discussed include the delivery challenges for training providers, access to agricultural training, opportunities in relation to Victoria's agricultural colleges and VET workforce issues.
- Chapters seven and eight focus on the agricultural courses within the higher education sector, including the challenges in delivering and accessing these courses, postgraduate research in agriculture and the higher education workforce. They also consider strategies to increase participation in agricultural higher education courses.
- Chapter nine considers the role of non-formal education and training for the agriculture sector.
- Chapter ten examines how the key stakeholder groups could work together to achieve the Committee's vision for enhanced agricultural education and training in Victoria.

Chapter 2: Attracting people to agricultural careers and agricultural education and training

Key findings

- Agriculture needs to be positioned as a career of choice that appeals to a diverse group of students at all academic levels if we are to meet the challenges of increasing international demand for food and fibre.
- The factors that are influencing agricultural career aspiration include the poor image of agriculture; a lack of clear career pathways; the influence of careers advisers, teachers and parents; and the remuneration and working conditions in the sector.
- Community attitudes towards the agriculture sector have been shaped by a lack of understanding about the sector. A national promotional campaign is needed to raise the image of agriculture.
- Young Victorians are often not aware of the diversity of careers available within the agriculture sector. In order to increase aspiration for agricultural careers, careers in the sector need to be better promoted through an agricultural careers resource and by a skilled school careers adviser workforce.
- The factors that influence the agricultural workforce's participation in formal agricultural education and training include the agriculture sector's attitude to formal education and training; the cost of training; the absence of a requirement to hold formal qualifications; and the fact that some training currently on offer is not meeting the needs of the agriculture sector.
- It is vital that the agriculture sector and employers develop a culture that promotes and values education and training. A sector-wide workforce development plan would play a valuable role in assisting the sector to identify education and training needs.

Attracting people to agricultural careers and agricultural education and training

The future prosperity of the Victorian agriculture sector relies on the availability of a strong and skilled workforce. This chapter focuses on how to build aspiration for agricultural careers. It also considers how to encourage greater participation in agricultural education and training by the existing agricultural workforce.

2.1 Aspiration for agricultural careers

Increasing student aspiration for agricultural careers is a necessary precursor to achieving a quality agricultural education and training system. As Mr Mike Stephens, Managing Director of the farm consultancy firm Mike Stephens and Associates, observed:

Agricultural education could be rejuvenated and could be absolutely tickety-boo, but you have still got to have people wanting to be involved in agriculture, so there is that bigger picture that has got to be fixed first.⁶⁹

This section examines the type of people we need to attract into agricultural careers, the factors influencing student aspiration for agricultural careers and potential strategies to increase student aspiration for careers in agriculture.

2.1.1 What type of people do we need to attract to agriculture?

A number of stakeholders observed that agriculture needs to become a career of choice for students at all academic levels to help it meet the challenges posed by the world's increasing demand for food and fibre. For example, Mr Ben Stockwin, Executive Manager, Primary Industries Education Foundation (PIEF), a not-for-profit organisation responsible for promoting primary industries education across Australia, explained:

The problems the nation — and globally — the industry will be facing over the next 40 years will require a different type of thinking and some new answers, rather than the same old ... We need to engage the innovative thinkers, the best and the brightest ... to be attracted towards a career.⁷⁰

⁶⁹ Mr Mike Stephens, Managing Director, Mike Stephens and Associates, *Transcript of evidence*, Ballarat, 28 November 2011, 2.

⁷⁰ Mr Ben Stockwin, Executive Manager, Primary Industries Education Foundation, *Transcript of evidence*, Canberra, 20 March 2012, 10. See also Mr Ron Paynter, Branch member, Warragul Branch, Victorian Farmers Federation (VFF), *Transcript of evidence*, Ellinbank, 14 February 2012, 8; Mr Ian Reid, *Transcript of evidence*, Shepparton, 3 November 2011, 5; Mr Brian Duggan, Manager, Workplace Relations and Legal Affairs, National Farmers' Federation, *Transcript of evidence*, Canberra, 20 March 2012, 4.

However, Professor Richard Roush, Dean, Melbourne School of Land and Environment (MSLE) at The University of Melbourne, noted that at present, high-achieving students are often discouraged from pursuing higher education study in agriculture:

Another piece of feedback that we commonly get at the level of high schools is if students are doing really well in their studies and have high ATAR [Australian Tertiary Admissions Rank] scores and suggest that they are interested in studying agriculture, the feedback they often get is, 'Why waste your beautiful ATAR on doing agriculture? Why don't you go into law or medicine or something like that?'.⁷¹

The evidence to the Committee indicates that it is currently young people from rural and regional areas that are most attracted to pursue a career in the agriculture sector. Although recognising the importance of retaining this cohort, some stakeholders contended that agriculture needs to broaden its appeal to urban students to meet the sector's future workforce demands. For example, Professor Roush explained:

I think it is important for us to keep in mind that if we do not also somehow target urban students, the demographics are running against us in finding enough students for agriculture in the future ... If 95% of the Australian population lives in urban areas and at least some rural students want to do things other than agriculture, we have got to have some flowing from the city back to the country or we will never match the needs.⁷²

Similarly, Associate Professor John Webb, Head of Environmental Geoscience at La Trobe University, stated:

We get quite a lot of regional students from country Victoria, but we do not get a proportional number of urban students, so the split is not the population split in Victoria. City students by and large do not want to do agricultural courses. That is our main catchment, the cities; that is where everyone lives. We do quite well in regional areas, but we are not getting city students — or not as many as we need.⁷³

The Committee also heard that people who want to move from another occupation or sector into a career in agriculture are another potential source of workers for the sector. For example, Mr John Wilson, General Manager of Fruit Growers Victoria, explained that many people are seeking to retrain for a career in the fruit growing industry:

Retraining is an area where we can gain a lot of people into our industry. Some people are looking for the proverbial sea change, where they just want to be out in the fresh air, and that is good. We have come across a lot of that.⁷⁴

The cost of retraining within the vocational education and training (VET) sector emerged as the key barrier to participating in education and training for this cohort. This is discussed in more detail in chapter five.

2.1.2 Factors influencing aspiration for agricultural careers

This section explores the key factors that Inquiry participants identified as contributing to the low student aspiration for agricultural careers. The main factors identified by

⁷¹ Professor Richard Roush, Dean, Melbourne School of Land and Environment (MSLE), The University of Melbourne, *Transcript of evidence*, Melbourne, 7 November 2011, 2.

⁷² *ibid.*, 5-6.

⁷³ Associate Professor John Webb, Head, Environmental Geoscience, La Trobe University, *Transcript of evidence*, Melbourne, 7 November 2011, 2-3.

⁷⁴ Mr John Wilson, General Manager, Fruit Growers Victoria, *Transcript of evidence*, Shepparton, 3 November 2011, 4.

participants in this Inquiry and discussed in this section are the poor image of agriculture; a lack of clear career pathways; the influence of careers advisers, teachers and parents; and the remuneration and working conditions in the sector.

The image of agriculture

Stakeholders identified the poor public image of agriculture as the primary cause of low student aspiration for agricultural careers. For example, Professor Roush of MSLE at The University of Melbourne, stated, 'Fundamentally we think the major driver is the poor public impression of where agriculture stands. This is dissuading students from taking up agriculture.'⁷⁵

The Committee heard that a range of negative or false perceptions persist in the community about agriculture. The G21—Geelong Alliance, Education and Training Pillar, a formal alliance of government, business and community organisations across five municipalities in the Geelong region, identified a prevailing view is that agriculture 'is principally a manual, male dominated occupation with lo[n]g hours and little technology'.⁷⁶ This narrow and erroneous view of what a career in the agriculture sector encompasses is widely held.

The hardship experienced by the agriculture sector during the long period of drought and more recently flooding, still lingers in the mind of many in the community. The Bass Coast Shire Council submitted that this has led to a perception that agriculture is a risky sector to enter.⁷⁷ Similarly, Ms Julia Dwyer, HR Business Partner at Landmark Operations, an Australia-wide agribusiness, told the Committee that these hardships are all that many young people know about the sector:

They just do not see that there are jobs in that industry; all they hear is that the locusts have come through and ripped out all the crops and there are floods and farmers are doing it tough and there has been drought for 10 years so why would you be a farmer?⁷⁸

There is also a growing awareness and concern within the community about environmental and animal welfare issues, and stakeholders noted that this concern is impacting on community attitudes towards the agriculture sector.⁷⁹ A 2011 survey on student and teacher attitudes towards the primary industries commissioned by PIEF

⁷⁵ Professor Richard Roush, above n 71, 2. See also Department of Education and Early Childhood Development (Victoria) (DEECD), *Submission 82*, 22; La Trobe University, *Submission 88*, 5; Dr Lesley Fitzpatrick, Chief Executive, Australian Rural Leadership Foundation, *Transcript of evidence*, Canberra, 20 March 2012, 5; Primary Skills Victoria, *Submission 84*, 30; Wellington Shire Council, *Submission 63*, 8; MSLE, *Submission 69*, 1; Bass Coast Shire Council, *Submission 24*, 1; Mr Derek Sands, Student, Marcus Oldham College, *Transcript of evidence*, Melbourne, 6 March 2012, 10; Mr Arthur Blewitt, Chief Executive Officer, AgriFood Skills Australia, *Transcript of evidence*, Canberra, 20 March 2012, 2; Mr Alan Broughton, Organic agriculture educator and researcher, Organic Agriculture Association and Australian Landscape Trust, *Transcript of evidence*, Ellinbank, 14 February 2012, 3; Ms Leanne Talbot, Teacher, Pyramid Hill College, *Transcript of evidence*, Pyramid Hill, 2 November 2011, 5; Young Agribusiness Professionals (YAPs), VFF, *Submission 76*, 4; Corangamite Shire, *Submission 58*, 3.

⁷⁶ G21—Geelong Region Alliance, Education and Training Pillar, *Submission 53*, 9. See also Victorian Association of Agricultural and Horticultural Educators (VAAHE), *Submission 87*, 2.

⁷⁷ Bass Coast Shire Council, *Submission 24*, 1. See also G21—Geelong Region Alliance, Education and Training Pillar, *Submission 53*, 9.

⁷⁸ Ms Julia Dwyer, HR Business Partner, Landmark Operations, *Transcript of evidence*, Melbourne, 6 March 2012, 6.

⁷⁹ VAAHE, *Submission 87*, 3; Mr Derek Sands, above n 75, 10; DEECD, *Submission 82*, 22.

lends support to this view. The survey found that 40% of surveyed Year 10 students believed that farming damages the environment.⁸⁰

Why does the community have a negative perception of agriculture?

The current negative perceptions are well entrenched, with the influential *Report of the review of agricultural and related education* commissioned by the Australian Government and frequently referred to as the McColl Report, highlighting that negative community attitudes were influencing student demand for agricultural higher education as far back as 1991.⁸¹

Inquiry participants identified that the negative attitudes of the agriculture sector itself, the media and Australia's urban-centric population are all factors contributing to the community's poor perception of the agriculture sector.

Stakeholders emphasised that the agriculture sector needs to do more to promote itself and celebrate its own achievements and successes. The Committee heard that 'often they [the sector] are their own worst enemy by talking about doom and gloom all the time'.⁸² Similarly, the Wimmera Development Association, the peak economic development organisation for the Wimmera Southern Mallee region, submitted:

There is an industry trend to promote the negative aspects of the sector (eg. drought, work place injuries, poor financial results). Demonstrating the positive aspects of agriculture is critical to attracting new young participants.⁸³

Many stakeholders also felt that the media is prone to portraying bad news stories about agriculture. For example, the Victorian Association of Agricultural and Horticultural Educators (VAAHE), the state professional association for school agricultural educators, contended:

This perception is often strengthened by negative media reports about farmers or their farming techniques. The general public are continually hearing from the media of farmers experiencing fires, floods, drought or poor commodity prices. They often showcase animal activists who portray farmers as uncaring and cruel.⁸⁴

Similarly, La Trobe University submitted that the media portrays the image of an agriculture sector that is struggling:

It is likely that the negative images portrayed in the public media create the negative perceptions of Agriculture ... The images involve hardship on farms, the declining terms of trade for primary producers, climatic extremes impacting on farmers' livelihoods, outbreaks of animal and plant diseases, market collapses for key commodities, bank foreclosures on farming businesses, with considerable personal stress. All of these convey the picture of a struggling and unattractive sector ...⁸⁵

⁸⁰ Australian Council for Educational Research, *Food, fibre and the future: Report on surveys of students' and teachers' knowledge and understanding of primary industries*, report for Primary Industries Education Foundation (2011), 8.

⁸¹ James McColl, Alan Robson and John Chudleigh, *Report of the review of agricultural and related education – Volume 1* (1991) Department of Employment, Education and Training (Australia) and Department of Primary Industries and Energy (Australia), xv.

⁸² Mr Peter Schwarz, Member, Southern Advisory Panel, Grains Research and Development Corporation, *Transcript of evidence*, Shepparton, 3 November 2011, 4. See also Professor Richard Roush, above n 71, 2; Primary Skills Victoria, *Submission 84*, 30.

⁸³ Wimmera Development Association, *Submission 44*, 2.

⁸⁴ VAAHE, *Submission 87*, 3.

⁸⁵ La Trobe University, *Submission 88*, 11.

The Committee heard that the urban-rural divide means that many people no longer have a personal connection with the agriculture sector. Stakeholders argued that this perpetuates a lack of understanding and affinity with the agriculture sector. For example, Mr David Chamberlin, Chief Executive Officer of Birchip Cropping Group, an agricultural research organisation led by farmers in the Wimmera Mallee region, explained:

the connection now for current city people, as I might call them, with agriculture is lost for a lot of people. There is no longer the relative, whether it is a grandparent, aunt, uncle, cousin, friend or whatever on the farm. People do not have that real connection and affinity for agriculture that they used to have.⁸⁶

The Committee found that it is not only agriculture, but the broader primary industries sector, that suffers from a poor public image in Australia. The Victorian Association of Forest Industries, the state's peak industry body for forest and wood products, noted a poor public image was equally a problem for the forest and wood products sector.⁸⁷

Strategies to improve the community's perception of agriculture

There was widespread support among Inquiry participants for the development of a promotional campaign to improve community perceptions about the agriculture sector and the available careers within it. For example, the Young Agribusiness Professionals, which is part of the Victorian Farmers Federation and represents farmers and agribusiness professionals aged between 18 and 35, submitted, 'an aggressive marketing campaign needs to happen to ensure that agriculture is out there in the public eye in a manner that the industry desires'.⁸⁸

Similarly, Ms Leanne Brus-Bentley, Organisational Capability Manager at Elders, a global rural services business, explained that a promotional campaign would benefit the agriculture sector as a whole:

What would be really beneficial to us would be promotion of agricultural careers. I notice on my television at home that there is quite a bit of national promotion and there are also advertising campaigns explaining to the general public what it means to work for a mining company and what mining companies offer. One of the things that would be great to see is promotion of the idea that an agricultural career is really valued in Australia.⁸⁹

Participants in the Inquiry had a range of ideas about who should be targeted by a promotional campaign. For example, the Sunraysia Institute of TAFE recommended that the campaign begin with primary school students and move through to secondary school students, whereas Dr Damien Adcock, Head of Department, Agriculture and Land Management Higher Education at the Northern Melbourne Institute of TAFE (NMIT),

⁸⁶ Mr David Chamberlin, Chief Executive Officer, Birchip Cropping Group, *Transcript of evidence*, Horsham, 29 November 2011, 2. See also VAAHE, *Submission 87*, 6; Mr Brian Duggan, *Transcript of evidence*, above n 70, 4; Bass Coast Shire Council, *Submission 24*, 1.

⁸⁷ Victorian Association of Forest Industries, *Submission 59*, 7-8.

⁸⁸ YAPs, *Submission 76*, 3. See also Ms Ruth Trench-Thiedeman, General Manager, People and Performance, Landmark Operations, *Transcript of evidence*, Melbourne, 6 March 2012, 6; South Gippsland Bass Coast Local Learning and Employment Network (LLEN), *Submission 47*, 3; Mr John Goldsmith, General Manager, Longerenong College, *Transcript of evidence*, Horsham, 29 November 2011, 7; Associate Professor Peter Sale, Department of Agricultural Science, La Trobe University, *Transcript of evidence*, Melbourne, 7 November 2011, 2; Mansfield Shire Council, *Submission 45*, 3; Central Gippsland Institute of TAFE, *Submission 42*, 4; Faculty of Earth Sciences, Northern Melbourne Institute of TAFE (NMIT), *Submission 29*, 4; Sunraysia Institute of TAFE, *Submission 77*, 3; Greater Shepparton City Council, *Submission 30*, 2-3; South West LLEN, *Submission 95*, 4; La Trobe University, *Submission 88*, 1.

⁸⁹ Ms Leanne Brus-Bentley, Organisational Capability Manager, Elders, *Transcript of evidence*, Melbourne, 6 March 2012, 5.

suggested that a campaign needed to target the broader public.⁹⁰ The South West Local Learning and Employment Network noted that any marketing needs to be varied enough to reach the different target audiences of parents, young people, teachers and careers advisers.⁹¹

There were also a variety of suggestions about what the message and focus of any promotional campaign should be. Many stakeholders were in favour of using a campaign to promote the diversity of careers within the agriculture sector. For example, Ms Ailsa Gibson, Administration and Policy Officer at the Young Agribusiness Professionals, stated, 'highlighting just the range of different industries within agriculture, whether it's policy, marketing, agronomy and ... where it can take you as well is very key in the message'.⁹²

Other stakeholders felt it was important to promote a more professional and modern image of farming. Marcus Oldham College, a private higher education provider based in Geelong, submitted:

Positioning farming as a profession and building an image for it that reflects its professionalism is going to be important. There is widespread understanding that a leading farmer requires the competence in a broad range of manual skills, but there is probably less understanding that successful farming also requires a vast array of sophisticated theoretical knowledge as well as advanced cognitive capabilities to handle the complexities of changing business and technological environments.⁹³

There was acknowledgement that changing the perception of agriculture would not be an easy task. The Primary Industry Centre for Science Education (PICSE), which developed the PICSE program to encourage more young people to enter science-related careers in the primary industries, submitted that the major strategies employed over the past four decades to improve public perceptions of agriculture had not been effective and lacked any meaningful evaluation.⁹⁴

However, the Queensland Department of Employment, Economic Development and Innovation highlighted that other industries such as the Australian Defence Force and the mining and construction sectors have invested heavily in their brand with the aim of becoming preferred employers or to paint a positive view of their industry.⁹⁵ Further, during its visit to New Zealand, the Committee gained the impression that the public image of agriculture in New Zealand has improved significantly over the past decade through the collaborative efforts of the agriculture sector and the education and training sectors.⁹⁶ However, some stakeholders the Committee spoke to felt that more still needs to be done to improve the image of agriculture in that country.⁹⁷

⁹⁰ Sunraysia Institute of TAFE, *Submission 77*, 3; Dr Damien Adcock, Head of Department, Agriculture and Land Management Higher Education, NMIT, *Transcript of evidence*, Melbourne, 5 December 2011, 10.

⁹¹ South West LLEN, *Submission 95*, 4.

⁹² Ms Ailsa Gibson, Administration and Policy Officer, YAPs, *Transcript of evidence*, Melbourne, 5 December 2011, 2. See also Central Gippsland Institute of TAFE, *Submission 42*, 4.

⁹³ Marcus Oldham College, *Submission 19*, 7. See also Greater Shepparton City Council, *Submission 30*, 3.

⁹⁴ Primary Industry Centre for Science Education (PICSE), School of Agricultural Science, University of Tasmania, *Submission 71*, 5. See also Tasmanian Institute of Agricultural Research, *Submission 36*, 5.

⁹⁵ Department of Employment, Economic Development and Innovation (Queensland), *Submission 73*, 5.

⁹⁶ Email from Chief Executive Officer, Beef+Lamb New Zealand, to Executive Officer, Victorian Parliament Education and Training Committee, 3 September 2012.

⁹⁷ Email from Chief Executive Officer, New Zealand Young Farmers, to Executive Officer, Victorian Parliament Education and Training Committee, 12 September 2012.

Examples of existing agricultural promotional campaigns

There are a number of promotional campaigns and activities that have been developed with the aim of lifting the image of the agriculture sector. Selected examples of campaigns and activities operating in Victoria and in other jurisdictions are outlined below.

Australian Year of the Farmer

Australian Year of the Farmer Limited, a not-for-profit organisation, has worked with a range of industry partners to celebrate 2012 as the Australian Year of the Farmer. This initiative is designed to raise the profile of farming and highlight the importance of food security and the community's dependence on the Australian farmer.⁹⁸ A wide range of events and initiatives have been held across the country as part of Australian Year of the Farmer. These events included a travelling roadshow, visits to schools and an innovation and technology expo.⁹⁹

Every Family Needs a Farmer

Queensland's peak farming body, AgForce, ran a promotional campaign called Every Family Needs a Farmer in Queensland between 2006 and 2009. The campaign consisted of a series of television advertisements aimed at building the understanding and empathy of the Queensland community about the role of farming and farmers.¹⁰⁰

FarmDay

FarmDay is an annual weekend where farming families from across Australia are encouraged to host families from the city for a day. The program has been running since 2006 and is aimed at reconnecting rural and urban Australia. The program helps city families to gain a greater understanding of the day-to-day life of a farming family and how farmers produce food and fibre.¹⁰¹ FarmDay is run by a not-for-profit organisation and receives support from industry.

The Primary Industry Centre for Science Education

The PICSE program is designed to attract high-achieving young people into science-based primary industries careers. It caters for students from Year 5 to first year university and is currently operating in all states except Victoria.

PICSE has taken a comprehensive approach to raising awareness, interest and participation in primary industries science in the design of the PICSE program, which is discussed further in chapters three and four on school-based agricultural education and training.

Part of PICSE's mission is to improve the public perception around pursuing a career in agriculture. PICSE submitted that when engaging with the media it focuses on promoting the following messages:

⁹⁸ Australian Year of the Farmer, *Australian year of the farmer manifesto*, <<http://www.yearofthefarmer.com.au/about/manifesto.html>> viewed 16 August 2012.

⁹⁹ Australian Year of the Farmer, *Events*, <<http://www.yearofthefarmer.com.au/events.html>> viewed 11 August 2012.

¹⁰⁰ Agforce Queensland, *Every family needs a farmer*, <http://www.agforceqld.org.au/index.php?tgtPage=events&page_id=153> viewed 10 August 2012.

¹⁰¹ FarmDay, *Newsletters*, <http://www.farmday.com.au/index.php?option=com_content&task=view&id=37&Itemid=>> viewed 16 August 2012.

- redefining agricultural science as a modern, sophisticated bio-science
- strengthening awareness of the increasing overlap between agricultural and environmental science
- raising community awareness of science and interest in food production and quality
- proactively influencing broader community understanding of Australia as a world leader in agricultural technology and innovation
- highlighting the essential contribution of Australian agriculture to national and global food security
- highlighting the economic contribution of agriculture and agribusiness
- promoting the role of farmers as environmental stewards who employ best practice management to deliver sustainability
- promoting the exciting career options available in agriculture and related areas.¹⁰²

Young farmers' contests

Young farmers' contests are a means of promoting a positive image of the agriculture sector. There are young farmers' contests operating in New Zealand, New South Wales and Victoria.

The most established young farmers' contest is held in New Zealand. The National Bank Young Farmer Contest is the premier event for young farmers in New Zealand. New Zealand Young Farmers, which is a social network of rural youth, runs the competition and up to 400 contestants enter each year. Contestants in the grand final compete in a series of practical and technical challenges. The contest, which is in its 44th year, is New Zealand's most highly publicised and recognised rural event with sponsorship and funding totalling over one million dollars.¹⁰³

The Royal Agricultural Society of New South Wales has held a young farmers' contest at the Sydney Royal Easter Show for a number of years. The competition is open to teams of three people aged between 18 and 35 years who are working in the agriculture sector.¹⁰⁴ The competition was inspired by the New Zealand Young Farmer Contest.

The Royal Agricultural Society of Victoria introduced a young farmers' challenge at the Royal Melbourne Show for the first time in 2011.¹⁰⁵ This is also a team-based competition.

¹⁰² PICSE, *Submission 71*, 6. See also Tasmanian Institute of Agricultural Research, *Submission 36*, 6.

¹⁰³ The National Bank Young Farmer Contest, *Media centre*, <<http://www.youngfarmercontest.co.nz/index.asp?pageID=2145893716>> viewed 16 August 2012.

¹⁰⁴ Royal Agricultural Society of NSW, *Young farmer challenge*, <<http://www.sydneyroyal.com.au/YoungFarmer.htm>> viewed 16 August 2012.

¹⁰⁵ Mr Brad Jenkins, General Manager, Royal Agricultural Society of Victoria, *Transcript of evidence*, Rural and Regional Committee, Parliament of Victoria, Melbourne, 24 October 2011, 31.

Improving the image of agriculture – The Committee’s view

It is the Committee’s view that community attitudes towards the agriculture sector have been shaped by a poor understanding of the sector, a lack of promotion by the agriculture sector and negative media attention.

The Committee believes that a promotional campaign aimed at improving the image of agriculture is needed to address this issue. The Committee considers that market research is needed to develop a professional and successful campaign and identify the target audience.

Possible angles for the campaign include:

- the role of farmers as managers of complex and profitable businesses
- the technological and scientific nature of modern agriculture
- the diversity of careers within the agriculture sector
- the role of farmers as environmental stewards
- positioning agriculture as key to addressing global food security.

The Committee considers that ideally the campaign should be run at a national level to ensure that a consistent message is communicated to the target audience and to raise the profile of the sector nationally. The Committee believes that the major industry associations within the agriculture sector should be responsible for working together to develop the campaign, as the sector needs to have ownership of the message conveyed. The Committee shares its vision for how the different segments of agriculture sector could work more collaboratively in chapter ten.

The Committee recognises that it is also important that the agriculture sector sells its success stories to the media and helps the media gain a better understanding of the exciting opportunities that exist within the sector. This could be achieved by the industry associations within the agriculture sector collaborating to develop a media strategy to positively promote agriculture and the careers within it.

Recommendation 1: Promotional campaign to improve the image of agriculture

That the industry associations within the agriculture sector work collaboratively at the national level to develop a promotional campaign aimed at improving the image of agriculture amongst the community.

Awareness of agricultural careers

Many participants in this Inquiry were concerned that young people and the wider community have a limited understanding of the careers within the agriculture sector. It was highlighted that a career in agriculture is typically equated with being a farmer. As Jemma, a Year 12 student at Ballarat and Queen’s Anglican Grammar School,

explained ‘in the wider community — it is just seen that if you do agriculture, you become a farmer, and that is it’.¹⁰⁶

Similarly, VAAHE submitted that there is little recognition that farming makes up a small component of the jobs within the agriculture sector:

Agriculture is often only associated with the physical practice of farming, perceived as involving tractors, manual work and long days for little monetary reward. The reality is in fact that the actual practice of farming makes up a small component of the available jobs in agriculture. This sadly is not recognised by the great majority of people.¹⁰⁷

Stakeholders also identified that many people hold an outdated and narrow view of the nature of on-farm jobs. The Young Agribusiness Professionals submitted, ‘The stereotype of farmers in straw hats and overalls is no longer indicative of farmers — rather, they should be promoted as managers of million dollar businesses who are well skilled in on-farm issues, human relations issues, and finance’.¹⁰⁸

Strategies to improve agricultural careers awareness

Inquiry participants emphasised the need to raise awareness about the diversity of careers available within the agriculture sector in order to increase aspiration for agricultural careers. Mr Dean Lombardozi, who is studying a Bachelor of Agriculture and Land Management at NMIT, explained:

With the degree we are doing, we can go into research, finance, business management, marketing, advertising or sales. It is not marketed like that. It is marketed as just being about farmers. People need to know that if you are going to do a degree in agriculture, you are not just confined to agronomy or managing a farm ... There is every sort of pathway in agriculture.¹⁰⁹

There was a strong sense amongst the Inquiry participants that agriculture careers education needs to begin in schools. Several stakeholders suggested that young people working in the agriculture sector should go out into schools to champion careers in the agriculture sector. For example, Ms Kate Henne, who is studying a Bachelor of Agriculture and Land Management at NMIT, identified that there would be benefit in ‘[j]ust getting more young people going to schools and talking about what they are doing and talking about where they want to end up in their careers with agriculture’.¹¹⁰

Ms Sarah Parker, Chief Executive Officer of Murray Dairy, supported the idea of a career champion program, noting ‘one of my younger staff going along, talking about project management and state-of-the-art science and robots will spark the minds’.¹¹¹

¹⁰⁶ Jemma, Year 12 student, Ballarat and Queen’s Anglican Grammar School, *Transcript of evidence*, Ballarat, 28 November 2011, 6. See also Ms Nicole Sanderson, Student, NMIT, *Transcript of evidence*, Melbourne, 6 March 2012, 8; Mr Matthew Dickinson, Agriculture and horticulture teacher and Farm Manager, Ballarat and Queen’s Anglican Grammar School, *Transcript of evidence*, Ballarat, 28 November 2011, 7; Ms Mattie Crouch, Student, Marcus Oldham College, *Transcript of evidence*, Melbourne, 6 March 2012, 10; Mr John Firth, Chief Executive Officer, Victorian Curriculum and Assessment Authority, *Transcript of evidence*, Melbourne, 24 October 2011, 5; Ms Hannah Pickles, *Submission 15*.

¹⁰⁷ VAAHE, *Submission 87*, 2.

¹⁰⁸ YAPs, *Submission 76*, 4. See also Mr John Firth, above n 106, 5; VAAHE, *Submission 87*, 2.

¹⁰⁹ Mr Dean Lombardozi, Student, NMIT, *Transcript of evidence*, Melbourne, 6 March 2012, 9.

¹¹⁰ Ms Kate Henne, Student, NMIT, *Transcript of evidence*, Melbourne, 6 March 2012, 9. See also Ms Anna Fry, Student, The University of Melbourne, *Transcript of evidence*, Melbourne, 6 March 2012, 9; Longerenong College, *Submission 39*, 5; Mr Casper Roxburgh, Student, La Trobe University, *Transcript of evidence*, Melbourne, 6 March 2012, 10; VFF, *Submission 64*, 3.

¹¹¹ Ms Sarah Parker, Chief Executive Officer, Murray Dairy, *Transcript of evidence*, Shepparton, 3 November 2011, 7.

Portraying the technological, business and scientific aspects of modern day agriculture to school students was also highlighted as a means of engaging young people in agricultural careers. For example, Professor Roush from MSLE stated that The University of Melbourne's plan to redevelop the Dookie campus, which is discussed further in chapter eight, would provide an opportunity to demonstrate firsthand to school students the technological aspects of farming:

If we can upgrade the facilities and show people there are cutting-edge electronics, water management and so forth on campus, we want to bring primary and secondary school students onto campus for a weekend or a short period of a week to ... really demonstrate the cutting-edge, high-tech nature of agriculture on the site.¹¹²

In May 2012 the Young Agribusiness Professionals launched a new initiative aimed at developing practical policies and strategies on how to attract young people into agriculture. The Generation F campaign consists of a series of forums and social events with representatives from across the agriculture sector to inform the development of these policies and strategies. The Young Agribusiness Professionals will present these policies and strategies to the Victorian Government in early 2013.¹¹³

Examples of existing careers awareness initiatives

Some examples of activities and programs operating interstate and in New Zealand that are designed to promote agricultural careers to school students are set out below.

There are also a number of school-based educational programs, such as Cows Create Careers and the PICSE program, which have a role raising agricultural careers awareness. These are discussed in chapter three on schools.

Moo Baa Munch

AgForce in Queensland has developed the Moo Baa Munch as a way of promoting agricultural careers and portraying a positive image of the agriculture sector. The Moo Baa Munch, which was held in May 2012, consisted of:

- a primary school day, aimed at helping students discover agriculture through hands-on, practical and fun activities
- a high school careers day, where secondary students could find out about jobs with animals, plants, science and technology
- a family fun weekend for families that included hands-on activities and a farmers' market.¹¹⁴

The Rural Champion Program

AgForce also runs the Rural Champion Program in Queensland, which aims to promote agriculture to primary and secondary school students using volunteers from the agriculture sector to 'champion' the bush and rural industries.¹¹⁵

¹¹² Professor Richard Roush, above n 71, 9. See also *ibid.*, 7; Mr Bezalel Gleiser, Director, Aliyah Department, Australia and New Zealand, *Transcript of evidence*, Melbourne, 20 February 2012, 8.

¹¹³ Young Agribusiness Professionals, VFF, *About YAPs*, <<http://yaps.vff.org.au/index.php?page=about-us>> viewed 17 September 2012.

¹¹⁴ Agforce Queensland, *Moo Baa Munch*, <http://www.agforceqld.org.au/index.php?tgtPage=events&page_id=329> viewed 10 August 2012.

Rural Champions visit both primary schools and secondary schools. The primary school program teaches students about where food and fibre comes from, while the secondary school program focuses on providing career information.

Get Ahead Careers Programme

The New Zealand Young Farmers, DairyNZ and Beef+Lamb New Zealand have collaborated to create the Get Ahead Careers Programme to inform school students about the career opportunities available across the agriculture sector supply chain.

The Programme is an experience day for secondary school students. It involves representatives from across the agriculture sector coming together to demonstrate the diversity of agricultural careers. In 2012 there were 10 experience days held across New Zealand and these showcased careers such as land manager, animal genetics, finance, marketing and exporting.¹¹⁶

The Programme has a learn-by-doing approach, and includes:

- a team challenge modelled on the amazing race where participants compete in activities related to a wide range of careers across the agriculture industry
- a gourmet burger lunch which involves a discussion about the quality of produce
- careers 'speed dating' where students have the opportunity to spend five minutes asking persons from the agriculture sector about their career and position.¹¹⁷

Improving agricultural careers awareness – The Committee's view

The Committee is concerned that there appears to be a lack of awareness amongst young people about the diversity of careers available within the agriculture sector. The Committee believes that in order to attract more students into agriculture, greater effort needs to go into raising agricultural careers awareness in schools.

The Committee believes that there should be a coordinated approach, with different industries within the agriculture sector working together to promote careers in schools. This will ensure that a consistent message is communicated and also help to portray the diversity of careers available across the sector.

The Committee believes that the industry associations within the Victorian agriculture sector should give consideration to working together to develop a careers awareness program targeted at fostering a better understanding about the range of agricultural careers. The Committee notes that there are some excellent initiatives operating interstate and in New Zealand that promote the diversity of agricultural careers in a fun and engaging way for students. These initiatives could provide potential models for a Victorian program.

The Committee also feels that there is significant potential for organisations representing younger members of the agriculture sector, such as the Young Agribusiness Professionals and the Victorian Young Farmers, to play a leadership role with respect to

¹¹⁵ Agforce Queensland, *Rural champions: Agforce rural champion volunteers*, <http://www.agforceqld.org.au/index.php?page_id=85> viewed 16 August 2012.

¹¹⁶ Get Ahead, *2012 Experience day agenda* (2012), 2, 4. Available at <http://getahead.co.nz/media/24434/agenda_-_get_ahead_experience_day_v_3.pdf> viewed 20 August 2012.

¹¹⁷ *ibid.*, 3.

engaging young people in agricultural careers. It commends the Young Agribusiness Professionals on its Generation F campaign which will help inform the development of strategies to attract young people into agriculture. The Committee encourages young farmers' groups to continue to work together and with the broader agriculture sector to improve agricultural careers awareness in Victoria.

Recommendation 2: Developing an agricultural careers awareness program for Victorian school students

That the industry associations within the agriculture sector work collaboratively to develop a careers awareness program for Victorian school students.

Influences on student career choices

Stakeholders identified that careers advisers, teachers and parents are all important influences on a young person's choice to pursue a career in agriculture.

A survey undertaken for the Australian Government Department of Education, Employment and Workplace Relations on factors influencing Year 12 student career decision-making found that careers advisers and teachers are important influences on a student's choice of course and university, with the views of parents and the plans of friends being relatively less important factors.¹¹⁸

However, it is important to acknowledge that the same survey noted that there are a complex range of personal, cultural, economic and social factors that can have an impact on the decision by a student to pursue post-school study and their course choice.¹¹⁹ The influence of careers advisers, teachers and parents has been singled out by the Committee for discussion in this section as it reflects the evidence provided by stakeholders.

The role of careers advisers

There was a strong focus by the Inquiry participants on the influence of careers advisers on student career choices.

A number of Inquiry participants cited instances of students receiving discouragement from their careers adviser about pursuing a career in agriculture. For example, Mr Peter Schwarz, a member of the Southern Advisory Panel at the Grains Research and Development Corporation, spoke about his son's experience with his school careers adviser:

When he said to his adviser, 'What if I wanted to go into agriculture?', his adviser said, 'What would you want to do that for?'. I think there is a bias that is inbuilt at the moment against going into agriculture.¹²⁰

Similarly, the joint submission of the Dairy Industry People Development Council (DIPDC) and Dairy Australia on behalf of the Victorian dairy industry noted:

¹¹⁸ Department of Education, Employment and Workplace Relations (Australia) and Roy Morgan Research, *Year 12 student choices: A survey on factors influencing Year 12 decision-making on post-school destination, choice of university and preferred subject* (2009), vii. Available at <<http://www.deewr.gov.au/HigherEducation/Publications/Documents/Year12StudentChoicesReport.pdf>> viewed 31 August 2012.

¹¹⁹ *ibid.*, 5.

¹²⁰ Mr Peter Schwarz, above n 82, 6. See also VAAHE, *Submission 87*, 3.

Numerous examples can be cited of young people being told “you could do much better than that” when referring to a young persons’ decision to start a path to becoming a farmer. The Australian community appears to place a lower value on agricultural enterprise and often schools reflect this attitude in their career messaging to students.¹²¹

Ms Bernadette Gigliotti, Executive Manager of the Career Education Association of Victoria (CEAV), which represents school-based careers advisers, explained that the position of careers adviser becomes available in Victorian Government schools every 12 months and that this practice can lead to teachers being assigned the role regardless of whether they are suited to the position or appropriately qualified.¹²²

The Career Industry Council of Australia, the national peak body for the career industry, launched national professional standards for careers advisers earlier this year. The standards cover a range of issues, including entry pathways into the career industry and continuing professional development requirements.¹²³ Ms Gigliotti was hopeful that these standards would help to professionalise the industry:

We would also argue that the role is as important as that of the maths and English teachers, if not more important — it is core business in every school — and that the practitioner who is in the role should be qualified to professional level. That is the base minimum entry-level requirements. I think schools can be doing it far more strategically and far more holistically than they have been doing it in the past.¹²⁴

There was also a strong feeling amongst Inquiry participants that careers advisers are lacking knowledge and understanding about the available careers within the agriculture sector. For example, Ms Dwyer of Landmark Operations stated:

I was at the Sydney show last year representing Landmark at a careers and agriculture day which was targeted at high school students and a lot of careers teachers. I probably spoke to about 80 careers teachers from rural areas, none of whom had any idea that there were jobs in agriculture at the end. None of them were recommending agriculture as a career, despite the fact that there were universities and courses marketing everything.¹²⁵

Ms Nicole Sanderson, who is studying a Bachelor of Agriculture and Land Management at NMIT, told the Committee she received little guidance at her school on how to pursue a career in agriculture:

Right up to Year 12 there was no ag. information for me though. I said I wanted to do something with animals, so it was kind of, ‘You can be a vet’. There was no help with agriculture whatsoever. I found everything — all my little pathways and VTAC book all by myself. They did not point me in any direction. There were no hints. They did not tell me to talk to anyone. They did not say, ‘Contact this group’ or anything. It was put in the too-hard basket.¹²⁶

¹²¹ Joint submission of Dairy Industry People Development Council (DIPDC) and Dairy Australia, *Submission 89*, 21.

¹²² Ms Bernadette Gigliotti, Executive Manager, Career Education Association of Victoria, *Transcript of evidence*, Melbourne, 6 March 2012, 3.

¹²³ Career Industry Council of Australia, *Professional standards for Australian career development practitioners* (2011). Available at <http://www.cica.org.au/uploads/cica_prof_standards_booklet.pdf> viewed 28 August 2012.

¹²⁴ Ms Bernadette Gigliotti, above n 122, 4.

¹²⁵ Ms Julia Dwyer, above n 78, 6. See also Ms Aleisha Allen, Youth Councillor, Wellington Shire Council, *Transcript of evidence*, Ellinbank, 14 February 2012, 5; VAAHE, *Submission 87*, 3; VFF, *Submission 64*, 4; Community College Gippsland, *Submission 50*, 9; Longerenong College, *Submission 39*, 5; Ms Sarah Parker, above n 111, 5; Dr Simon Livingstone, Principal, Marcus Oldham College, *Transcript of evidence*, Melbourne, 7 November 2011, 5.

¹²⁶ Ms Nicole Sanderson, above n 106, 6.

Skills Australia, a former statutory body responsible for providing advice to the Australian Government on current and future workforce skills needs, submitted that it had received feedback from industry and peak bodies that career advice for students is often poor or absent and is impacting on career choice.¹²⁷

Some stakeholders suggested that careers advisers should undertake placements and visits related to the agriculture sector or professional learning activities to improve their understanding of the career opportunities within the sector.¹²⁸ The Committee heard about two examples where this approach had been successful.

The Committee received a submission from the Mildura Development Corporation which has been working to strategically promote careers in the wine, olive and beverage sectors in the region. As part of this work, the Corporation conducted an industry site tour for careers teachers to highlight the careers within the olive industry. An evaluation of the project found that careers teachers who took part in the visit reported having a greater knowledge of the industry and the careers available within it which they could then share with students.¹²⁹

Ms Gigliotti of CEAV also told the Committee that she had undertaken an industry placement within the agriculture sector and found it to be a valuable experience. Ms Gigliotti noted it would be beneficial to offer the opportunity to undertake placements in the agriculture sector to more careers advisers.¹³⁰

However, other participants believed that too much of the blame for a lack of student interest in agricultural careers was being placed on careers advisers. For example, Mr Matthew Dickinson, agriculture and horticulture teacher at Ballarat and Queen's Anglican Grammar School, stated that careers advisers cannot be experts in every field and it is the role of the agriculture sector to provide them with the necessary information and resources:

The industry itself has to be a bit more on the front foot in terms of promoting the opportunities. Careers teachers should only do and know about what is there. Unless they have a special interest in agriculture they are not going to be privy to the sorts of opportunities that are out there, unless they are brought to their attention.¹³¹

Ms Robyn Vale, Careers Coordinator at WestVic Dairy, explained that careers teachers are there to help students make a decision, rather than to inspire their career choice:

Just focusing on getting information to careers teachers and bussing careers teachers around to all the best farms and saying, 'Isn't this great?' is not going to do it, because careers teachers are guiders not inspirers.¹³²

Ms Meggin Morrison, the VET/VCAL Coordinator at Padua College, a Catholic school in Mornington, explained that from her experience working in the careers office, there are very few students who express an interest in agriculture as a career.¹³³

¹²⁷ Skills Australia, *Submission 41*, 6.

¹²⁸ South Gippsland Bass Coast LLEN, *Submission 47*, 6; The State Agriculture Provider Network, *Submission 40*, 2; Joint submission of Loddon Mallee Regional Office, DEECD, Bendigo TAFE, Bendigo Schools Trade Training Centre and Goldfields Local Learning and Employment Network, *Submission 26*, 7; Australian College of Agriculture and Horticulture, *Submission 18*, 18; Mr Ram Gopal, General Manager, Australian College of Agriculture and Horticulture, *Transcript of evidence*, Melbourne, 7 November 2011, 5.

¹²⁹ Mildura Development Corporation, *Submission 14*, 2-3.

¹³⁰ Ms Bernadette Gigliotti, above n 122, 6.

¹³¹ Mr Matthew Dickinson, above n 106, 5.

¹³² Ms Robyn Vale, Careers Coordinator, WestVic Dairy, *Transcript of evidence*, Glenormiston, 30 November 2011, 8.

The Department of Education and Early Childhood Development (DEECD) also told the Committee about a number of Victorian Government initiatives that are designed to better support careers advisers in schools. These initiatives include study grants for careers advisers to undertake a graduate certificate in career development and the online Victorian Careers Curriculum Framework that assists careers advisers and teachers in schools to customise school career development programs.¹³⁴

The role of teachers

A number of stakeholders contended that teachers are key to attracting students into agricultural careers. For example, Ms Vale from WestVic Dairy, explained the importance of having inspirational teachers:

If the science teachers understand that there is a pathway for their very best students that will result in almost guaranteed employment and possibilities to either travel the world or build a magnificent career right here in south-west Victoria, then they will have more influence than the careers teachers, with all due respect to careers teachers. Careers teachers are there for guidance. The inspiration comes from really good classroom teachers.¹³⁵

PICSE targets science teachers as part of its strategy to attract more science students into careers in the primary industries. Associate Professor David Russell, PICSE's National Director, explained, 'One of our most important ambassadors are science teachers, because some of the information and research we have is that science teachers are the people who students trust the most in terms of their options for the future.'¹³⁶

Ms Wendy Major, Executive Officer of the South Gippsland Bass Coast Local Learning and Employment Network (LLEN), noted that the LLEN is targeting teachers with respect to its own careers agenda:

our LLEN is leaning towards engaging subject teachers in the careers agenda. We have very much gone down the pathway of developing programs around science and mathematics, so we are actually engaging the thinking of the teachers who deliver those subjects in the careers agenda as well as the careers teachers themselves.¹³⁷

The Committee also met with a number of dedicated and enthusiastic agriculture teachers who had played an important role in increasing student aspiration for agricultural careers in their schools. This influence is discussed in more detail in chapter four.

The role of parents

Stakeholders also highlighted that parents often discourage their sons or daughters from pursuing a career in agriculture. Ms Gibson of the Young Agribusiness Professionals,

¹³³ Ms Meggin Morrison, VET/VCAL Coordinator, Padua College, *Transcript of evidence*, Mornington, 13 February 2012, 8.

¹³⁴ Ms Bronwen Heathfield, Acting General Manager, Youth Transitions, Office for Policy, Research and Innovation, DEECD, *Transcript of evidence*, Melbourne, 24 October 2011, 3.

¹³⁵ Ms Robyn Vale, above n 132, 8.

¹³⁶ Associate Professor David Russell, National Director, PICSE, *Transcript of evidence*, Melbourne, 6 March 2012, 2.

¹³⁷ Ms Wendy Major, Executive Officer, South Gippsland Bass Coast LLEN, *Transcript of evidence*, Ellinbank, 14 February 2012, 7.

explained ‘there’s so many parents who say to the kids, “Why do you want to be a farmer; you’ve got droughts, floods, all of this kind of stuff?”’.¹³⁸

Similarly, Mr Dickinson from Ballarat and Queen’s Anglican Grammar School stated:

one of the negatives or walls that I have found is whenever I sit down with parents at parent-teacher interviews and talk about agriculture and the careers offered in agriculture and why it is important that their students continue with agriculture, the parents are always very hesitant about their children going into a career in agriculture, because I think they themselves still see it ... as very farm gate orientated.¹³⁹

The Young Agribusiness Professionals submitted that parents need to be supplied with information on career pathways within the agriculture sector to educate them about the available opportunities:

It is also vital to engage the parents of high school students, as they have been found to be a barrier to the uptake of young people in agriculture. Parents also need to support their children’s career choice so it is important to provide the parents of high school students in particular with positive information on the variety of career options within agriculture.¹⁴⁰

Improving the advice and support from careers advisers, teachers and parents – The Committee’s view

The Committee believes it is vital that students who are interested in pursuing a career in agriculture receive support from their careers advisers, teachers and parents. To this end, the Committee considers that the promotional campaign recommended in recommendation one should also serve to increase the value of agricultural careers in the eyes of these groups.

The Committee considers that there is room to improve the quality of careers advice about agriculture in schools. The Committee notes that the agriculture sector has an important role to play in this respect through the development of improved careers resources. This issue is discussed below.

The Committee encourages the Victorian Government to work towards the professionalisation of the careers adviser workforce. The Committee believes that being a careers adviser is a vocation that requires specialist skills and knowledge and that this should be reflected in the policy for appointing careers advisers in Victorian schools. The Committee considers that this proposed measure will lift the quality careers advice in all schools, not just with respect to agriculture.

Finally, the Committee believes that the Victorian Government should provide careers advisers with professional development opportunities to learn more about the careers within the agriculture sector. The Committee notes that the Victorian Parliament’s Rural and Regional Committee recommended the creation of a rural industries careers adviser within the Victorian Government to carry out a range of roles associated with raising the

¹³⁸ Ms Ailsa Gibson, above n 92, 3. See also Primary Industries Education Foundation, *Submission 62*, 7; YAPs, *Submission 76*, 4-5; VAAHE, *Submission 87*, 2; Bass Coast Shire Council, *Submission 24*, 1; Primary Skills Victoria, *Submission 84*, 30.

¹³⁹ Mr Matthew Dickinson, above n 106, 7.

¹⁴⁰ YAPs, *Submission 76*, 4-5. See also Mr Greg Laidlaw, Rural and Workforce Development Officer, Moira Shire Council, *Submission 35*, 6; The State Agriculture Provider Network, *Submission 40*, 2.

profile of agricultural careers in schools.¹⁴¹ The Committee notes that this adviser could be responsible for developing and delivering this professional development if appointed.

Recommendation 3: Improving the quality of agricultural careers advice in schools

That the Victorian Government:

- work towards the professionalisation of the careers adviser workforce in schools for the benefit of all Victorian school students
- provide school careers advisers with professional development opportunities with respect to agricultural careers.

Resources about agricultural careers

There are a range of resources available about careers in the agriculture sector. However, stakeholders highlighted that there needs to be greater coordination and collaboration in the development of these resources to reduce duplication and ensure that the available resources are readily accessible and effective.

The internet is a key source of career information for young people. There are several Australian websites that provide young people with high quality information on the available careers within the agriculture or agrifood sector.¹⁴² However, a basic internet search for 'agricultural careers' does not list any of these agricultural career websites in the first page of hits. By comparison, a search for 'mining careers' results in the Minerals Council of Australia careers website being the first hit. This website is a one-stop shop for persons seeking career information on the mining industry and persons seeking jobs in the industry.

Ms Gigliotti from CEAV told the Committee that careers information from the agriculture sector is not readily available to careers advisers at present:

I think the industry needs to give us more information that is appropriate and current and gives us a much better picture and understanding of what actually is available in terms of careers ... We do not have that. It is available, but you have got to go searching for it. It is not in a readily accessible format and it is not in a logical place.¹⁴³

¹⁴¹ Rural and Regional Committee, Parliament of Victoria, *Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce* (2012), 33.

¹⁴² AgriFood Skills Australia, *Learn it, live it, love it*, <<http://www.agrifoodskills.net.au/page/Homepage/>> viewed 29 August 2012; Career Advice Australia, *AgriFood careers*, <<http://www.agrifoodcareers.com.au/home.php?id=1>> viewed 2 October 2012; Australian Council of Deans of Agriculture, *Career harvest – Job choices in agriculture, fisheries and forestry*, <<http://www.csu.edu.au/special/acda/careers/>> viewed 2 October 2012.

¹⁴³ Ms Bernadette Gigliotti, above n 122, 5. See also Ms Jo Bourke, Executive Director, Wimmera Development Association, *Transcript of evidence*, Horsham, 29 November 2011, 4.

Case study 1: Get Ahead Career Hub¹⁴⁴

New Zealand Young Farmers, DairyNZ and Beef+Lamb NZ have created the Get Ahead website, a one-stop career hub for young people considering a career in agriculture. The professionally designed website profiles the career diversity and opportunities in the New Zealand agriculture sector.

The website contains a wide range of careers resources for students, teachers and careers advisers, including:

- information on the agricultural education and training courses and scholarships available in New Zealand
- information on how to become involved in the agriculture career programs operating in New Zealand, including the Get Ahead Careers Programme
- a career quiz to assist students to work out the type of agricultural career that suits them.



Marcus Oldham College noted that there is a lack of information on the career opportunities arising from corporate farming:

The opportunities resulting from the corporatization of farming form an important pathway for talented young people to enter the industry, but these opportunities are not profiled sufficiently. Indeed, in Australia it does seem remarkably difficult to obtain reliable data on corporate farming and its career opportunities; and also remarkably difficult to obtain information on new and different forms of farm ownership.¹⁴⁵

Mr John Ackland, Chief Executive Officer of the Skillinvest Group, who appeared as part of the delegation for the agricultural vocational training provider Longerenong College, stressed that there needs to be better coordination of careers resources in schools:

You can send things into schools, but unless they get to the top of the desk — the careers teachers are bombarded by information from the universities and the separate faculties of universities, so it is a pretty tight market to get into. It does need more coordination.¹⁴⁶

¹⁴⁴ Get Ahead, *Are you up for a future in agriculture?*, <<http://getahead.co.nz/>> viewed 29 August 2012.

¹⁴⁵ Marcus Oldham College, *Submission 19*, 5.

¹⁴⁶ Mr John Ackland, Chief Executive Officer, Skillinvest Group, *Transcript of evidence*, Horsham, 29 November 2011, 7.

Ms Gigliotti also identified the need for a more coordinated approach, stating that a lot of money and resources are often spent by the agriculture sector on career resources that are not always targeted at the right audience:

whilst there is a lot of money that goes into them [career resources], they are not necessarily targeting the students well and they are not necessarily arriving in schools at the right time. There has to be a bit more of a coordinated approach, and I think the industry needs to consult in terms of the types of resources that they are producing and when they can best target that resource to meet the needs of both the teachers that might be delivering in a particular subject area, and also career advisers.¹⁴⁷

Ms Gigliotti suggested there would be benefit in the agriculture sector developing a single resource that sets out all the information on career pathways and remuneration within the sector. She also stated that any resource needs to be developed in consultation with students and careers advisers to ensure it is appropriately targeted.¹⁴⁸

The Committee notes that PICSE has released a magazine, *Science: Taking you places*, that highlights the diversity of career paths in agriculture using case studies of young people studying or working in agriculture.¹⁴⁹ The Committee considers that this magazine will provide a useful new resource for students considering a career in agriculture.

The Committee acknowledges the effort and resources that have gone into developing the agricultural careers resources currently available across Australia. However, the Committee notes that there currently appears to be a lack of coordination to ensure that there is a comprehensive agricultural careers resource that is easily accessible for students and careers advisers.

The Committee believes that the agriculture sector should collaborate to develop an online hub that is a one-stop shop for agricultural careers, similar to the mining industry website or the Get Ahead Career Hub. The Committee believes it is important that the industry associations within the agriculture sector collaborate at the national level to create this resource to reduce duplication and provide a comprehensive and authoritative source for agricultural careers information. The hub could also be a reference for people seeking further information arising from the proposed promotional campaign and careers awareness activity.

The Committee notes that much of the information needed for this resource is likely to already exist, but it needs to be brought together in an engaging and comprehensive manner. The Committee believes that the agriculture sector should consult with education and training providers, careers advisers and young people in developing the resource to ensure that the resource is appropriately targeted.

Recommendation 4: Developing an online agricultural careers hub

That the industry associations within the agriculture sector work collaboratively at the national level to develop a comprehensive online agricultural careers hub.

¹⁴⁷ Ms Bernadette Gigliotti, above n 122, 7.

¹⁴⁸ *ibid.*, 5.

¹⁴⁹ Primary Industry Centre for Science Education, *Science: Taking you places* (2012). Available at <<http://www.picse.net/resources/ScienceTakingYouPlaces.pdf>> viewed 25 September 2012.

Career pathways within the agriculture sector

Career pathways provide people seeking to enter into, or progress through the workforce with a clear direction on how to achieve their career goals. Marcus Oldham College submitted that currently there is a lack of awareness about the career pathways available within the agriculture sector:

Young people searching for a future career have a clear enough idea what lawyers, nurses, teachers and engineers do. They are also aware of the education and training required for those wishing to enter those occupations. But when it comes to agriculture, we suggest there is less understanding what a farmer is and does, and what education and training is necessary to enter the profession and to be successful.¹⁵⁰

There was a general consensus amongst the stakeholders that the agriculture sector needs to put more effort into defining career pathways and linking these to education and training programs. For example, the Central Gippsland Institute of TAFE submitted:

Clearer work related pathways would assist new students to choose their preferred work and study options as well as an appropriate career. This would assist people considering a career in this area to be informed about the work early, and potentially reduce the number of people who decide to enter the industry as 'just a job'.¹⁵¹

Similarly, the Queensland Department of Employment, Economic Development and Innovation submitted that the agriculture sector has an obligation to articulate the pathways and career opportunities within it.¹⁵²

The dairy industry is one of the industries within the agriculture sector that has developed a clearly defined career pathway for each of the positions within the industry. Mr Shane Hellwege, Group Manager, Industry, People and Capability at Dairy Australia, provided an overview of the dairy industry career framework:

We have individual jobs identified, and sitting underneath them are a whole set of competencies that we understand. The industry has said, 'This is what people need to know and understand to be able to work at that level'. We have identified that very clearly, and we have attempted to line it up with qualification levels as well so the thing is integrated.¹⁵³

Ms Parker of Murray Dairy stated that the dairy industry's framework helps to engage new entrants to the dairy industry by letting them see the career options available to them and enabling them to work towards a career goal.¹⁵⁴

¹⁵⁰ Marcus Oldham College, *Submission 19*, 7. See also G21 Agribusiness Forum, *Submission 57*, 7; Ms Nicole Sanderson, above n 106, 8; Ms Eliza White, Student, NMIT, *Transcript of evidence*, Melbourne, 6 March 2012, 8.

¹⁵¹ Central Gippsland Institute of TAFE, *Submission 42*, 4. See also South West LLEN, *Submission 95*, 4; YAPs, *Submission 76*, 5; Ms Ann Fagan, Consultant, agricultural and environmental education, *Transcript of evidence*, Shepparton, 3 November 2011, 4; Wimmera Development Association, *Submission 44*, 2; Longerenong College, *Submission 39*, 5.

¹⁵² Department of Employment, Economic Development and Innovation (Queensland), *Submission 73*, 5.

¹⁵³ Mr Shane Hellwege, Group Manager, Industry, People and Capability, Dairy Australia, *Transcript of evidence*, Melbourne, 6 March 2012, 9.

¹⁵⁴ Ms Sarah Parker, above n 111, 6.

Case study 2: The dairy industry career framework¹⁵⁵

The National Centre for Dairy Education Australia (NCDEA), which is a partnership between the Goulburn Ovens Institute of TAFE and Dairy Australia, has developed a dairy career pathway framework.

The framework has been developed over the last five years and involved extensive industry and employer consultation during this time.

This career framework forms the basis for identifying and developing programs with and for industry at an individual and enterprise level, and is unique. It provides:

- better integration with all learning and development
- a structure for parents, career teachers and individuals to plot out a career pathway
- a structure for individuals and enterprises to understand their strengths and weaknesses and determine a learning plan to improve their skills and knowledge.

The Committee believes that the agriculture sector needs clear career pathways to attract and retain more people in agricultural careers. These pathways need to be linked to education and training qualifications to help guide people to make decisions about the type of education and training that would be beneficial to their career.

The Committee considers that these pathways need to be developed at the national level by the agriculture sector, as they reflect the sector's agreed standards for education and training and progression.

Recommendation 5: Developing agricultural career pathways

That the industry associations within the agriculture sector work collaboratively at the national level to develop clearly articulated career pathways that are linked to education and training qualifications.

Working conditions and remuneration in the agriculture sector

Several stakeholders identified the remuneration and working conditions within the agriculture sector as a barrier to attracting new entrants into the sector. For example, MSLE submitted that salaries in agriculture do not compare favourably to other industries which attract science graduates:

agriculture is probably not paying enough in salaries to attract the workforce needed. In unpublished analysis by the Australian Council of Deans of Agriculture (ACDA), it appears that entry salaries in agriculture are at least \$5000 pa lower than comparable positions in other industries that attract Science graduates. We also believe that graduates in other fields move onto higher salary levels earlier in their professional careers.¹⁵⁶

Similarly, DEECD submitted that the salaries and the perceived working conditions within the agriculture sector are a deterrent for young people:

¹⁵⁵ Goulburn Ovens Institute of TAFE, *Submission 91*, 8.

¹⁵⁶ MSLE, *Submission 69*, 14. See also Community College Gippsland, *Submission 50*, 10; University of Ballarat, *Submission 32*, 2; Faculty of Earth Sciences, NMIT, *Submission 29*, 2. Mr Lloyd Bowditch, *Submission 70*, 1.

Low wages, long hours, and a perception of dangerous and dirty working conditions are seen as significant push factors deterring new entrants, particularly young people, from considering a career in agriculture.¹⁵⁷

Several stakeholders noted that the agriculture sector is also facing direct competition for labour from the mining sector, which is able to offer significantly higher remuneration.¹⁵⁸

Participants in the Inquiry identified that businesses within the sector need to become better employers to attract and retain employees. Mr Joe Piper, Chief Executive Officer of the South West Institute of TAFE, stated, 'One of the aspects we are trying to create within the industry is that they actually have to become employers of choice and that they understand what it is to be employers and treat employees appropriately'.¹⁵⁹ The need to incorporate people management training into agricultural education and training courses is discussed further in chapter five.

The Committee heard that the high start-up costs of farm ownership can be a barrier to attracting and retaining young people who aspire to own a farm. The Corangamite Shire Council submitted, 'There is a need to examine options to assist young people into agriculture, through the development of innovative business models which achieve equity in land.'¹⁶⁰

The Victorian Government provides young farmers under the age of 35 who are buying their first property with an exemption from stamp duty for purchases of agricultural land valued up to \$300 000. A stamp duty concession is available where the land purchase is between \$300 000 and \$400 000.¹⁶¹

The Committee notes that workplace conditions, remuneration and barriers to farm ownership in the agriculture sector are complex issues. The Rural and Regional Committee focused heavily on these issues in its 2012 report, *Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce*. The Committee refers interested readers to this report for a detailed discussion of the issues.¹⁶²

¹⁵⁷ DEECD, *Submission 82*, 22.

¹⁵⁸ Primary Skills Victoria, *Submission 84*, 9; Longerenong College, *Submission 39*, 5; Farrer Memorial Agricultural High School, *Submission 6*, 1; MSLE, *Submission 69*, 13; Department of Employment, Economic Development and Innovation (Queensland), *Submission 73*, 1; Ms Jo Bourke, above n 143, 2; Ms Geraldine Christou, Manager, Economic Development, Greater Shepparton City Council, *Transcript of evidence*, Shepparton, 3 November 2011, 4; Ms Leanne Brus-Bentley, above n 89, 5; Ms Ruth Trench-Thiedeman, above n 88, 7; Mr Ian Joseph, Chair, Agribusiness Council of Australia, *Transcript of evidence*, Canberra, 20 March 2012, 5; NSW Association of Agriculture Teachers, *Submission 7*, 1.

¹⁵⁹ Mr Joe Piper, Chief Executive Officer, South West Institute of TAFE, *Transcript of evidence*, Glenormiston, 30 November 2011, 3.

¹⁶⁰ Corangamite Shire, *Submission 58*, 5. See also Gippsland East LLEN, *Submission 65*, 14; National Environment Centre, TAFE NSW Riverina Institute, *Submission 27*, 1.

¹⁶¹ State Revenue Office (Victoria), 'Young farmers duty exemption and concession', *Duties Act Bulletin* (D1/11, June 2011). Available at <<http://www.sro.vic.gov.au/sro/SROnav.nsf/childdocs/-3A87315B22BC23FFCA2575A100441F59-CD1B48B2849A0120CA2575C1008058E7-18E490D796850F8ECA2575C1008187C7-28FDC30A1FC94ACFCA2579C0000FDB92?open>> viewed 25 September 2012.

¹⁶² Rural and Regional Committee, above n 141, chapters 4, 6, 8.

2.2 Lifting the agricultural workforce's participation in agricultural education and training

Much of the evidence to the Committee focused on the need to attract school students into agricultural education and training and agricultural careers. However, the agricultural workforce has low qualification levels and therefore there is potentially a large cohort of workers already in the sector who could benefit from undertaking further formal education and training.

This section examines the factors that contribute to the low participation levels by the agricultural workforce in formal education and training and considers strategies to increase this participation.

2.2.1 The agriculture sector's attitude to formal education and training

Many stakeholders stressed that the agriculture sector needs to place a greater value on formal education and training in order to increase participation in the VET and higher education sectors. Mr John Dalton, Chair of WestVic Dairy, stated, 'I believe we are the problem because as an industry we do not value education and training. There is a culture that we have to change.'¹⁶³

This need for a cultural change within the sector was echoed by Mr Peter Carkeek, Executive Manager of the National Centre for Dairy Education Australia (NCDEA):

Agriculture has not supported education. They have mainly preferred to get it through informal ways, so the challenge is to get part of the culture changed to get it over to education.¹⁶⁴

The Greater Shepparton City Council submitted that there needs to be a strong and widespread industry commitment to education and training.¹⁶⁵

Several stakeholders acknowledged that the current attitudes towards education and training within the sector are likely to improve as the younger generation of workers move through the workforce. Professor Sue Kilpatrick, an expert in the economics of education, explained, 'Younger people are much more willing to think about training and education, particularly as time has gone on. There is a societal pressure that they need to do that.'¹⁶⁶

There are a number of examples of particular industries within the agriculture sector that have shown strong leadership in the area of education and training and workforce development.

Dairy Australia has taken ownership of its own education and training agenda by setting up the NCDEA in collaboration with the Goulburn Ovens Institute of TAFE. The NCDEA delivers dairy-specific training across Victoria, as well as interstate. As discussed above, the dairy industry has also developed a comprehensive careers framework that links to

¹⁶³ Mr John Dalton, Chair, WestVic Dairy, *Transcript of evidence*, Glenormiston, 30 November 2011, 3.

¹⁶⁴ Mr Peter Carkeek, Executive Manager, National Centre for Dairy Education Australia (NCDEA), *Transcript of evidence*, Shepparton, 3 November 2011, 8.

¹⁶⁵ Greater Shepparton City Council, *Submission 30*, 3.

¹⁶⁶ Professor Sue Kilpatrick, *Transcript of evidence*, Glenormiston, 30 November 2011, 3. See also Mr Bill Hamill, Chief Executive Officer, Rural Industries Skill Training, *Transcript of evidence*, Horsham, 29 November 2011, 7.

education and training pathways. Mr Hellwege of Dairy Australia explained the importance of people development to the dairy industry:

I think the dairy industry realised 10 to 15 years ago that if we were really serious about moving the industry forward and about the sustainability of the industry, people were critical to it ... we realise that it is always going to be people who implement these things [new technology] and make them successful, and it is people who are on farm making decisions about whether to go down that track or down another track. Regardless of all the other work we do, it is absolutely fundamental that we have people development at the core of our industry strategy ...¹⁶⁷

The Committee was told that workforce capacity is a greater issue for the dairy industry because dairy enterprises typically employ more people on farms than other agricultural enterprises.¹⁶⁸

The grains industry has a different model in place to meet its education and training needs. The Grains Industry Training Network (GITN) acts as a training broker for the grains industry to ensure that education and training for the industry meets its needs. The role of GITN is discussed in more detail in chapter five.

However, not all industries within the agriculture sector have as strong a focus on education and training. The Committee heard that industry organisations with limited resources can struggle to prioritise a long-term need such as education and training over more pressing issues. Professor Kilpatrick explained:

They struggle with both having to represent their members but also trying to lead the industry. The people who are working or indeed who are in elected roles quite often understand the need to lead. But when the membership is concerned about water allocations on the Murray or something like that, then they are diverted.¹⁶⁹

Similarly, Mr Brian Duggan, Manager, Workplace Relations and Legal Affairs at the National Farmers' Federation, the peak national body representing farmers and agriculture across Australia, stated that 'other sectors are lacking in the resources and the ability to advocate for solutions'.¹⁷⁰

2.2.2 The cost of training

The evidence to the Committee suggests that the agriculture sector is highly sensitive to the cost of formal education and training, particularly within the VET sector. The stakeholder evidence suggests that this stems from a range of factors. However, the Committee heard that employers and workers need to perceive a benefit in formal education and training to value the investment. For example, Mr Ron Harris, Executive Director, Farm Services Victoria at the Department of Primary Industries, stated:

I think the main thing is demonstrating the worth of that training program to the employer, and without getting into any other regulatory framework that is the overriding bit; an employer seeing the benefits and buying into that.¹⁷¹

¹⁶⁷ Mr Shane Hellwege, above n 153, 2.

¹⁶⁸ Associate Professor Ruth Nettle, *Transcript of evidence*, Melbourne, 6 March 2012, 2.

¹⁶⁹ Professor Sue Kilpatrick, above n 166, 4.

¹⁷⁰ Mr Brian Duggan, above n 70, 5-6.

¹⁷¹ Mr Ron Harris, Executive Director, Farm Services Victoria, Department of Primary Industries (Victoria), *Transcript of evidence*, Melbourne, 24 October 2011, 6. See also Mr Jim Armstrong, President, Warragul Branch, VFF, *Transcript of evidence*, Ellinbank, 14 February 2012, 5; Ms Sylvia Vagg, Manager, Educational Development, NCDEA, *Transcript of evidence*, Melbourne, 7 November 2011, 10; Mr Rob Graham, Team Leader, South West Institute of TAFE, *Transcript of evidence*, Glenormiston, 30 November 2011, 4.

Professor Kilpatrick noted it can be difficult to identify the immediate benefits of agricultural education and training, but it is necessary for individuals to take a longer term view:

when you are working for yourself, the certificates and things that you get from education and training do not really make that much difference. There is not an automatic pay rise, but there is in fact a pay-off; so how you market these things is very important.¹⁷²

The issue of the cost of training as a barrier to participation in agricultural education and training is discussed in more detail in chapter five on the VET sector.

2.2.3 The absence of a requirement to hold formal qualifications

In many professions and sectors, new entrants are required or expected to hold a minimum level of formal qualifications. However, there is no requirement for people entering the agriculture sector to hold formal qualifications and the sector often does not appear to be demanding that entrants hold prior qualifications. Associate Professor Ruth Nettle, an academic who specialises in rural workforce and training matters, explained:

I think the demand for recognised skill acquisition is still part of the issue, when people start seeking it and are asking for it, in job ads and things like that, that is going to be an important driver. You often hear of situations where it is never asked for. People have it — say, cert. I or cert. II — and it actually never comes up in a job interview ...¹⁷³

Associate Professor Kath White, Dean, School of Food, Land and Service Industries at the University of Ballarat, told the Committee that if employers do not require qualifications it makes it difficult to convince existing workers in the agriculture sector to undertake further education and training:

There is really no incentive to gain qualifications unless there is an industry imperative that a qualification at different levels is achieved ... it is only by encouraging the people that we do have in training to go higher up the level that we get to deliver diplomas.¹⁷⁴

Mr Luke Prime, a board member of the South Gippsland Bass Coast LLEN, noted that the Victorian racing industry has recently introduced minimum training standards for people working in the sector and highlighted that a similar model could be used in the agriculture sector.¹⁷⁵ Mr Prime stated that the introduction of minimum training standards would improve safety in the agriculture sector and also help to build stronger career pathways. However, other stakeholders were concerned that the introduction of minimum standards would lead to more red tape and would not ultimately benefit the sector.¹⁷⁶

¹⁷² Professor Sue Kilpatrick, above n 166, 3.

¹⁷³ Associate Professor Ruth Nettle, above n 168, 4.

¹⁷⁴ Associate Professor Kath White, Dean, School of Food, Land and Service Industries, University of Ballarat, *Transcript of evidence*, Melbourne, 7 November 2011, 10.

¹⁷⁵ Mr Luke Prime, Board member, South Gippsland Bass Coast LLEN, *Transcript of evidence*, Ellinbank, 14 February 2012, 2.

¹⁷⁶ Mr Richard Habgood, Consultant, DIPDC, *Transcript of evidence*, Melbourne, 6 March 2012, 10; Ms Ruth Trench-Thiedeman, above n 88, 7.

2.2.4 Aligning training with the needs of the agriculture sector

Stakeholders noted that the agriculture sector will be more likely to participate in agricultural education and training if it is more closely aligned with the needs of the sector.

Two key themes emerge with respect to meeting the needs of the agriculture sector, namely:

- the need for education and training to be flexible enough to accommodate the training preferences, location and availability of the agricultural workforce
- the need for better consultation between the education and training sectors and the agriculture sector.

The need for flexible approaches to the delivery of education and training is discussed in more detail in chapter five on VET and chapter eight on higher education. The need for enhanced collaboration came through as a particularly strong theme in evidence about the VET sector, and is explored in chapter five.

The Committee heard that it is also necessary for the agriculture sector to identify its agricultural education and training requirements and priorities for the existing workforce. Associate Professor Nettle stated that workforce planning and action has not been prioritised in the agriculture sector.¹⁷⁷

In 2010 Skills Victoria released the *Workforce development plan for the Victorian grains and dairy industries*. The Victorian Government identified the need for a workforce development plan for the primary industries workforce as part of former Future Farming Strategy. The workforce development plan for the grains and dairy industries was intended to provide a model for similar exercises in other primary industries.¹⁷⁸

GITN believes the plan provides a useful tool for planning education and training.¹⁷⁹ However, a representative of Dairy Australia noted that, although the plan was a 'good start', there was not sufficient consultation with industry in its development.¹⁸⁰

The joint submission of DIPDC and Dairy Australia recommended that the agriculture sector and Victorian Government partner together to develop a workforce development strategy for the whole of Victorian agriculture.¹⁸¹ Mr Richard Habgood, a consultant with DIPDC, explained, 'The industry is keen to engage with the appropriate parts of government and to sit down and go through a planning process in order to clearly identify the strategic issues for workforce development.'¹⁸²

¹⁷⁷ Associate Professor Ruth Nettle, above n 168, 5. See also Sunraysia Institute of TAFE, *Submission 77*, 6.

¹⁷⁸ SED Consulting, *Workforce development plan for the Victorian grains and dairy industries*, report for Skills Victoria (2010), 7.

¹⁷⁹ Mr Barry Batters, Chair, Grains Industry Training Network, *Transcript of evidence*, Melbourne, 7 November 2011, 9.

¹⁸⁰ Mr Richard Habgood, above n 176, 10.

¹⁸¹ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 10.

¹⁸² Mr Richard Habgood, above n 176, 10.

2.2.5 Increasing the agriculture sector's engagement in education and training – The Committee's view

The Committee believes it is vital that the agriculture sector and employers place a greater value on and support agricultural education and training. The Committee recognises that the culture within the agriculture sector is changing and that successful farm businesses are engaging in education and training. However, the Committee believes that more can be done to hasten this cultural shift.

Both the agriculture sector and the education and training sector have a role to play. The Committee believes that industry bodies should take a leadership role in promoting the benefits of education and training to their members and developing a culture that values education and training. In turn, the Committee considers that the education and training sector need to be responsive to the needs of the agriculture sector.

The Committee considers that workforce development and planning is an important means of assisting industries within the agriculture sector to identify education and training needs and communicate these needs to education and training providers. The Committee acknowledges that the Victorian Government has taken steps to support workforce development in the grains and dairy sector, but believes there would be benefit in developing a plan that covers the whole Victorian agriculture sector. In order for such a plan to be successful, the Committee notes that the agriculture sector must be an active partner in its development.

Recommendation 6: Supporting workforce development for the agriculture sector

That the Victorian Government work with the industry associations within the agriculture sector to develop a workforce development plan for the whole of the Victorian agriculture sector.

Chapter 3: Teaching Victorian school students about agriculture

Key findings

- It is important that all students are taught about where food and fibre comes from.
- The current Victorian curriculum framework does not mandate the study of agriculture. As a result, the delivery of agricultural education in Victorian schools is ad hoc, determined on a school-by-school basis.
- The draft Australian Curriculum contains references to the primary industries, however there is an opportunity for sustainable food and fibre production to play a more prominent role in the new Australian Curriculum.
- Enrolments in Agricultural and Horticultural Studies within the Victorian Certificate of Education are at concerningly low levels. There needs to be support for schools, particularly those in rural and regional areas, to offer the subject. There also needs to be a review of the scaling for the subject to ensure that more students are encouraged to undertake the subject which provides a pathway to jobs in a sector experiencing skills shortages.
- The Vocational Education and Training in Schools (VET in Schools) program is valuable for introducing students into agricultural training and careers. Timetabling, cost, transport and quality issues pose challenges to the delivery of the VET in Schools program in Victoria.
- There are a range of successful agricultural education programs available to primary and secondary schools. However, there is the opportunity to expand the provision of these programs across Victoria.
- Some other Australian states have well-regarded agricultural high schools. Victoria does not have agricultural high schools, although several schools have recently been awarded grants to allow them to specialise in agriculture.

Teaching Victorian school students about agriculture

Chapters three and four of this report focus on school-based agricultural education and training. This chapter sets out the curriculum framework for agricultural education in schools. It also provides an overview of the agricultural education programs operating at the state and national level and considers opportunities to enhance their provision in Victorian schools.

3.1 Why agricultural education in schools matters

A number of reasons were advanced for providing agricultural education in schools. Many participants believed that all students should learn about how food and fibre is produced given its role in our daily lives. This view appears to be supported by teachers, with a recent survey finding that the majority of teachers surveyed believed that teaching students about food and fibre production was important.¹⁸³ Ms Gaye Whitehead, an agriculture and horticulture teacher at Catholic College Bendigo, explained:

I think it is absolutely diabolical that kids are getting to that age [15] and do not even understand, or have only a very basic understanding of, our food, where and how it grows, where it comes from and how it gets there. I think if we had horticulture and some agriculture in some of these primary schools, we would go a long way to educating kids and being a bit more sustainable and resourceful.¹⁸⁴

Agricultural education in schools was also seen as offering interested students a career pathway into further agricultural studies or employment. The Primary Industries Education Foundation (PIEF), a not-for-profit organisation responsible for promoting primary industries education across Australia, submitted that exposing students to accurate and balanced primary industries education from an early age should increase the number of students who go on to seek a career in the sector.¹⁸⁵

Several participants also emphasised the need for students from rural and regional areas to receive agricultural education given the importance of the agriculture sector in these communities. For example, the Catholic Education Commission of Victoria submitted that the applied learning in agriculture that students can undertake as part of the Vocational Education and Training in Schools (VET in Schools) program, which

¹⁸³ Australian Council for Educational Research, *Food, fibre and the future: Report on surveys of students' and teachers' knowledge and understanding of primary industries*, report for Primary Industries Education Foundation (2011), 23.

¹⁸⁴ Ms Gaye Whitehead, Agriculture and horticulture teacher, Catholic College Bendigo, *Transcript of evidence*, Melbourne, 7 November 2011, 4. See also Ms Ann Fagan, Consultant, agricultural and environmental education, *Transcript of evidence*, Shepparton, 3 November 2011, 2; Victorian Association of Agricultural and Horticultural Educators (VAAHE), *Submission 87*, 2; Farrer Memorial Agricultural High School, *Submission 6*, 1; NSW Association of Agriculture Teachers, *Submission 7*, 1.

¹⁸⁵ Primary Industries Education Foundation, *Submission 62*, 5. See also Mr Ian B. Reid, *Submission 92*, 2.

enables students to work towards national VET qualifications while at school, can be highly motivating for students in a rural setting or from a farming background.¹⁸⁶

3.2 Agricultural education in the curriculum

This section provides an overview of how agriculture is currently taught in the Victorian curriculum and the role it is expected to play in the new Australian Curriculum. This section also considers opportunities to enhance the role of agriculture in the curriculum.

3.2.1 Agriculture and the VELS

The Victorian Essential Learning Standards (VELS) provide a flexible framework for student learning in Victoria. The extent to which agriculture is incorporated into the curriculum in Victorian schools under the VELS varies significantly between schools.

An overview of the VELS

The VELS outline the essential learning for all students in Victorian schools from Prep to Year 10. The VELS are organised into three key strands of learning (figure four), namely:

- physical, personal and social learning, which sets standards in areas such as being active and healthy, developing self-confidence and working with others
- discipline-based learning, which contains the subject areas that students are expected to develop a knowledge and understanding in
- interdisciplinary learning, which sets out other essential skills that apply across curriculum areas such as thinking, problem solving, communicating and using information and communications technology.¹⁸⁷

Figure 4: The Victorian Essential Learning Standards framework¹⁸⁸

Physical, personal and social learning	Discipline-based learning	Interdisciplinary learning
Health and physical education	The arts	Communication
Interpersonal development	English	Design, creativity and technology
Personal learning	The humanities	Information and communications technology
Civics and citizenship	Economics	Thinking processes
	Geography	
	History	
	Languages other than English	
	Mathematics	
	Science	

¹⁸⁶ Catholic Education Commission of Victoria, *Submission 75*, 5.

¹⁸⁷ Victorian Curriculum and Assessment Authority, *Introducing the Victorian Essential Learning Standards – Important information for parents about the new approach to student learning and standards in Victorian schools* (2005), 3. Available at <<http://vels.vcaa.vic.edu.au/downloads/parentbrochure/velsparentbroch.pdf>> viewed 10 August 2012.

¹⁸⁸ Victorian Curriculum and Assessment Authority, *Important information for parents about student learning and standards* (2006), 2. Available at <http://vels.vcaa.vic.edu.au/downloads/vels_parent_booklet.pdf> viewed 12 August 2012.

The Victorian Curriculum and Assessment Authority (VCAA) is responsible for setting the curriculum, assessment and reporting in Victoria. However, the standards set out in the VELs can be achieved in different ways and schools have significant autonomy to determine how to implement the VELs.¹⁸⁹

There is no requirement to teach agriculture as part of the school curriculum under the VELs. However, schools do have the flexibility to incorporate agriculture into the curriculum. The joint submission by VCAA and two offices within the Department of Education and Early Childhood Development (DEECD) explained how agriculture is typically taught under the VELs:

Schools use elements from the VELs including Science and Design, Creativity and Technology to develop courses to equip students with the skills and knowledge associated with agricultural education. Such programs in the early and middle years of schooling are typically focused on contexts that relate to the local area such as environmental programs, animal husbandry, local community gardens with elective programs that are more common in Years 9–10. Teachers and principals in liaison with school councils are responsible for the selection of teaching and learning resources and contexts for learning.¹⁹⁰

This flexible approach to learning is a hallmark of the VELs. However, it also means that individual teachers and schools vary in their approach to agriculture in the curriculum. Many participants in this Inquiry felt that agriculture should have a greater profile in the Victorian curriculum.¹⁹¹

How agriculture is currently taught in primary schools

The Committee received limited evidence about how agricultural education is currently delivered in Victorian primary schools. However, the evidence it did receive indicates that there is teacher interest in teaching students about food and fibre production.

A national survey commissioned by PIEF found that the majority of primary teachers surveyed reported that references to primary industries are included ‘occasionally’ in classes, usually integrated into another subject, such as social studies, environmental studies or science.¹⁹²

Kitchen gardens are also a popular activity in primary schools. The same survey found that growing a school vegetable garden was the most commonly reported primary industries-related school activity that Grade 6 students had participated in, with just over half of the students taking part in this activity.¹⁹³

Although much of the focus of kitchen garden programs is on promoting healthy eating and lifestyles amongst students, students also gain skills in growing and harvesting food

¹⁸⁹ Ms Cathy Beesey, Group Manager, Student Learning, Office for Government School Education, Department of Education and Early Childhood Development (Victoria) (DEECD), *Transcript of evidence*, Melbourne 24 October 2011, 4.

¹⁹⁰ Joint submission of Victorian Curriculum and Assessment Authority (VCAA), Office of Government School Education, DEECD, and Office of Policy, Research and Innovation, DEECD, *Submission 72*, 2.

¹⁹¹ Mr Chris Senini, *Transcript of evidence*, Ellinbank, 14 February 2012, 3; Mr Joe Mazzarella, Principal, Pyramid Hill College, *Transcript of evidence*, Pyramid Hill, 2 November 2011, 8; Ms Sarah Parker, Chief Executive Officer, Murray Dairy, *Transcript of evidence*, Shepparton, 3 November 2011, 7; Ms Ann Fagan, above n 184, 5; VAAHE, *Submission 87*, 7; Ms Ailsa Gibson, Administration and Policy Officer, Young Agribusiness Professionals, Victorian Farmers Federation (VFF), *Transcript of evidence*, Melbourne, 5 December 2011, 3; Australian Beef Industry Foundation, *Submission 96*, 2; Joint submission of Loddon Mallee Regional Office, DEECD, Bendigo TAFE, Bendigo Schools Trade Training Centre and Goldfields Local Learning and Employment Network (LLEN), *Submission 26*, 8.

¹⁹² Australian Council for Educational Research, above n 183, 23.

¹⁹³ *ibid.*, 17.

and an appreciation of environmental, conservation and sustainability issues.¹⁹⁴ Importantly, kitchen gardens provide hands-on exposure to plants and food for urban-based students, who can be more challenging to engage in agricultural education.¹⁹⁵ The Stephanie Alexander Kitchen Garden Program, a kitchen garden program operating in many Victorian schools is discussed in section 3.4.1 below.

There also appears to be an interest in primary schools in teaching students about where their food comes from. The Victorian Association of Agricultural and Horticultural Educators (VAAHE), the professional association for school agricultural educators in Victoria, submitted, 'At primary schools there is growing awareness across the state to educate students about food from "paddock to plate".'¹⁹⁶ Teacher tracking undertaken by Dairy Australia, the national services body for the dairy industry, found that the majority of primary school teachers (85%) educate their students about food processing or where food comes from.¹⁹⁷ Based on teacher requests to Dairy Australia for resources, it appears that the topic is primarily taught between Years 3 and 6.¹⁹⁸

How agriculture is currently taught in secondary schools

At the secondary school level, schools can choose to offer a stand-alone agriculture subject or use agriculture as a teaching context under the VELs. Vocational agricultural programs offered in secondary schools are discussed below in section 3.3.2.

The Committee received limited evidence about the extent to which agriculture is taught in Years 7 to 10 in Victoria. The national survey commissioned by PIEF found that higher proportions of secondary teachers compared to primary teachers reported primary industries being included regularly in the curriculum, either integrated into other subjects or as a stand-alone subject.¹⁹⁹

Several participants identified that agriculture provides a useful context to teach students subjects such as geography, mathematics and science. Associate Professor David Russell, National Director of the Primary Industry Centre for Science Education (PICSE), which develops strategies to encourage more young people to enter primary industries, provided an example of how his organisation links agriculture with the science curriculum in developing curriculum resources for teachers:

We asked teachers: what is a really difficult topic to get kids interested in in science? One was organic chemistry stoichiometry et cetera — boring stuff. So we got a software company to produce interactive molecular models and the like, but the important thing is we chose the molecule that related to something in agriculture, so something in the pyrethrum industry or the poppy industry or the wine industry or the beef industry. This chemistry teacher used that as an example for the introduction to organic chemistry, and when kids would ask, 'Why is this of value', the teacher would say, 'Here it is, and it links in with the primary industries'. All our resources have that sort of approach, providing relevant science links with primary industries.²⁰⁰

¹⁹⁴ Education and Training Committee, Parliament of Victoria, *Inquiry into the potential for developing opportunities for schools to become a focus for promoting healthy community living* (2010), 61.

¹⁹⁵ Department of Primary Industries (Victoria), *Participatory performance story report: LandLearn 2005 to 2010* (2010), 16.

¹⁹⁶ VAAHE, *Submission 87*, 5.

¹⁹⁷ Joint submission of Dairy Industry People Development Council (DIPDC) and Dairy Australia, *Submission 89*, 19.

¹⁹⁸ *ibid.*, 20.

¹⁹⁹ Australian Council for Educational Research, above n 183, 23.

²⁰⁰ Associate Professor David Russell, National Director, Primary Industry Centre for Science Education, *Transcript of evidence*, Melbourne, 6 March 2012, 6. See also Joint submission of VCAA, Office of

The Committee received evidence from a handful of Victorian schools that offer agriculture as a stand-alone subject during Years 7 to 10. These include:

- Elisabeth Murdoch College, a government school in Langwarrin, offers agriculture as a compulsory six month subject for Year 8 students and an elective for Year 9 and 10 students. Students are also encouraged to visit the school farm during lunchtimes and show animals at agricultural shows across Victoria.
- Padua College, a Catholic school in Mornington, offers the elective Agriculture and Environment Management for Year 9 students, while Year 10 students can undertake Horticulture and Landscape Design.
- Kaniva College, a government school in western Victoria, offers Year 9 and 10 students an elective in agriculture for either one or two semesters and they have the option of studying a number of plant or animal enterprises.²⁰¹

During the course of the Inquiry, the Committee also heard from a number of young people that agriculture was either not taught at their schools or only briefly covered in the curriculum.²⁰² Surprisingly, a number of these students were from regional Victoria. For example, Mr Alistair Knight, who attended school in Bendigo and is now studying a Bachelor of Science majoring in agriculture at The University of Melbourne, stated:

The only thing I experienced with agriculture through school was in Year 9 when we had a SOSE [studies of society and environment] project where we had to look through a newspaper and find a farm for sale and then make your own farm. There were pretty much no guidance and all the kids in the class had no idea what they were doing. That was the only time. I am from Bendigo; it is a pretty big regional centre surrounded by farms, but that was the only project through primary and high school.²⁰³

Mr Andrew Cosby, President of VAAHE, explained to the Committee that agriculture can be overlooked in the current curriculum design:

At the moment, with a lot of the technology in VELs within Victoria you can teach those VELs without mentioning the words 'agriculture' or 'horticulture'. You just do not need to, and as a result of that a lot of the schools just teach in a different way so that they do not cover those things ...²⁰⁴

Further, Mr Matthew Dickinson, an agriculture and horticulture teacher at Ballarat and Queen's Anglican Grammar School, told the Committee that because agriculture was

Government School Education, DEECD, and Office of Policy, Research and Innovation, DEECD, *Submission 72*, 2; Ms Sarah Parker, above n 191, 7; Mr Peter McSweeney, Senior Lecturer, Agriculture and Food Systems, Melbourne School of Land and Environment (MSLE), The University of Melbourne, *Transcript of evidence*, Melbourne, 7 November 2011, 11.

²⁰¹ Kaniva College, *Response to request for additional information*, supplementary evidence received 2 April 2012, 1.

²⁰² Mr Casper Roxburgh, Student, La Trobe University, *Transcript of evidence*, Melbourne, 6 March 2012, 5; Ms Mattie Crouch, Student, Marcus Oldham College, *Transcript of evidence*, Melbourne, 6 March 2012, 5; Mr Alistair Knight, Student, The University of Melbourne, *Transcript of evidence*, Melbourne, 6 March 2012, 5; Ms Pauline Glover, Youth Councillor, Wellington Shire Council, *Transcript of evidence*, Ellinbank, 14 February 2012, 6; Robert, Youth Councillor, Wellington Shire Council, *Transcript of evidence*, Ellinbank, 14 February 2012, 6; Ms Aleisha Allen, Youth Councillor, Wellington Shire Council, *Transcript of evidence*, Ellinbank, 14 February 2012, 6; Ms Kate Henne, Student, Northern Melbourne Institute of TAFE (NMIT), *Transcript of evidence*, Melbourne, 6 March 2012, 4.

²⁰³ Mr Alistair Knight, above n 202, 5.

²⁰⁴ Mr Andrew Cosby, President, VAAHE and agriculture and horticulture teacher, Elisabeth Murdoch College, *Transcript of evidence*, Melbourne, 7 November 2011, 3.

not mandated in the curriculum, it was difficult for schools to justify teaching it due to time constraints.²⁰⁵

VCAA highlighted that schools are under increasing pressure to integrate a range of subject areas into an already full curriculum. Mr John Firth, the Chief Executive Officer of VCAA, explained:

in terms of requiring everybody to do particular things, there are many more requests and legitimate requests that could be made of the curriculum. I am sure you are aware that with the crowded curriculum that there is this question about what are the appropriate programs for individual schools and their communities. But there are certainly adequate opportunities for schools and their communities if they want to put a focus on these things to include them in their curriculum; many do, especially in the rural areas, but not all do.²⁰⁶

Enhancing agricultural education under the VELs – The Committee’s view

The evidence presented to the Committee suggests that the provision of agricultural education varies between schools. While there are examples of quality agricultural education programs operating in Victoria, it does not appear uncommon for agricultural education to be overlooked in Victorian schools.

The Committee supports the autonomy that schools have under the VELs and acknowledges the challenges that schools face in trying to cover additional areas in the curriculum. However, the Committee believes it is important that all students develop a basic agricultural literacy while at school. To achieve this, the Committee believes that schools and teachers should be encouraged and supported to use food and fibre production as a context to teach relevant subject areas within the curriculum, such as mathematics, science and geography. A key aspect of this support will be ensuring that teachers are provided with high quality teaching resources and professional learning to assist them to make these curriculum links. These issues are discussed in chapter four.

Recommendation 7: Supporting the use of food and fibre production examples in teaching

That the Victorian Government encourage and support schools and teachers to use food and fibre production as a context within relevant broader disciplines in the curriculum such as mathematics, science and geography.

3.2.2 Agriculture and the Australian Curriculum

As outlined in chapter one, a new national curriculum is currently being developed by the Australian Curriculum, Assessment and Reporting Authority (ACARA). The Australian Curriculum is made up of three dimensions namely:

- learning areas, which are the disciplines that will be taught to students
- general capabilities, which are the skills, behaviours and dispositions that will apply across the curriculum

²⁰⁵ Mr Matthew Dickinson, Agriculture and horticulture teacher and Farm Manager, Ballarat and Queen’s Anglican Grammar School, *Transcript of evidence*, Ballarat, 28 November 2011, 3.

²⁰⁶ Mr John Firth, Chief Executive Officer, VCAA, *Transcript of evidence*, Melbourne, 24 October 2011, 3.

- cross-curriculum priorities, which are contemporary issues that will be embedded across the curriculum.²⁰⁷

Figure five below sets out the key aspects of each of these three dimensions.

Figure 5: The Australian Curriculum framework²⁰⁸

Learning areas	General capabilities	Cross-curriculum priorities
English	Literacy	Aboriginal and Torres Strait Islander histories and cultures
Mathematics	Numeracy	Asia and Australia's engagement with Asia
Science	Information and communication technology capability	Sustainability
Humanities and social science	Critical and creative thinking	
The arts	Ethical behaviour	
Languages	Personal and social capability	
Health and physical education	Intercultural understanding	
Technologies		

The Australian Curriculum will be rolled out in several stages, commencing from 2013. VCAA will progressively incorporate the Australian Curriculum into the VELS as it is developed. This merged curriculum, termed AusVELS, will provide a single curriculum for Prep to Year 10 students and will reflect particular Victorian priorities and approaches to teaching and learning.²⁰⁹

At present, food and fibre production is used as a context within the *Draft shape of the Australian Curriculum: Technologies*, which sets out the proposed direction of the technologies learning area in the Australian Curriculum.²¹⁰ Ms Lynn Redley, Manager of Curriculum at ACARA, explained how agriculture will be represented in the technologies learning area and the potential for agriculture to be incorporated into other learning areas across the Australian Curriculum:

With agriculture it is clearly an area that will be represented in the technologies curriculum. There are two strands or subjects in the technologies learning area, and one of them is design and technology. Agriculture is a key context — we call them contexts — for the teaching of design and technology. We also have been doing some work on identifying food and fibre production across the learning areas. This is some work that has been developed in consultation with the Primary Industries Education Foundation and the New South Wales Farmers Federation. Work is being done which identifies content description in science and geography, in particular, but also history, mathematics and other areas where there are possibilities of teaching about food and fibre production which is the agreed term that we have come up with, with PIEF.²¹¹

²⁰⁷ Australian Curriculum, Assessment and Reporting Authority, *The shape of the Australian Curriculum* (2012), 14-15.

²⁰⁸ *ibid.*, 14-15.

²⁰⁹ Victorian Curriculum and Assessment Authority, *AusVELS structure*, <<http://ausvels.vcaa.vic.edu.au/Overview/AusVELS-Structure>> viewed 3 May 2012.

²¹⁰ Australian Curriculum, Assessment and Reporting Authority, *Draft shape of the Australian Curriculum: Technologies* (2012).

²¹¹ Ms Lynn Redley, Manager, Curriculum, Australian Curriculum, Assessment and Reporting Authority (ACARA), *Transcript of evidence*, Canberra, 20 March 2012, 3.

The technologies learning area curriculum is expected to be published at the end of 2013. ACARA informed the Committee that it is currently unclear when the technologies curriculum will be implemented in Australian schools.²¹²

A number of stakeholders submitted that agriculture should play a larger role within the Australian Curriculum. For instance, the submission from the Melbourne School of Land and Environment (MSLE) at The University of Melbourne noted:

The Australian Curriculum, Assessment & Reporting Authority (ACARA) has been widely challenged for giving too little attention to agriculture ... It's not the lack of specialist schools or subjects that should alarm us, but the failure to integrate positive examples of agriculture into the broader curriculum of geography, history, math and science, such that all young citizens understand the roles of agriculture and at least some have their curiosity raised. This is an area on which government could have a significant impact with relatively little cost.²¹³

In its response to the *Shape of the Australian Curriculum: Technologies*, the Victorian Government submitted that the document does not give sufficient attention to agriculture and horticulture.²¹⁴

PIEF and the New South Wales Farmers Association have been advocating for sustainable food and fibre production to be included as an organising idea in the cross-curriculum sustainability priority. Organising ideas set out the necessary knowledge and skills for that priority. Mr Ben Stockwin, Executive Manager of PIEF, explained:

We have submitted to ACARA when they put out the draft for the sustainability cross-curricular priority to have an organising idea that referenced sustainable food and fibre practices ... We are sure that if we can get that organising idea within sustainability, it not only promotes primary industries as an attractive context, it promotes it as a modern and innovative industry. It also ensures theoretically every teacher in Australia would have to teach that every year from kindergarten to Year 12, across all areas.²¹⁵

Despite not being an organising idea at present, Ms Redley of ACARA explained that the sustainability priority will still provide an opportunity for teachers to incorporate teaching about sustainable food and fibre production.²¹⁶

The Committee considers that the development of the Australian Curriculum represents a unique opportunity to ensure that all students gain an understanding of food and fibre production.

The Committee welcomes the decision by ACARA to include the primary industries as a context within the technologies learning area of the Australian Curriculum. However, the

²¹² Email from Manager, Curriculum, ACARA, to Executive Officer, Victorian Parliament Education and Training Committee, 24 August 2012.

²¹³ MSLE, *Submission 69*, 14. See also Mr Robert Wilson, General Manager, AgriFood Skills Australia, *Transcript of evidence*, Canberra, 20 March 2012, 11; Joint submission of DIPDC and Dairy Australia, *Submission 89*, 21; Farrer Memorial Agricultural High School, *Submission 6*, 1; NSW Association of Agriculture Teachers, *Submission 7*, 1.

²¹⁴ Victorian Curriculum and Assessment Authority, *Australian Curriculum: Technologies. A response to the draft shape paper* (2012), 3. Available at <http://www.vcaa.vic.edu.au/Documents/auscurric/response_from_victoria_technologies_shape_paper.pdf> viewed 27 August 2012.

²¹⁵ Mr Ben Stockwin, Executive Manager, Primary Industries Education Foundation, *Transcript of evidence*, Canberra, 20 March 2012, 4. See also Primary Industries Education Foundation, *Submission 62*, 4; NSW Farmers Association, *Educating our children about food & fibre production* (n.d.). Available at <http://www.nswfarmers.org.au/__data/assets/pdf_file/0009/69867/food_fibre_production.pdf> viewed 12 August 2012.

²¹⁶ Ms Lynn Redley, above n 211, 4.

Committee urges ACARA to take into account the Victorian Government's feedback about the need to give greater attention to food and fibre production in the technologies curriculum.

The Committee also considers that there would be considerable benefit in including sustainable food and fibre practices as an organising idea in the cross-curriculum sustainability priority. The Committee believes that the Victorian Government should play an advocacy role in this respect.

Recommendation 8: Increasing the profile of food and fibre production in the Australian Curriculum

That the Victorian Government advocate for sustainable food and fibre production to be included as an organising idea in the cross-curriculum sustainability priority of the Australian Curriculum.

3.3 Agriculture in the senior secondary certificates

Victorian students in Years 11 and 12 can elect to undertake either the Victorian Certificate of Education (VCE) or the Victorian Certificate of Applied Learning (VCAL):

- VCE is the most common qualification awarded on completion of Years 11 and 12. VCE provides students with the opportunity to enter tertiary study, further training or work.
- VCAL is an alternative pathway for Year 11 and 12 students who wish to go on to employment or further vocational training. VCAL provides students with work-related experience and the opportunity to build their literacy and numeracy skills. Students undertaking VCAL can also undertake VCE subjects.

This section considers how agriculture is taught in the senior certificates through VCE Agricultural and Horticultural Studies and through the VET in Schools program.

3.3.1 Agriculture in the Victorian Certificate of Education

There are over 90 VCE studies available in Victoria and each school is responsible for choosing which VCE studies are offered.²¹⁷ VCE Agricultural and Horticultural Studies is offered in Victoria as a VCE study.

This section provides an overview of VCE Agricultural and Horticultural Studies, including the study design, enrolments, delivery and the scaling of the subject.

The study design of VCE Agricultural and Horticultural Studies

The current VCE Agricultural and Horticultural Studies course has been accredited from 2011 to 2015. The study is made up of four units, namely:

- Unit 1: Agricultural and horticultural operations
- Unit 2: Production

²¹⁷ Victorian Curriculum and Assessment Authority, *Where to now? Guide to the VCE, VCAL and apprenticeships and traineeships for 2013* (2012), 3.

- Unit 3: Technology, innovation and business practices
- Unit 4: Sustainable management.²¹⁸

The study is designed to provide students with an understanding of sustainable agricultural and horticultural systems within an economic, social and environmental context.²¹⁹ A key feature of the study is the requirement for students to design, develop and manage their own agricultural or horticultural business.

Participants in the Inquiry were generally positive about the subject's study design. Most students who spoke to the Committee appeared to enjoy the practical nature of VCE Agriculture and Horticulture Studies. For example, Jemma, a Year 12 student at Ballarat and Queen's Anglican Grammar School, told the Committee:

I have really enjoyed most of the course this year. The case studies I found were really helpful: getting out onto the farm, seeing how it is run, seeing what aspects can be improved and what you have done to improve it. That really brought it out of classroom learning and into something that you can apply to life itself. I really enjoyed pests and diseases.²²⁰

Similarly, Tanie, a Year 12 student at Elisabeth Murdoch College, stated, 'You get to do a lot of different things, and there are so many great experiences involved.'²²¹

The study is designed to complement the VCE VET Agriculture, Horticulture, Conservation and Land Management program. Although, as discussed below, some schools do not have the capacity to deliver both subjects.

Enrolments in VCE Agricultural and Horticultural Studies

In 2011 there were 537 enrolments in VCE Agricultural and Horticultural Studies and 41 providers across Victoria. The number of students and providers of VCE Agricultural and Horticultural Studies has shown an overall decline in the past decade (see figures six and seven).²²²

²¹⁸ DEECD, *Submission 82*, 9.

²¹⁹ *ibid.*, 9.

²²⁰ Jemma, Year 12 student, Ballarat and Queen's Anglican Grammar School, *Transcript of evidence*, Ballarat, 28 November 2011, 5.

²²¹ Tanie, Year 12 student, Elisabeth Murdoch College, *Transcript of evidence*, Langwarrin, 13 February 2012, 3.

²²² Joint submission of VCAA, Office of Government School Education, DEECD, and Office of Policy, Research and Innovation, DEECD, *Submission 72*, 7.

Figure 6: Student enrolments in VCE Agricultural and Horticultural Studies (2002–2011)²²³

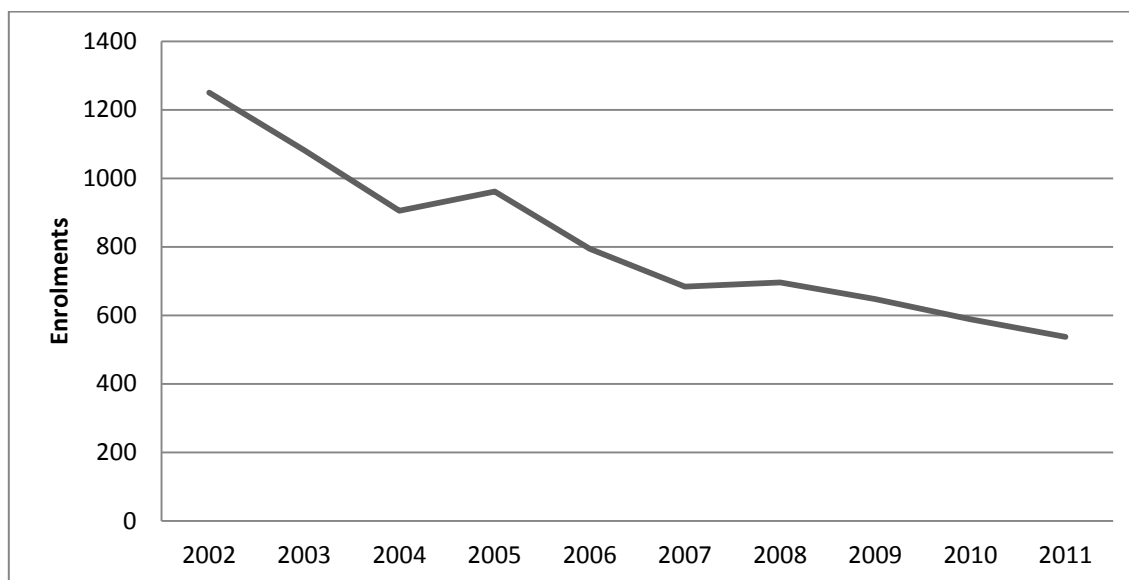
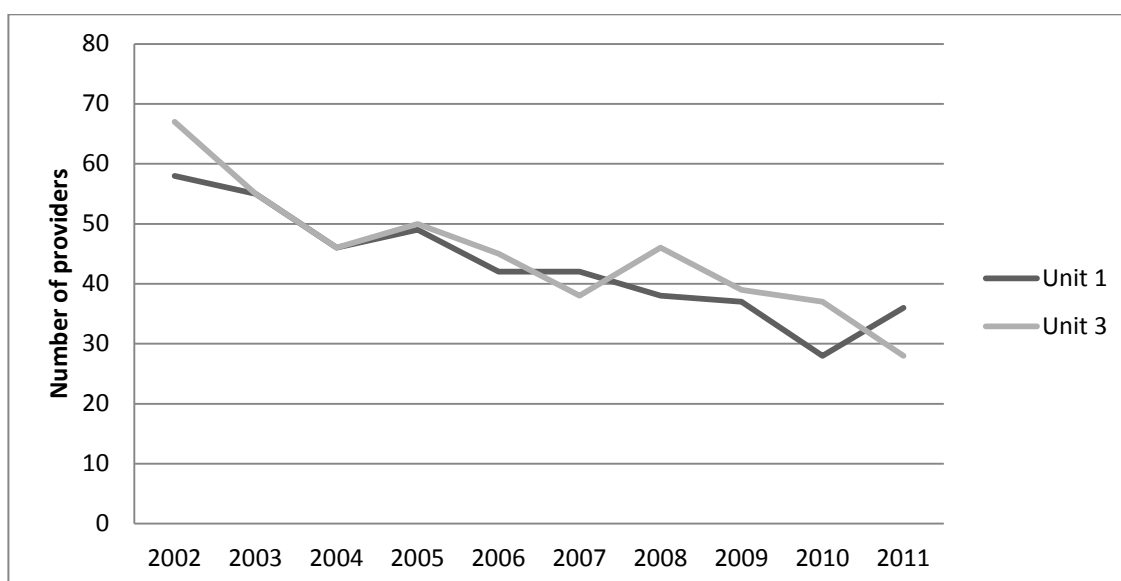


Figure 7: Providers of Unit 1 and Unit 3 of VCE Agricultural and Horticultural Studies (2002–2011)²²⁴



There were more non-metropolitan-based students enrolled in VCE Agricultural and Horticultural Studies than metropolitan-based students in 2011 (see figure eight). Student enrolments were highest in the Southern Metropolitan region. The Barwon South-West region had the highest number of enrolments out of the non-metropolitan regions.

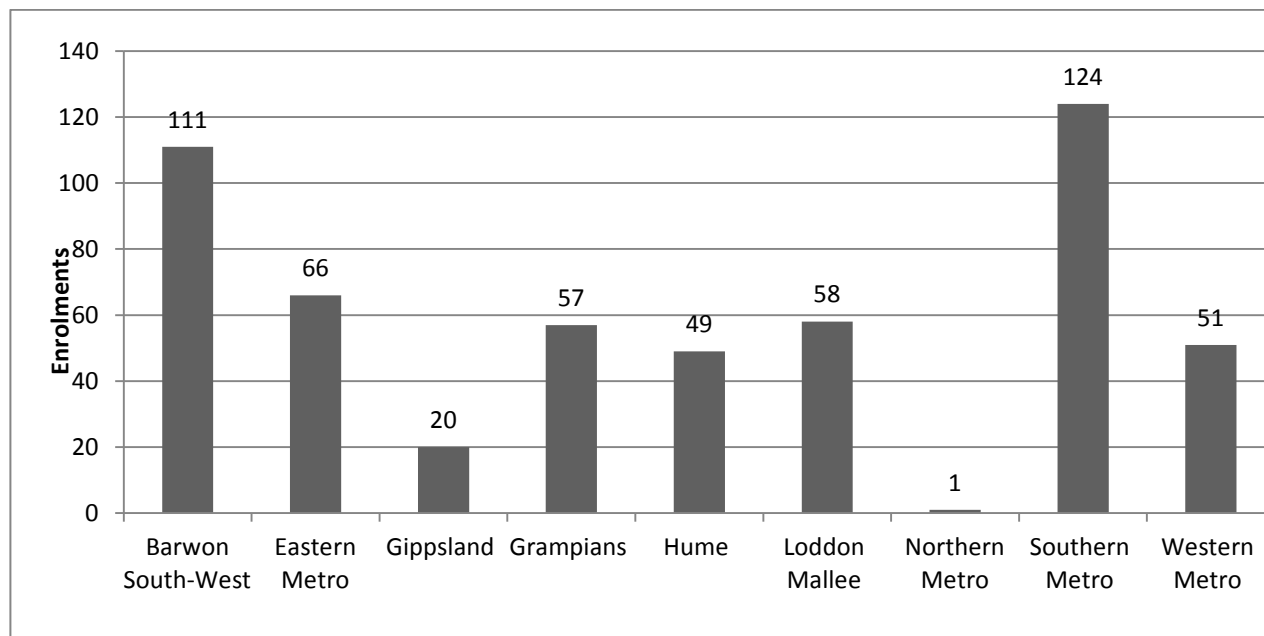
VCAA generally requires that a subject have a minimum level of enrolments to be offered as part of VCE. VCAA advised that the student cohort for VCE Agricultural and

²²³ Letter from Chief Executive Officer, VCAA, to Chair, Victorian Parliament Education and Training Committee, 6 August 2012, 4.

²²⁴ *ibid.*, 5-6; Joint submission of VCAA, Office of Government School Education, DEECD, and Office of Policy, Research and Innovation, DEECD, *Submission 72*, appendix 2.

Horticultural Studies is below that nominated for the continued viability of a VCE study. However, the VCAA board has continued to support the study because it caters to a niche group of students.²²⁵

Figure 8: Enrolments in Unit 1 and Unit 3 of VCE Agricultural and Horticultural Studies by DEECD region (2011)²²⁶



Challenges with VCE Agricultural and Horticultural Studies

Current enrolment trends in VCE Agricultural and Horticultural Studies were a key concern among stakeholders in this Inquiry. The evidence to the Committee suggests there are several factors influencing the number of schools offering VCE Agricultural and Horticultural Studies and the student demand for this subject. These factors are explored further below.

Delivery of VCE Agricultural and Horticultural Studies by schools

The Committee heard evidence that schools can struggle to attract viable cohorts of students to run VCE Agricultural and Horticultural Studies, particularly in rural and regional Victoria. Mr Firth of VCAA explained:

You would understand the resource constraints at the school level that if the numbers fall below a certain level, it is very difficult for the school to continue to operate it. Some country schools go to quite a length to retain their agriculture and horticulture program, but if it gets down below six or seven or whatever, it is very difficult for the school to maintain it.²²⁷

The Committee was told that many schools face a choice between offering the VCE study and the VCE VET Agriculture, Horticulture, Conservation and Land Management program, and that this may help to explain the decline in enrolments in the VCE study.²²⁸ Mr Firth stated that for many schools, the VET program is likely to be a more viable

²²⁵ Joint submission of VCAA, Office of Government School Education, DEECD, and Office of Policy, Research and Innovation, DEECD, *Submission 72*, 7.

²²⁶ Letter from Chief Executive Officer, VCAA, above n 223, 4.

²²⁷ Mr John Firth, above n 206, 4.

²²⁸ *ibid.*, 2, 4.

offering as it can be delivered using a cluster arrangement with other schools in the region.²²⁹ The VET in Schools program is discussed below in section 3.3.2.

The Committee also heard that a school's ability to offer VCE Agricultural and Horticultural Studies can be impacted upon by the availability of specialist teaching skills and facilities.²³⁰ As will be discussed in chapter four, there is anecdotal evidence of an agricultural teacher shortage in Victoria and agricultural education can be expensive for schools to deliver.

The Country Education Project, a state-wide organisation that focuses on rural education, identified the potential for technology to be used to support students from rural and regional areas to study VCE Agricultural and Horticultural Studies in the absence of a viable class size or specialist teachers.²³¹ There may also be opportunity for schools in rural and regional areas to work together to deliver the subject.

The Committee considers that it is important for VCE Agricultural and Horticultural Studies to be offered as part of VCE. This subject is a key way of engaging students in agriculture and exposing them to the range of careers within the sector. The Committee is concerned by the declining enrolments in the subject and believes there would be benefit in exploring strategies to assist schools, particularly in rural and regional areas, to deliver VCE Agricultural and Horticultural Studies. These strategies could include delivering the subject using a cluster arrangement or using technology to support the delivery of the subject.

The Committee also believes it is crucial to attract more students to study the subject as part of VCE. A number of the recommendations in this report, including enhancing the role of agriculture in the curriculum and enhancing the profile of agriculture, aim to achieve this.

Recommendation 9: Supporting the delivery of VCE Agricultural and Horticultural Studies

That the Victorian Government commit to the provision of VCE Agricultural and Horticultural Studies into the future and explore strategies to assist rural and regional schools to deliver this subject, such as clustering and online delivery.

Scaling of VCE Agricultural and Horticultural Studies

A VCE study is typically made up of four units and students receive a study score for each unit 3 and 4 sequence they complete.²³² These scores are then used by the Victorian Tertiary Admissions Centre (VTAC) to calculate an Australian Tertiary Admission Rank (ATAR).²³³ The ATAR is an overall measure of a student's performance and is used by higher education institutions nation-wide to rank and select prospective students.²³⁴

²²⁹ *ibid.*, 4.

²³⁰ Joint submission of VCAA, Office of Government School Education, DEECD, and Office of Policy, Research and Innovation, DEECD, *Submission 72*, 7.

²³¹ Country Education Project, *Submission 100*, 7.

²³² Victorian Curriculum and Assessment Authority, *VCE frequently asked questions*, <<http://www.vcaa.vic.edu.au/faqs/vcecurrentstudents.html>> viewed 19 April 2012.

²³³ *ibid.*

²³⁴ Universities Admissions Centre, *The Australian Tertiary Admissions Rank (ATAR)*, <<http://www.uac.edu.au/undergraduate/atar/>> viewed 3 May 2012.

Before calculating the ATAR, VTAC adjusts each study score using a process known as scaling. Scaling is used to ensure that there can be a fair comparison between students who have completed different combinations of VCE studies.²³⁵

The study score for VCE Agricultural and Horticultural Studies has been routinely scaled downwards. Figure nine below sets out the scaled means and standard deviations for VCE Agricultural and Horticultural Studies for the previous five years. It also shows the scaled ATAR subject scores corresponding to the VCE study scores of 20, 25, 30, 35, 40, 45 and 50.

Figure 9: Scaling of VCE Agricultural and Horticultural Studies (2007–2011)²³⁶

Year	Scaled mean	Standard deviation	VCE study score 20	VCE study score 25	VCE study score 30	VCE study score 35	VCE study score 40	VCE study score 45	VCE study score 50
2011	25.2	6.9	14	18	23	28	35	42	50
2010	24.53	6.9	14	18	23	29	35	42	50
2009	25.43	6.5	15	19	24	29	35	42	50
2008	24.76	7.3	14	19	24	29	36	43	50
2007	23.86	7.3	13	17	22	27	34	41	50

There was significant frustration amongst students and teachers about the scaling applied to VCE Agricultural and Horticultural Studies. Dr Alan Ford, agriculture and horticulture teacher at Ballarat and Queen's Anglican Grammar School, submitted:

VCE Agriculture is scaled down significantly when calculating ATAR figures. This serves to discourage students from taking the subject. We need to make the subject as attractive as possible in order to attract significant numbers of capable students. The Year 12 numbers at the moment are not really sustainable ...²³⁷

A number of students who spoke to the Committee told of their disappointment at the mark they received for VCE Agricultural and Horticultural Studies and considered that it did not reflect the work they had put into the subject. For example, Tara, who completed VCE at Padua College in 2011, explained:

I got a 37 for ag., and I was so disappointed and upset, because I reckon the amount of time that I spent doing ag. homework and studies would have been double the rest of my subjects put together. I spent so much time — so many hours and so many nights up until 3 o'clock in the morning — trying to get assignments done, for the time that goes into it, to then get marked down — what is it, six? I was devastated when I got my mark. I was like, 'How can you do that?'. I tried so hard. I got As and A-pluses all year, and it was so heartbreaking.²³⁸

²³⁵ Victorian Tertiary Admissions Centre, *ABC of scaling* (2011). Available at <<http://www.vtac.edu.au/pdf/publications/abcofscaling.pdf>> viewed 3 May 2012.

²³⁶ Letter from Director, Victorian Tertiary Admissions Centre, to Chair, Victorian Parliament Education and Training Committee, 18 June 2012, 2.

²³⁷ Dr Alan Ford, Agriculture and horticulture teacher, Ballarat and Queen's Anglican Grammar School, *Submission 12*, 1.

²³⁸ Tara, Former Year 12 student, Padua College and currently deferred student, Bachelor of Agriculture, The University of Melbourne, *Transcript of evidence*, Mornington, 13 February 2012, 3-4.

VTAC explained to the Committee that the scaling process is entirely determined by the performance of the students doing that study in their other studies.²³⁹ If the students doing a particular study perform above average across all their studies, then that study will be scaled up. If the students perform below average in their other studies, the study will be scaled down.

The Committee acknowledges that scaling is a data driven process that is needed to compensate for the different abilities of students and the strength of competition in different studies. However, the Committee considers that the scaling applied to VCE Agricultural and Horticultural Studies has a negative impact on student enrolments. Given the low enrolments in the study, the Committee considers there would be benefit in reviewing the scaling of those VCE subjects, such as VCE Agricultural and Horticultural Studies, where the relevant sector is experiencing skills shortages. For example, the Committee notes the study of languages is encouraged in Victoria by adding five to the initial ATAR subject score average.²⁴⁰

Recommendation 10: Reviewing the scaling of VCE subjects in areas experiencing skills shortages

That the Victorian Government review the scaling of VCE subjects, such as VCE Agricultural and Horticultural Studies, where the relevant industry sector is experiencing skills shortages, to encourage greater enrolments in these important areas.

3.3.2 Agriculture and the VET in Schools program

The VET in Schools program enables students to undertake vocational training as part of their studies. This section provides an overview of the VET in Schools program, including enrolment trends and challenges associated with the program.

An overview of agriculture in the VET in Schools program

Senior secondary students can undertake VET in Schools as part of their senior secondary certificate and younger secondary students may also have the opportunity to work towards a VET qualification.

Students completing VCE or VCAL have the option of enrolling in a VCE VET program, a School-based Apprenticeship or Traineeship or other VET qualifications.

These pathways enable students to work towards a nationally recognised VET qualification. School-based Apprenticeships and Traineeships require students to enter into a training contract with an employer, while students completing the VCE VET program or another VET qualification participate in structured workplace learning.

VET qualifications are issued by registered training organisations (RTOs). The VET in Schools program can be delivered in a range of ways. Training can take place at the school, for example if the school is a RTO or if the school delivers the training under the auspices of a RTO. Training can also take place offsite, for example at a RTO or through a cluster school arrangement.

²³⁹ Letter from Director, Victorian Tertiary Admissions Centre, above n 236, 2.

²⁴⁰ Victorian Tertiary Admissions Centre, *Scaling and the ATAR*, <<http://www.vtac.edu.au/results-offers/y12-atar/scaling.html>> viewed 26 July 2012.

Students interested in studying agriculture as part of the VET in Schools program can undertake the following:

- a qualification drawn from the VCE VET Agriculture, Horticulture, Conservation and Land Management program
- a School-based Apprenticeship and Traineeship related to agriculture
- an agriculture-related VET qualification outside of the VCE VET program.

These pathways are briefly described below.

VCE VET Agriculture, Horticulture, Conservation and Land Management

The VCE VET Agriculture, Horticulture, Conservation and Land Management program is designed to provide students with the necessary skills and knowledge to improve their employment prospects within the agriculture, horticulture or conservation and land management sectors.²⁴¹

Students who participate in the VCE VET Agriculture, Horticulture, Conservation and Land Management program can choose to undertake one of the following qualifications:

- Certificate II in Agriculture
- Certificate II in Horticulture
- Certificate II in Conservation and Land Management.

To be awarded one of these qualifications, students must successfully complete a combination of compulsory and elective units and participate in structured workplace learning. VCAA recommends that students undertake a minimum of 40 hours of structured workplace learning in order to meet the skill requirements and competencies.²⁴²

There is no study score available for the VCE VET Agriculture, Horticulture, Conservation and Land Management program. However, students are eligible for an increment to their ATAR if they successfully complete the unit 3 and 4 sequence. This ATAR increment amounts to 10% of the average of the student's primary four scaled study scores.²⁴³

School-based Apprenticeships and Traineeships

A broader range of agriculture-related courses can be undertaken as a School-based Apprenticeship and Traineeship. These courses lead to qualifications at the certificate II, III or IV level.

Students who undertake a School-based Apprenticeship and Traineeship combine part-time employment with structured training provided by a RTO. Students are

²⁴¹ Victorian Curriculum and Assessment Authority, *VCE VET agriculture, horticulture, conservation and land management* (2011), 5.

²⁴² *ibid.*, 22.

²⁴³ Victorian Curriculum and Assessment Authority, *VCE VET agriculture, horticulture, conservation and land management*, <<http://www.vcaa.vic.edu.au/Pages/vet/programs/agrhortconlm/agrhortconlm.aspx>> viewed 4 October 2012.

expected to spend at least one day a week on the job or in training during school weeks.²⁴⁴

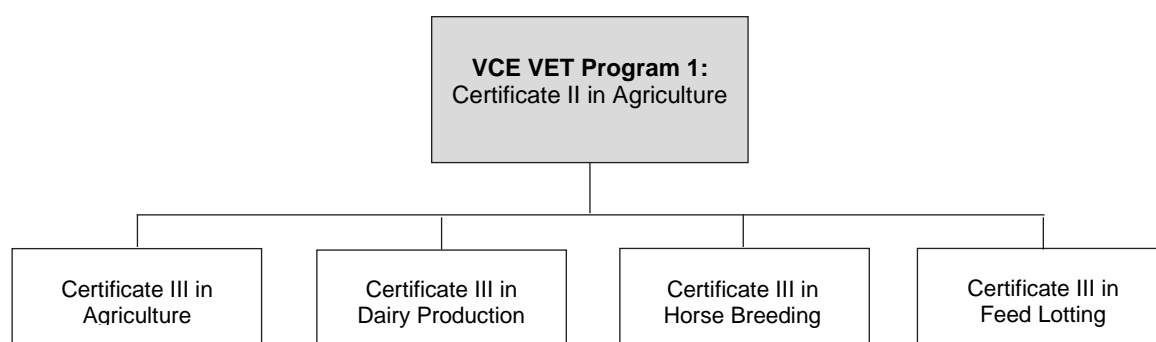
VCAA has developed three School-based Apprenticeship and Traineeship qualifications in agriculture, horticulture and conservation and land management that provide students with a 10% increment towards their ATAR as a fifth or sixth study if they successfully complete the unit 3 and 4 sequence.²⁴⁵ These qualifications are the same as the VCE VET program, however they provide a greater range of units of competency reflecting employment requirements. Other School-based Apprenticeships and Traineeships may also contribute as credit towards the VCE.

Other VET qualifications

Students may choose to undertake a VET program at any stage through their secondary schooling. The Committee received evidence from several schools that encourage students to undertake a VET agricultural qualification outside of the VCE program. For example, Pyramid Hill College, a government school in northern Victoria, participates in the Gateways 4 Sustainable Communities program and this enables students in Years 9 and 10 to work towards their Certificate II in Agriculture.

Students who successfully complete one of the qualifications from the VCE VET Agriculture, Horticulture, Conservation and Land Management program can also progress on to selected certificate III qualifications. The study pathways for the Certificate II in Agriculture are shown in figure 10 below by way of example.

Figure 10: VCE VET agriculture program study pathways²⁴⁶



Students who complete VET qualifications that are not approved VCE VET and School-based Apprenticeships and Traineeships programs may be eligible for credit towards their VCE.²⁴⁷

Enrolments in the VET in Schools program

In 2011 there were a total of 973 enrolments in the VCE VET Agriculture, Horticulture, Conservation and Land Management program in Victoria.²⁴⁸ A total of 410 of these enrolments were in Certificate II in Agriculture.²⁴⁹

²⁴⁴ Department of Education and Early Childhood Development, *Part-time and school-based apprenticeships and traineeships*, <<http://www.skills.vic.gov.au/apprentices/part-time-and-school-based-apprenticeships-and-traineeships>> viewed 23 April 2012.

²⁴⁵ Letter from Chief Executive Officer, VCAA, above n 223, 8.

²⁴⁶ Victorian Curriculum and Assessment Authority, above n 241, 32.

²⁴⁷ Victorian Curriculum and Assessment Authority, above n 243.

²⁴⁸ Letter from Chief Executive Officer, VCAA, above n 223, 10.

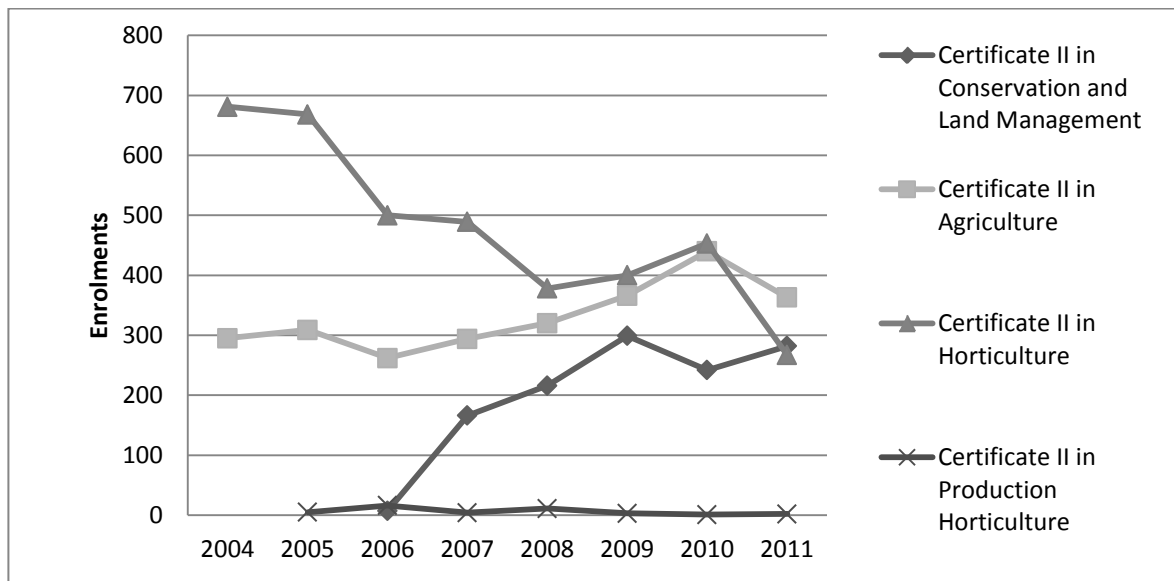
The overall number of students enrolled in VCE VET Agriculture, Horticulture and Conservation and Land Management program has remained relatively stable between 2004 and 2011.²⁵⁰ More specifically, enrolments in the Certificate II in Agriculture has shown an overall increase during this period (see figure 11).

However, the Committee also received evidence that some training providers across the state struggle to gain adequate numbers of students in the VET in Schools program that they offer.²⁵¹

The VCE VET agriculture, horticulture and conservation and land management qualifications offered between 2004 and 2011 were drawn from qualifications contained in three national training packages that are no longer offered, namely RTD02 Conservation and Land Management, RTE03 Rural Production and RTF03 Amenity Horticulture. The RTE03 Rural Production training package contained the qualifications most relevant to the current Inquiry.

A new consolidated national training package, AHC10 Agriculture, Horticulture and Conservation and Land Management Training, was implemented in 2012 and the current VCE VET Agriculture, Horticulture and Conservation and Land Management program is drawn from this new training package.

Figure 11: Enrolments in agriculture-related VCE VET courses (2004–2011)²⁵²



²⁴⁹ *ibid.*, 10.

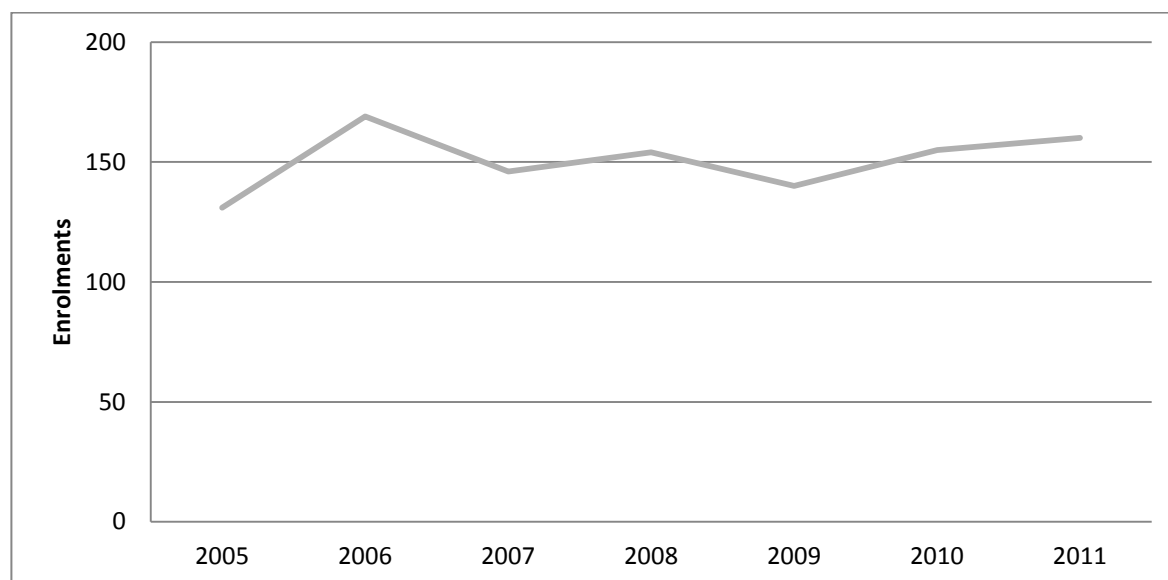
²⁵⁰ *ibid.*, 10; Joint submission of VCAA, Office of Government School Education, DEECD, and Office of Policy, Research and Innovation, DEECD, *Submission 72*, appendix 5.

²⁵¹ Barwon South Western Region, DEECD, *Submission 8*, 1-2.

²⁵² Joint submission of VCAA, Office of Government School Education, DEECD, and Office of Policy, Research and Innovation, DEECD, *Submission 72*, appendix 5; Letter from Chief Executive Officer, VCAA, above n 223, 10.

In 2011 there were 160 enrolments in the School-based Apprenticeships and Traineeships drawn from the RTE03 Rural Production training package in Victoria. School-Based Apprenticeship and Traineeship commencements in this package were relatively stable between 2005 and 2011 (see figure 12).

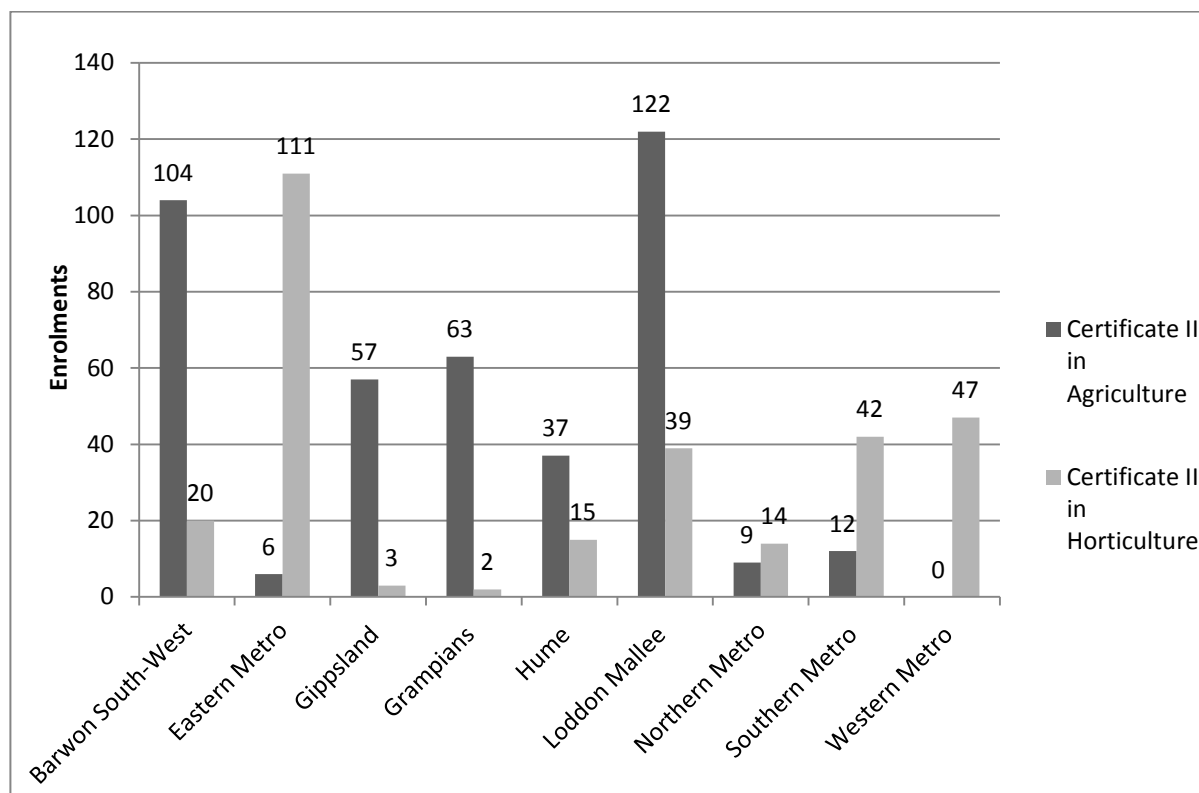
Figure 12: School-based Apprenticeship and Traineeship enrolments from the RTE03 Rural Production training package (2005–2011)²⁵³



Overall, there are more non-metropolitan-based students enrolled in Certificate II qualifications in Agriculture and Horticulture than metropolitan-based students (see figure 13). The Loddon Mallee region has the highest number of enrolments out of all the regions.

Enrolment trends in agricultural-related courses within the VET in Schools program are stable. This may reflect the fact that the VET in Schools program has more flexible delivery mechanisms and can accommodate small groups of students through cluster arrangements.

²⁵³ Letter from Chief Executive Officer, VCAA, above n 223, 9.

Figure 13: Enrolments in Certificate II in Agriculture and Certificate II in Horticulture by DEECD region (2011)²⁵⁴

Challenges with the VET in Schools program

Stakeholders considered the VET in Schools program to be a valuable pathway for engaging students in the agriculture sector. However, schools and training providers identified timetabling, cost and transport availability as operational barriers for the delivery of the program. Several stakeholders also expressed concern about the quality of training outcomes from the agriculture sector's perspective.

The availability of transport for students to attend offsite training and workplaces is an issue in regional and rural Victoria. For example, Mr Chris Senini, who has significant experience delivering the VET in Schools program, stated:

I believe what is impeding numbers is the logistics of transport. It requires a higher level of commitment for a student or parent, and often the employer, to get a student to and from the workplace. Agriculture is not always a 9.00 to 5.00 job, so that is something to be aware of, especially if a student wants to gain experience.²⁵⁵

Schools can also experience difficulty accommodating the need for students to attend workplace learning or offsite training in the timetable. Dr Ford from Ballarat and Queen's Anglican Grammar School noted that enrolments in the school's VCE VET Agriculture program had dropped off lately, mainly due to timetabling constraints.²⁵⁶ Mr Senini

²⁵⁴ *ibid.*, 7.

²⁵⁵ Mr Chris Senini, above n 191, 4. See also Ms Wendy Major, Executive Officer, South Gippsland Bass Coast LLEN, *Transcript of evidence*, Ellinbank, 14 February 2012, 4; Ms Robyn Vale, Careers Coordinator, WestVic Dairy, *Transcript of evidence*, Glenormiston, 30 November 2011, 7.

²⁵⁶ Dr Alan Ford, *Submission 12*, above n 237, 1. See also Mr Stephen Higgs, Headmaster, Ballarat and Queen's Anglican Grammar School, *Transcript of evidence*, Ballarat, 28 November 2011, 4.

observed that there is variability in how schools accommodate the VET in Schools program:

I see that secondary schools need to ensure that their timetables and class formation actually support the operation of VET in Schools and school-based apprenticeships and traineeships ... Some schools do it well and others do not — they modify their timetables, they actually stream their classes, saving on their allocated VET days or for their cluster. Whatever is missed is repeated, or it is put down that that is their industry or those are their free lessons — things like that — to minimise the impact on other external educational pressures.²⁵⁷

A number of stakeholders identified that the VET in Schools program is expensive to deliver and expressed concern that the current funding rate does not reflect the true cost of delivering the program. For example, the State Agriculture Provider Network, a body which represents agricultural education and training providers in Victoria, submitted that there are a number of training providers in Victoria who have stopped offering Certificate II in Agriculture as part of the VET in Schools program due to a lack of appropriate funding.²⁵⁸ Ms Wendy Major, Executive Officer of the South Gippsland Bass Coast Local Learning and Employment Network, also noted that schools find the VET in Schools program costly.²⁵⁹

Representatives from the dairy industry expressed reservations about the capacity of schools to deliver a certificate III qualification as part of the VET in Schools program. Mr Shane Hellwege, Group Manager of Industry, People and Capability at Dairy Australia, stated:

At certificate II level we think there is sufficient capability within the schools to be able to deliver that. When we get into the cert III it is a different situation. Essentially farmers are looking for someone with certificate III level to be an equivalent of a trade, if you like. They are saying, 'Is this person absolutely work ready?' ... The anecdotal evidence is that if someone has done a certificate III in a VET in Schools situation that they are not coming out at that level ... I do not think it is reasonable to expect that the level of competency to be able to deliver a certificate III to the standard that the industry is looking for could be held within a school.²⁶⁰

Ms Sylvia Vagg, Manager of Educational Development at the National Centre for Dairy Education Australia, noted that the dairy industry's preference was for students to undertake a School-based Apprenticeship and Traineeship rather than the VCE VET program as this provides students with more opportunity to acquire workplace skills.²⁶¹

The concerns raised about the VET in Schools program regarding timetabling, resourcing, transport and quality appear to relate more broadly to the VET in Schools program, rather than being particular to the agricultural aspects of the program. For example, similar issues were identified in a 2004 report into vocational education in schools by the House of Representatives Standing Committee on Education and Training. The Standing Committee stated:

Aspects of school operations and culture which need to be addressed in order to sustain VET include ... operational features such as timetabling and the length of the school day, how VET

²⁵⁷ Mr Chris Senini, above n 191, 5.

²⁵⁸ The State Agriculture Provider Network, *Submission 40*, 4.

²⁵⁹ Ms Wendy Major, above n 255, 4. See also Ms Jo Bourke, Executive Director, Wimmera Development Association, *Transcript of evidence*, Horsham, 29 November 2011, 4.

²⁶⁰ Mr Shane Hellwege, Group Manager, Industry, People and Capability, Dairy Australia, *Transcript of evidence*, Melbourne, 6 March 2012, 5.

²⁶¹ Ms Sylvia Vagg, Manager, Educational Development, National Centre for Dairy Education Australia, *Transcript of evidence*, Melbourne, 7 November 2011, 3-4.

is delivered including purchasing where necessary from other providers, and transport to facilitate mobility of students ...²⁶²

Skills Australia, which was the independent statutory body formerly responsible for providing advice to the Australian Government workforce on skills needs, submitted that 'stakeholders have expressed considerable disquiet in relation to this program, claiming uneven quality, confused purpose and lack of confidence in the program's outcomes'.²⁶³ Skills Australia has previously recommended a national review of VET in Schools programs.²⁶⁴

Literature on the VET in Schools program also identifies quality, resourcing and practical delivery difficulties such as timetabling as common concerns and challenges experienced with the program.²⁶⁵

In light of the fact that many of the issues raised by stakeholders with VET in Schools are not unique to the agricultural program, the Committee considers that there would be benefit in the Victorian Government reviewing the delivery of vocational education in schools. The Committee considers that any review should place a particular focus on the issues of quality, flexibility, delivery challenges for schools and resourcing. This will ensure that the VET in Schools program can continue to be an important training pathway within secondary schools in Victoria.

Recommendation 11: Reviewing the VET in Schools program

That the Victorian Government review the delivery of the VET in Schools program with a view to examining the quality, flexibility, delivery and resourcing of the program.

3.4 Agricultural education programs in schools

The Committee received evidence about a considerable number of agricultural education programs available across the primary and secondary levels of schooling in Victoria and other jurisdictions. This section provides an overview of a number of well-regarded agricultural programs and makes recommendations on how to enhance their delivery in Victoria.

3.4.1 Primary school programs

Primary school-based agricultural education programs are generally focused on providing students with a positive image of agriculture and engaging them in practical activities. Selected examples of programs operating in Victorian primary schools are outlined below.

²⁶² House of Representatives Standing Committee on Education and Training, *Learning to work: Report on the inquiry into vocational education in schools* (2004), xvi.

²⁶³ Skills Australia, *Submission 41*, 3-4.

²⁶⁴ *ibid.*, 4.

²⁶⁵ Kate Barnett and Robin Ryan, 'Vocational education and training in Australian schools: Issues for practitioners' (2005) 5(5) *International Education Journal*, 91; Country Education Project and Youth Research Centre, *Vocational education and training in small rural school communities* (2001) National Centre for Vocational Education Research, 32-33; Wendy Currie and John McCollow, *Vocational education and training in public schools: Enhancing student career options*, report for the Australian Education Union (2002), 55-58, 62. Available at <<http://www.aeufederal.org.au/Publications/2002/VETISFinalReport.pdf>> viewed 24 September 2012.

Case study 3: Whitehorse Primary School and the Stephanie Alexander Kitchen Garden Program²⁶⁶

'Teachers and Specialists at Whitehorse Primary School have used the animal husbandry of chickens within the Kitchen Garden Program to introduce students to some important agricultural principles. And students have had a ball doing it!

Those schools with experience in caring for chickens on-site, will be well aware that egg collecting is one of the favourite student duties.

At Whitehorse Primary School, students from Years 3 and 4 have documented and graphed the quantity of eggs collected from their chickens. Students have been able to plot patterns and fluctuations in the rate of production of eggs using bar and line graphs.

Collecting egg data is numeracy in action. Students need to use mathematical concepts to confidently chart production numbers and share in interpreting this data with teachers. Meanwhile, Kitchen Specialists are keen to put the eggs to good use in the kitchen.

Students have carefully planned and written a booklet outlining how to care for chooks. This real-life research and instructional writing now benefits other students rostered to care for the chickens each month. The booklet is an authentic product using literacy skills learned in class: just one example of the rich and deep learning opportunities associated with the Kitchen Garden Program.

Exposing young students to the enjoyment of raising chickens can naturally lead to engaging discussions and associated learning around free-range farming, humane treatment of animals, appropriate organic feed, and comparisons of poultry techniques and production from country to country. Students connect husbandry and animal health to production. They practise skills such as literacy and numeracy, analyse the success of their actions, and see the results in production of a useful, delicious product for the kitchen. And we're sure the chickens appreciate all the care, too.'



Members of the Education and Training Committee with Ms Stephanie Alexander.

²⁶⁶ Stephanie Alexander Kitchen Garden Foundation, *Chickens and charts: Egg collection leads to numeracy gains at Whitehorse Primary School*, supplementary evidence received 21 April 2012.

The Stephanie Alexander Kitchen Garden Program

The Stephanie Alexander Kitchen Garden Foundation supports primary schools to deliver a kitchen garden program. The program involves students between eight and twelve years old spending time in a productive vegetable garden and kitchen at school each week.

The Committee visited Collingwood College, a primary school where the headquarters of the Stephanie Alexander Kitchen Garden Foundation is based. The Foundation's primary focus is on developing healthy eating habits in children. However, Ms Stephanie Alexander, Visionary Founder and Chair of the Board for the Foundation, explained that the program also involves aspects of agricultural education:

I would not say our primary aim is to turn out farmers. However, we are very well aware that children are understanding more: they measure the pH of the soil, they understand the importance of mulch and they plant trees. Most of the children in these schools have lived through the drought. Some have come from country areas; some have come in from farms where there have been real problems because of weather situations. They are just living the experience of caring for gardens in a way that I believe will make them — even if they do not turn out to be farmers, which many of them will not — turn out to be people who have a better understanding of the care that has to go into producing good, fresh seasonal food.²⁶⁷

There are currently 88 primary schools and approximately 10 500 students participating in the Foundation's program in Victoria.²⁶⁸ The Foundation has a strong focus on ensuring that schools link the kitchen garden activities back into the classroom and student learning.

Picasso Cows

Dairy Australia offers the Picasso Cows program to primary schools within dairying regions across Australia. The program aims to educate students, teachers and parents about the importance of the dairy industry and its products. Since beginning in 2008, the program has reached 380 regional primary schools and around 15 000 students.²⁶⁹

Picasso Cows provides schools with a free six week curriculum program. Each school is given a blank, life size fibreglass cow, paints, educational resources and a curriculum guide that links back to the curriculum website. Each school then paints their cow in a dairy related theme over the six week period. Students also participate in a number of extracurricular activities, such as visits to dairy farms and dairy days.

²⁶⁷ Ms Stephanie Alexander, Visionary Founder and Chair of Board, Stephanie Alexander Kitchen Garden Foundation, *Transcript of evidence*, Collingwood College, Collingwood, 19 March 2012, 4.

²⁶⁸ Ms Ange Barry, Chief Executive Officer, Stephanie Alexander Kitchen Garden Foundation, *Transcript of evidence*, Collingwood College, Collingwood, 19 March 2012, 3.

²⁶⁹ Dairy Australia, *Picasso cows and the great wall of dairy*, <<http://www.dairy.edu.au/discoverdairy/Teachers/School-Programs.aspx>> viewed 4 October 2012.

Figure 14: A Picasso Cow painted by Victorian primary school students



City Kids Experiencing Country Life

The City Kids Experiencing Country Life program is a new program that allows Year 6 students from metropolitan based schools to visit and experience life in rural and regional Victoria.²⁷⁰

Participating students spend four days in a rural community and have the opportunity to learn about local food production industries and experience local tourist attractions.²⁷¹ The program is also designed to provide the students with an insight into future career opportunities in regional Victoria. The program is run by several regional Local Learning and Employment Networks.

Two stakeholders spoke positively about the program's predecessor, Teaching Farms, which also involved students getting the opportunity to spend time within a rural community.²⁷²

3.4.2 Secondary school programs

Secondary school-based agricultural education programs have a strong focus on exposing students to careers within agriculture or providing vocational training. Examples of such programs that featured in the evidence presented to the Committee are outlined below.

Cows Create Careers

Dairy Australia has developed the Cows Create Careers program to promote careers within the dairy industry to secondary school students. The program provides

²⁷⁰ Department of Education and Early Childhood Development (Victoria), *City kids experiencing country life initiative*, <<http://www.education.vic.gov.au/management/schooloperations/citykids/default.htm>> viewed 31 August 2012.

²⁷¹ *ibid.*

²⁷² Country Education Project, *Submission 100*, 4; Warragul Branch, VFF, *Submission 22*, 1.

participating schools and students with the opportunity to rear a calf, prepare dairy recipes or manufacture camembert cheese.

In 2010 there were 179 schools and 6200 students participating in the program across Australia.²⁷³ The program was highly regarded by several Inquiry participants. For example, Ms Amelia Biggs, the junior agriculture and horticulture teacher at Padua College, stated:

one of the best things with Cows Create Careers is that it really draws in industry advocates coming to the school ... It is a really amazing experience with the cows being at the school. They [the students] get really good hands-on experience and a theoretical background as well.²⁷⁴

Fundamental to the success of the Cows Create Careers program is the willingness of local farmers to participate in the program. Mr Jim Armstrong, the President of the Warragul Branch of the Victorian Farmers Federation, spoke to the Committee about his motivation for volunteering for the program:

I have been involved in Cows Create Careers ever since it started, whereby I supply a couple of poddy calves to a school ... I supply them around Melbourne, so basically I do the city people ... It is pleasing to see some of them asking questions afterwards about what is available. It opens up their eyes. We are not necessarily trying to get workers for the farm but into the service industries around it — vets, dairy technicians, whatever. There is a whole list a mile long that is not necessarily just farm-based labour.²⁷⁵

Students who had participated in the program, also spoke positively about their experience. For example, Tara, who had recently completed Year 12 at Padua College, told the Committee how the Cows Create Careers program sparked her interest in an agricultural career:

In Year 9 a lot of schools do a course called Cows Create Careers. That is when we get poddy calves to the school. That is the first touch of any kind of farming I had ... In Year 11 we went on excursions to different dairy farms, and that is when I really got into wanting to pursue it. I wanted to go to the dairy nutrition side of it.²⁷⁶

The Primary Industry Centre for Science Education

The PICSE program is designed to attract high quality young people into science-based primary industries careers. It caters for students from Year 5 to first year university.

PICSE employs science education officers, who are all ex-science teachers, to work with science teachers and students to foster their interest in primary industries science. PICSE offers a range of activities and support to the schools and students participating in the PICSE program, including science class activities, teacher professional learning, student camps, industry placements and teacher resources.

The ten science education officers are located at activity centres within local university partners across Tasmania, Western Australia, South Australia, New South Wales and Queensland. PICSE is not currently operating in Victoria. However, PICSE has been

²⁷³ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 21.

²⁷⁴ Ms Amelia Biggs, Junior agriculture and horticulture teacher, Padua College, *Transcript of evidence*, Mornington, 13 February 2012, 3. See also South Gippsland Bass Coast LLEN, *Submission 47*, 4; Young Agribusiness Professionals, VFF, *Submission 76*, 5; VAAHE, *Submission 87*, 4; Mr Ross Cardile, Agriculture teacher, NMIT, *Transcript of evidence*, Melbourne, 5 December 2011, 3.

²⁷⁵ Mr Jim Armstrong, President, Warragul Branch, VFF, *Transcript of evidence*, Ellinbank, 14 February 2012, 8.

²⁷⁶ Tara, above n 238, 4.

exploring the possibility of partnering with a Victorian higher education provider to deliver the program in this state.²⁷⁷

The outcomes from the PICSE program are independently evaluated each year and students going through the program are tracked from high school through university and into the workforce. The program has had promising results in terms of changing student attitudes about the primary industries sector and attracting students into agricultural-related higher education courses. The most recent evaluation of the program found:

- Around 85% of Year 11 and 12 students participating in industry placements in 2011 reported that their attitude on the importance of science in the primary industries sector had positively changed.
- Sixty per cent of industry placement students indicated that they were now interested in science careers in primary industries, as a result of their participation.
- The program has directly influenced at least 75 students in their senior years to reconsider their study options towards sciences relating to primary industries.²⁷⁸

Higher education providers are required to contribute half the costs of running the activity centre, with PICSE sourcing the remaining funding.²⁷⁹

The report, *Rebuilding the agricultural workforce*, which was written by The Allen Consulting Group for the Business/Higher Education Round Table, recommended expanding the PICSE program due to the limited number of agricultural learning experiences available in schools in Australia.²⁸⁰ The report also highlighted that some higher education institutions have not joined the PICSE program due to the cost of the program.²⁸¹

Partnerships between schools, industry and the community

Schools are increasingly working in partnership with local industry and the community to enhance the educational experience of students. These partnerships allow schools to benefit from a broader range of expertise and resources and provide students with an understanding of career pathways within their local region. Most partnerships have a strong vocational education focus. A number of examples of successful agricultural school partnership programs operating in Victoria and interstate are outlined below.

²⁷⁷ Associate Professor David Russell, above n 200, 4.

²⁷⁸ Primary Industry Centre for Science Education, *Impact evaluation report: Executive summary*, supplementary evidence received 27 March 2012, 1-2.

²⁷⁹ Associate Professor David Russell, above n 200, 3.

²⁸⁰ The Allen Consulting Group, *Rebuilding the agricultural workforce*, report for Business/Higher Education Round Table (2012), 64.

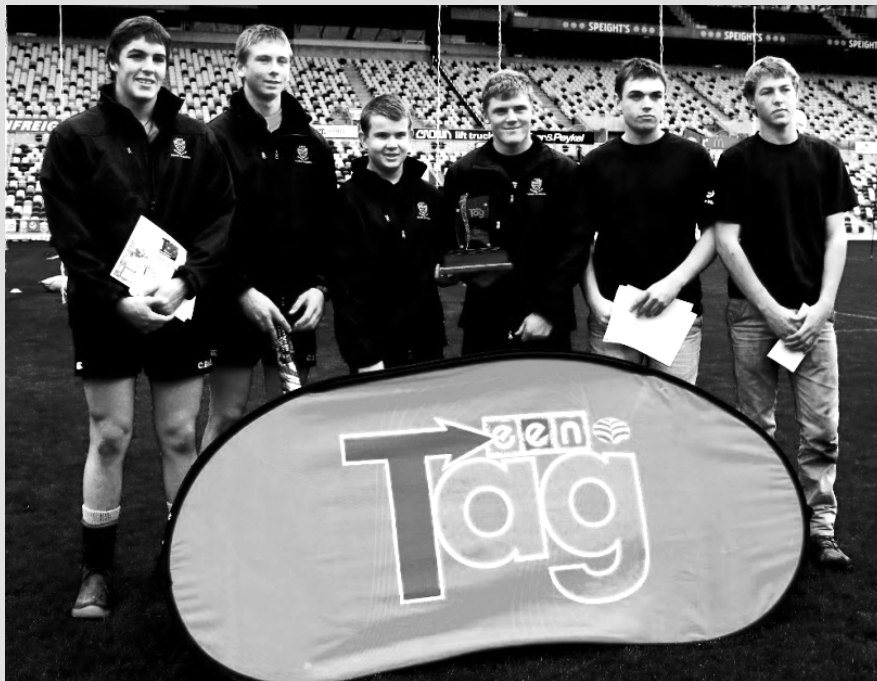
²⁸¹ *ibid.*, 64.

Case study 4: New Zealand's TeenAg program and competition²⁸²

New Zealand Young Farmers, a social network for rural youth in New Zealand, has developed the TeenAg program for secondary school students throughout New Zealand. The program is designed to engage young people in agriculture and create a pipeline into New Zealand Young Farmers.

TeenAg consists of school-based clubs that meet regularly within the school schedule through which students organise events and social activities. Members also get a quarterly TeenAg magazine, and information and support from New Zealand Young Farmers through their Field Officers.

New Zealand Young Farmers also organises an annual TeenAg competition that is open to all high school students. Students compete in teams of two to complete a range of activities that are based on real life scenarios. There were over 300 competitors who took part in the 2012 TeenAg competition.



The top three teams in the 2012 TeenAg competition.

²⁸² Primary Industry Capability Alliance, *TeenAg clubs*, <<http://www.pica.org.nz/secondary-14-18-years/network/teenag-clubs/>> viewed 16 August 2012; The National Bank Young Farmer Contest, *Calling all TeenAg-ers!*, <<http://youngfarmercontest.co.nz/news.asp?pageID=2145881898&RefID=2141741360>> viewed 20 August 2012; New Zealand Young Farmers, *TeenAg: TagMag Winter 2012*, supplementary evidence received 16 May 2012, 4.

Gateways 4 Sustainable Communities

Gateways 4 Sustainable Communities is a school partnership program that has been running in four northern Victorian communities since 2007. The program aims to link young people into training pathways in local industries and enhance their overall wellbeing. The program has a strong focus on the agriculture sector and related industries. Each particular community has a different focus based on their local industries, namely:

- Cohuna: dairy and food processing
- Boort: horticulture, irrigation and water management
- Pyramid Hill: farm management practices and agriculture
- East Loddon: renewable energies and permaculture.²⁸³

The Committee visited Pyramid Hill College and conducted a hearing with students, teachers and school leaders from the College and nearby Boort District School. The Committee also spoke with representatives from the Gateways 4 Sustainable Communities program and participating industry partners.

Students participating in the program spend time with local industry partners and have the opportunity of working towards a Certificate II in Agriculture. Mr Joe Mazzarella, Principal of Pyramid Hill College, explained the importance of the industry partners to the program:

The local industries here provide opportunities for our students to actually go on location and see firsthand how different aspects of farming operate, but we also use our local industries to come into the school and do programs in school for the students. We have also trained local industry people in certificate IV, so that then they can play a role in the teaching and assessment of work that is covered here at the school with the program.²⁸⁴

From speaking with the students, it was evident to the Committee that they had gained a strong appreciation of the role of the agriculture sector in their community as well as the range of career pathways within agriculture. For example, Jade, a Year 9 student at Pyramid Hill College, stated:

My time with the Gateways program has been a very exciting experience for me. I love learning new methods of farming. Growing up on a sheep and a crop farm, I never really knew anything else. As part of the Gateways program I have broadened my knowledge of dairy farming and fruit orchards ... Exploring careers in agriculture beyond the farming aspect opened my eyes to the array of opportunities that exist within the industry and associated fields.²⁸⁵

Mansfield Secondary College

Mansfield Secondary College has developed an agribusiness program for Year 9 students in partnership with the local agriculture sector and broader community.

²⁸³ Northern District Community Health Service, *Gateways 4 Sustainable Communities* (n.d.) NUFG, 1. Available at <<http://nufg.org.au/images/Gateways/Gateways.pdf>> viewed 7 May 2012.

²⁸⁴ Mr Joe Mazzarella, above n 191, 4.

²⁸⁵ Jade, Year 9 student, Pyramid Hill College, *Transcript of evidence*, Pyramid Hill, 2 November 2011, 2.

Participating students spend one day a week in an agriculture-related placement and also study agricultural science, geography and the Certificate II in Agriculture.²⁸⁶

The program was cited by a number of stakeholders as being an example of a successful school-industry partnership. For example, the Mansfield Shire Council submitted:

The program relies heavily upon the cooperation of the farming sector, with farmers acting as workplace mentors for the students. It is a wonderful example of industry working side by side with education for meaningful outcomes.²⁸⁷

The Victorian Parliament's Rural and Regional Committee also highlighted the success of the Mansfield Secondary College agribusiness program in its 2012 report, *Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce*. The Rural and Regional Committee recommended that it be used as a model for other schools to adopt.²⁸⁸

The program has led to an increase in the number of students at the College choosing to subsequently enter into agricultural School-based Apprenticeships and Traineeships.²⁸⁹ Mansfield Secondary College also won a National Australia Bank Schools First award and an excellence award from DEECD for its school-industry partnership programs.

Tyrell College

Tyrell College, a government school in Sea Lake, has developed an award-winning agricultural partnership program with a local grain storage company and an agronomic consultancy.

The students, with assistance from the industry partners, have established a cropping program on 80 hectares of land. Local farmers also provide seed, chemicals, technology and heavy machinery, such as tractors, seeders and spray units, to assist the students. These partnerships provide the students with the opportunity to work with local experts and gain knowledge, skills and practical experience in agronomy and agriculture.²⁹⁰ The College won the 2011 national award in the National Australia Bank Schools First program in recognition of the success of the school and community partnership.

Mr Anthony Hand, the Principal of Tyrell College, informed the Committee that since the introduction of the program, student numbers in VET agriculture have increased considerably, with the program being at its capacity of twenty students. The College has also reintroduced VCE Agricultural and Horticultural Studies into the curriculum because of student demand. Mr Hand noted that there were benefits for both the students and the industry through their involvement in the program:

The benefits for the students are very clear — they get first-hand and hands-on knowledge of the complete farming experience ... The industry benefits are possibly not as obvious, but they are certainly receiving very good publicity ... through our school community ... The other, long term benefits are that they are hopefully attracting people to their line of work. It is common

²⁸⁶ Ms Julie Aldous, Agribusiness Coordinator, Mansfield Secondary College, *Submission 25*, appendix B.

²⁸⁷ Mansfield Shire Council, *Submission 45*, 2. See also Goulburn Ovens Institute of TAFE, *Submission 91*, 8; Australian Beef Industry Foundation, *Submission 96*, 2.

²⁸⁸ Rural and Regional Committee, Parliament of Victoria, *Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce* (2012), xxv.

²⁸⁹ Ms Julie Aldous, *Submission 25*, above n 286, appendix A.

²⁹⁰ NAB Schools First, *School: Tyrell College (VIC); Partner: AWB Grainflow (Cargill) Sea Lake; Title of the project: Dynamic Agriculture*, <<http://www.schoolsfirst.edu.au/sf-2011-winners/tyrell-college.phps>> viewed 11 February 2012.

knowledge that there are not enough workers in the Agricultural Sector, especially Agronomists and the like, and I am sure that they are hoping that some of this will come back to them in kind by being able to support and then attract quality applicants to their positions, especially those who already know the benefits of living in small rural communities.²⁹¹

The Gateway to Industry Schools Program

The Gateway to Industry Schools Program, which is currently operating in Queensland, was highlighted as a potential model for adoption in Victoria. The Queensland Government has developed the Gateway to Industry Schools Program to expose students to careers within a number of key sectors in that state. The program includes an agribusiness stream, developed in partnership with AgriFood Skills Australia, in which 16 high schools are participating.²⁹²

The program aims to provide participating schools and students with a curriculum related to the industry, access to contemporary industry facilities, professional development for teachers, development of industry and school partnerships and greater career awareness.²⁹³

In its submission to the Inquiry, AgriFood Skills Australia, the key body on skills and workforce development for the Australian agrifood industry, offered to work with the Victorian Government to explore options to establish a similar program in Victoria. AgriFood Skills Australia outlined a number of benefits of such a program for Victoria. These include:

- encouraging meaningful collaboration between schools, VET, higher education providers and industry to promote the diversity of career opportunities for young people in Victoria's primary industry sector
- generating a range of agribusiness-related curriculum activities inside and outside the classroom to be shared across participating schools both within Victoria and in other states
- removing the outdated stereotypical image of the agrifood industry and promoting the technical and highly sophisticated job roles in agriculture such as animal pathologists, geneticists and soil scientists.²⁹⁴

3.4.3 Enhancing agricultural education programs in Victorian schools – The Committee's view

Agricultural education programs assist schools and teachers to deliver agriculture in the curriculum. Although there are a number of excellent programs operating in Victoria, the Committee believes there is an opportunity to enhance their provision in Victorian primary and secondary schools.

The Committee believes that greater recognition and support should be provided to successful agricultural education programs such as Picasso Cows, Cows Create Careers and the Stephanie Alexander Kitchen Garden Program. These programs have

²⁹¹ Email from Principal, Tyrrell College, to Executive Officer, Victorian Parliament Education and Training Committee, 25 June 2012.

²⁹² Department of Employment, Economic Development and Innovation (Queensland), *Submission 73*, 4.

²⁹³ Skills Queensland, *Gateway to industry schools program: Project report (2010)*, 8. Available at <<http://www.gatewayschools.qld.gov.au/resources/pdf/gateway-schools-project-report-2010.pdf>> viewed 28 August 2012.

²⁹⁴ AgriFood Skills Australia, *Submission 51*, 7.

been effective in engaging students with agricultural education in a hands-on manner. These programs are well established and have a high profile amongst schools and the community and it is vital for the future of agricultural education that these programs continue to be offered and promoted throughout Victoria.

These programs are successful because the sponsoring organisations have devoted significant resources to developing an educational product that meets the needs of both students and teachers. The Committee notes that many industries within the agriculture sector do not have the available resources to develop and deliver a comprehensive agricultural education program to schools. The Committee believes that these industries should support existing successful initiatives that focus on developing high quality agricultural teacher resources and teacher professional learning. This issue is discussed in chapter four.

The Committee also considers it would be desirable to introduce the PICSE program into Victoria. The Committee notes that Victoria is the only state in Australia where the program is not currently operating. PICSE focuses on attracting high-achieving science students into primary industries science careers and it appears to be achieving results.

The Committee notes that there are some excellent agricultural education and training initiatives operating in schools across Victoria. The Committee believes that it is important to recognise and reward the efforts of students, teachers, schools and industry partners involved in these programs. Accordingly, the Committee recommends that the Victorian Government sponsor awards that recognise and celebrate the achievements of all involved in innovative school-based agricultural education and training programs.

Finally, the Committee notes that there is an increasing emphasis on school partnerships with industry and the community to deliver positive educational outcomes. These programs are particularly useful for providing students with an opportunity to see the agriculture sector in operation and make use of the expertise and resources within rural and regional communities across Victoria.

The Committee considers that the Victorian Government should promote opportunities for partnerships between schools and the agriculture sector, with programs such as those running at Tyrell College, Mansfield College and the Gateways 4 Sustainable Communities program providing examples of best practice. The Committee recommends that the Victorian Government compile case studies of these successful programs as a means of promoting them to other Victorian schools, as well as to the agriculture sector.

The Committee also considers that there is merit in investigating the opportunity to partner with AgriFood Skills Australia to pilot an agribusiness gateway to industry schools program in selected Victorian schools.

Recommendation 12: Supporting established school agricultural education programs

That the Victorian Government:

- support and promote established agricultural education programs that provide students with an understanding of where their food and fibre comes from and the available careers within agriculture
- recognise excellence in school agricultural education and training through awards to teachers, schools and industry partners
- support the expansion of the Primary Industry Centre for Science Education program into Victoria.

Recommendation 13: Promoting school partnerships with the agriculture sector

That the Victorian Government:

- compile case studies of successful agricultural school-industry partnerships operating in Victorian schools
- promote opportunities for schools to work with local farmers and industries within the agriculture sector to provide students with hands-on agricultural experience and access to expert information and advice
- investigate partnering with AgriFood Skills Australia to introduce an agribusiness gateway to industry schools program in Victoria.

3.5 Agricultural high schools

This section explores the agricultural high schools operating in some Australian states, and highlights those schools in Victoria which have been awarded grants to specialise in agriculture.

3.5.1 Agricultural high schools in other Australian jurisdictions

Several Australian states have agricultural high schools that specialise in providing students with a well-rounded agricultural education experience. Most of these agricultural high schools have a long history of delivering agricultural education in their respective jurisdictions.

Agricultural high schools offer an alternative approach to agricultural education and training in the mainstream curriculum. The agricultural high schools operating in New South Wales, Western Australia and South Australia were highly regarded by many participants in this Inquiry. The agriculture high schools in each of these states are discussed briefly below.

Western Australia

Western Australia has five residential agricultural colleges that offer programs for Year 10, 11 and 12 students. The colleges are located on commercial-sized farms and they offer a blend of general education and vocational training.²⁹⁵

Admission to these schools is by selection and students must demonstrate a desire for a career in rural or allied industries as part of the selection criteria.²⁹⁶

Enrolment levels at the residential agricultural colleges have increased over the past decade.²⁹⁷ The submission by the Western Australian Department of Education notes, 'The programs at the five residential agricultural colleges are more expensive to deliver than normal senior high school programs but are achieving excellent outcomes.'²⁹⁸

The Victorian Parliament's Rural and Regional Committee visited one of these residential agricultural colleges, Cunderdin, as part of its Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce and that Committee's report contains a detailed case study on the college.²⁹⁹

New South Wales

New South Wales has four selective agricultural high schools. The two metropolitan schools, James Ruse Agricultural High School and Hurlstone Agricultural High School, focus more heavily on the scientific aspects of agriculture, whereas the two regionally based schools, Farrer Memorial Agricultural High School and Yanco Agricultural High School, have a stronger focus on vocational education.³⁰⁰ Agriculture is a compulsory subject for students in Years 7 to 10 and an elective in the senior secondary years in all four schools.³⁰¹

Farrer Memorial Agricultural High School made a submission to the Inquiry that outlined some of the school's achievements:

[Farrer] has been acknowledged in the 2007 State Training Awards and with a number of staff gaining national and state awards for excellence. The school has an extensive curriculum offering with a number of school developed NSW Board of studies Board Endorsed Courses in addition to the Agriculture and Primary Industries courses.³⁰²

As these high schools are selective schools, students seeking to enter at the Year 7 level must compete academically with all other candidates.³⁰³ Individual schools are responsible for filling vacancies that occur in Year 8 to 11.³⁰⁴

²⁹⁵ Department of Education (Western Australia), *Submission 10*, 1, 3.

²⁹⁶ Department of Education (Western Australia), *Western Australian College of Agriculture – Admission*, <<http://www.det.wa.edu.au/wacoa/detcms/navigation/admission/?oid=Article-id-11425918>> viewed 4 May 2012.

²⁹⁷ Department of Education (Western Australia), *Submission 10*, 2.

²⁹⁸ *ibid.*, 1.

²⁹⁹ Rural and Regional Committee, above n 288, 77-78.

³⁰⁰ Farrer Memorial Agricultural High School, *Submission 6*, 2. See also NSW Association of Agriculture Teachers, *Submission 7*, 2.

³⁰¹ Mal Peters, *Hurlstone inquiry*, report for Department of Education and Training (NSW) (2009), 21, 25-26, 30.

³⁰² Farrer Memorial Agricultural High School, *Submission 6*, 2. See also NSW Association of Agriculture Teachers, *Submission 7*, 2.

³⁰³ NSW Public Schools, *Criteria for entry*, <http://www.schools.nsw.edu.au/learning/k-6assessments/shsplacement/ss_criteria.php> viewed 23 May 2012.

³⁰⁴ NSW Public Schools, *Selective high schools years 8–12 placement*, <http://www.schools.nsw.edu.au/learning/7-12assessments/selective8_12.php> viewed 4 October 2012.

South Australia

South Australia has a number of specialist agricultural high schools, the most well-known being Urrbrae Agricultural High School. Urrbrae is based in metropolitan Adelaide and has approximately 46 hectares of land holdings.³⁰⁵

Urrbrae is a special entry school and applicants to the school must demonstrate an interest in and commitment to agriculture, the environment and/or technology.³⁰⁶

The curriculum at Urrbrae focuses on agriculture, technology and the environment and these subjects are integrated across the school's curriculum.³⁰⁷ Agriculture is compulsory for all students in Years 8 and 9.³⁰⁸

3.5.2 Victoria's specialist high schools

Victoria established a number of agricultural high schools in the early 1900s. However, these only operated as agricultural high schools for a short period of time before becoming district high schools.³⁰⁹ Much of the farming land associated with these schools was either sold off at the time of this change or became recreational land.³¹⁰

In 2011 the Victorian Government committed \$2.5 million over four years to allow 25 government primary and secondary schools to specialise in a field of their choice.³¹¹ Two schools are currently specialising in agriculture under this program, namely Kaniva College and Murrayville Community College.³¹² Case study five provides a snapshot of the agriculture program at Kaniva College. DEECD informed the Committee that the intent of the agriculture specialisations at Kaniva College and Murrayville Community College are not directly comparable to interstate agricultural high schools and that there were no plans for either school to operate under the model of interstate agricultural high schools.³¹³

³⁰⁵ Mal Peters, above n 301, 23.

³⁰⁶ Urrbrae Agricultural High School, *Enrolment at Urrbrae*, <http://www.urrbraehs.sa.edu.au/entry/uahs_entry.htm> viewed 23 May 2012.

³⁰⁷ Department of Education and Children's Services (South Australia), *Submission 37*, 1.

³⁰⁸ Urrbrae Agricultural High School, *Middle school*, <http://www.urrbraehs.sa.edu.au/course_information/middle/middle.htm> viewed 23 May 2012.

³⁰⁹ Rodney Martin, *The Victorian agricultural high schools: Origins, development and failure: with special reference to Ballarat, Sale, Shepparton and Wangaratta agricultural high schools Masters coursework thesis, The University of Melbourne, (1977)*, 138-139. Available at <http://dtl.unimelb.edu.au/R/28JA4LS21XQ3I5TCXN5V2YVXRUA8XJSLEDHNL5C17BNLSJ3II-01027?func=dbin-jump-full&object_id=253980&local_base=GEN01&pds_handle=GUEST> viewed 13 August 2012.

³¹⁰ *ibid.*, 138.

³¹¹ Minister for Education (Victoria), *Coalition Government investing in school specialisation and diversity* (Media release, 3 May 2012).

³¹² Jewel Topsfield, 'State schools to offer more choice', *The Age*, 26 December 2011, 3. Available at <<http://www.theage.com.au/victoria/state-schools-to-offer-more-choice-20111225-1p9m9.html>> viewed 4 May 2012.

³¹³ Letter from Minister for Education (Victoria) and Minister for Higher Education and Skills (Victoria), to Chair, Victorian Parliament Education and Training Committee, 12 September 2012, 2.

Case study 5: The agriculture program at Kaniva College³¹⁴

The agriculture program at Kaniva College has a strong focus on environmental sustainability and the school recognises that sustainable farming is vital to the future of its community.

Agriculture is integrated into the curriculum for students from Prep to Year 10. Senior secondary students are encouraged to undertake school-based apprenticeships with local farmers and those students undertaking VCAL are given the responsibility of managing the school's farm.

The agricultural programs and facilities at the College include:

- a wetland area that is used to study biodiversity as part of the science and agriculture curriculum
- leased farmland that is used to raise animals and grow vegetables and native trees
- the Kaniva Chicks program, which allows Year 8 students to use locally grown chickpeas to prepare and market their own snack food
- participation in the Cows Create Careers program.

As part of the school specialisation grant, the school plans to expand these existing resources and programs.



Kaniva College students maintaining their vegetable garden.

³¹⁴ Kaniva College, above n 201.

The Australian Government has also established the Empowering Local Schools initiative which provides grants to schools to assist them to make decisions at a local level and meet the needs of their students and the local community.³¹⁵ DEECD informed the Committee that three Victorian schools, namely Timboon P-12 School, Euroa Secondary College and Chaffey Secondary College in Mildura, had received grants under this program to pursue specialities in agriculture.³¹⁶

3.5.3 An agricultural high school for Victoria?

Agricultural high schools were identified by many participants as being best practice models of agricultural education.³¹⁷ Some stakeholders also recommended that Victoria establish an agricultural high school, modelled on the interstate examples discussed in section 3.5.1. For example, Professor Richard Roush, the Dean of MSLE at The University of Melbourne, submitted:

after having toured Urrbrae Agricultural High School in Adelaide ... I came away with the strong impression that without any specialist agricultural high schools, Victoria is at a major disadvantage for both agricultural education and Farm Sector Workforce ... What I realized in meeting with the high school ag teachers is that a specialist high school provides a focal point and base of support for ag teaching across the entire state. It also generates a strong base of vocationally well trained students. Ag high schools don't yet seem to really generate a significant stream of students to Universities, which means they may not have a direct impact on my University School, but there are steps we can take to improve this, and in any case, the impact on key rural skills is significant.³¹⁸

The Committee considers that the agricultural high schools operating interstate provide students with an excellent exposure to agricultural education and training and provide a strong pathway for students within those states seeking to pursue a career in agriculture. The Committee notes that the Rural and Regional Committee recommended that the Victorian Government do a costing study on the introduction of agricultural high schools in Victoria, based on the model currently operating in Western Australia.³¹⁹

The Committee believes a cost effectiveness analysis would be beneficial and supports the Rural and Regional Committee's recommendation. The Committee also considers that Victoria's new specialisation model will provide more students the opportunity to engage with agriculture. However, the Committee wishes to stress that it believes the priority in allocating scarce financial resources should be in improving the agricultural literacy of all students in Victorian schools (see recommendations 7 and 8) and supporting existing schools throughout the state to deliver high quality agricultural education programs (see recommendations 9, 12, 13, 16, 17, 18, 20, 21 and 22).

³¹⁵ Department of Education, Employment and Workplace Relations (Australia), *Empowering local schools*, <<http://www.deewr.gov.au/Schooling/Pages/EmpoweringLocalSchools.aspx>> viewed 13 September 2012.

³¹⁶ Letter from Minister for Education and Minister for Higher Education and Skills, above n 313, 2.

³¹⁷ Department of Education and Children's Services (South Australia), *Submission 37*, 1; Mr Greg Laidlaw, Rural and Workforce Development Officer, Moira Shire Council, *Submission 35*, 1, 3-4; VFF, *Submission 64*, 3; MSLE, *Supplementary submission 69A*; Farrer Memorial Agricultural High School, *Submission 6*, 2; NSW Association of Agriculture Teachers, *Submission 7*, 2.

³¹⁸ MSLE, *Supplementary submission 69A*. See also VFF, *Submission 64*, 3.

³¹⁹ Rural and Regional Committee, above n 288, 76.

Chapter 4: Education, training and support for Victorian school teachers

Key findings

- Teachers are vital to the success of agricultural education in schools. Teachers also play a key role in influencing students' attitudes towards agriculture.
- There is anecdotal evidence of a shortage of specialist agriculture teachers in Victoria.
- There are limited training options for pre-service teachers wishing to become agriculture teachers in Victoria and there would be benefit in exploring opportunities to expand these.
- There are few opportunities for teachers to access professional learning activities in relation to agricultural education. There is a need to provide and promote increased professional learning activities in this area and to support teachers to attend.
- A range of high quality teaching resources are available to assist teachers to incorporate agriculture as a context in the mainstream curriculum. These resources need to be better promoted and coordinated to ensure wider use.
- The LandLearn program was well-regarded for its role in providing Victorian teachers with teaching resources and professional learning on the primary industries. There would be benefit in reintroducing this program or an equivalent program.
- School farms help to enhance student engagement in agricultural education. There is a need to support schools to maintain existing farms and agricultural facilities and to encourage schools to link with local farmers and industry.
- Animal ethics requirements for schools should be streamlined where possible and schools need to be provided with better information to help them meet these requirements.

Education, training and support for Victorian school teachers

This chapter focuses on teachers and the education, training and support they require to deliver quality agricultural education in Victorian schools.

4.1 Why teachers matter

Many Inquiry participants identified teachers as the key to the success of agricultural education in schools. For example, Mr Ron Paynter, a member of the Victorian Farmers Federation's Warragul Branch, stated:

Sometimes the best advocate in secondary schools — those schools that do have agriculture programs — is a passionate agriculture teacher in a program, if there is one. Often they will fire an enthusiasm and open the eyes of the kids to the grander possibilities that are certainly there in the industry.³²⁰

The Committee met with a number of dedicated and enthusiastic agriculture teachers and it was evident that their championing of agriculture had played a vital role in increasing student interest in the subject. For example, Mr Graham Trimble, an agriculture teacher at the North Central Cluster Centre in Charlton, which offers vocational education and training, Victorian Certificate of Applied Learning and technology subjects to students from seven secondary colleges in north central Victoria, submitted:

After just five months, during 2011, I have lifted the student numbers opting to study Agriculture/Horticulture, at the NORTH CENTRAL CLUSTER CENTRE – CHARLTON, Victoria, from 57 (fifty seven) to 92 (ninety two). Really, all I brought to Charlton and its Seven Feeder Secondary Colleges, was ENTHUSIASM.³²¹

While there was a strong focus on the importance of schools having a dedicated agriculture teacher, the Primary Industries Education Foundation (PIEF), a not-for-profit organisation responsible for promoting primary industries education across Australia, also emphasised the need for teachers from related disciplines to be aware of the opportunities within the agriculture sector and feel confident to incorporate agricultural education into their teaching.³²²

³²⁰ Mr Ron Paynter, Branch member, Warragul Branch, Victorian Farmers Federation (VFF), *Transcript of evidence*, Ellinbank, 14 February 2012, 8. See also Ms Amy Cosby, *Submission 93*, 2; Victorian Association of Agricultural and Horticultural Educators (VAAHE), *Submission 87*, 5; Mr Phil Brown, Executive Officer, Country Education Project, *Transcript of evidence*, Melbourne, 6 March 2012, 2.

³²¹ Mr Graham Trimble, Agriculture teacher, North Central Cluster Centre–Charlton, *Submission 34*, 1.

³²² Mr Ben Stockwin, Executive Manager, Primary Industries Education Foundation, *Transcript of evidence*, Canberra, 20 March 2012, 5-6.

4.2 The demand for agriculture teachers in schools

Several stakeholders told the Committee that there is a shortage of qualified agriculture teachers in secondary schools in Victoria.³²³

The Victorian Association of Agricultural and Horticultural Educators (VAAHE), the state professional association for school agricultural educators, submitted, 'There is a massive shortage of qualified Agriculture and Horticulture teachers across the state of Victoria and probably across Australia. Of those that are still teaching, many will soon reach retirement age and when they retire they leave a "gap".'³²⁴ Mr John Firth, the Chief Executive Officer of the Victorian Curriculum and Assessment Authority (VCAA), a statutory body which administers Victoria's curriculum frameworks, also acknowledged that there is potentially a problem with respect to a shortage of agriculture teachers in Victoria.³²⁵

The Victorian Government does not register teachers according to their specialist areas and accordingly there is no means to measure whether there is a shortage of agriculture teachers across Victoria or in a specific geographic area.³²⁶

VAAHE identified that schools need to succession plan to ensure that agricultural education programs are not lost when an agriculture teacher leaves or retires.³²⁷ Mr Tim Harper, the Principal of Elisabeth Murdoch College, a government secondary school in Langwarrin, told the Committee that his school has begun making plans for the future of its agriculture program:

If Andrew [current teacher] walked out of that gate and said, 'Look, I have had enough ...', I would think that in 12 months that program would be dead and gone ... We have been in conversation over an extended period about how we put into place a succession plan that is going to be workable in the medium term.³²⁸

Similarly, Mr Trimble of the North Central Cluster Centre observed, 'It is through the lack of succession planning that agricultural education, educators and administrators allow the thing to die.'³²⁹

Stakeholders attributed the shortage of agriculture teachers to the ageing of the existing workforce and the lack of training pathways for pre-service teachers wishing to specialise in agriculture in Victoria.

In the previous chapter the Committee highlighted the many benefits associated with students learning about agriculture at school. The Committee is therefore concerned by the anecdotal evidence of an agriculture teacher shortage in Victoria. It is vital that there

³²³ Dr Alan Ford, Agriculture and horticulture teacher, Ballarat and Queen's Anglican Grammar School, *Transcript of evidence*, Melbourne, 7 November 2011, 5; Mr Phil Brown, above n 320, 2; VFF, *Submission 64*, 10; Ms Ann Fagan, Consultant, agricultural and environmental education, *Transcript of evidence*, Shepparton, 3 November 2011, 4.

³²⁴ VAAHE, *Submission 87*, 4.

³²⁵ Mr John Firth, Chief Executive Officer, Victorian Curriculum and Assessment Authority, *Transcript of evidence*, Melbourne, 24 October 2011, 5.

³²⁶ Letter from Minister for Education (Victoria) and Minister for Higher Education and Skills (Victoria), to Chair, Victorian Parliament Education and Training Committee, 12 September 2012, 2.

³²⁷ VAAHE, *Submission 87*, 5.

³²⁸ Mr Tim Harper, Principal, Elisabeth Murdoch College, *Transcript of evidence*, Langwarrin, 13 February 2012, 6.

³²⁹ Mr Graham Trimble, Agriculture teacher, North Central Cluster Centre—Charlton, *Transcript of evidence*, Horsham, 29 November 2011, 6.

is an adequate supply of qualified agriculture teachers to allow the subject to be offered in schools.

The Committee believes that its recommendations in section 4.3.1 below with respect to increasing the training pathways available in Victoria for pre-service teachers to specialise in agriculture will help to address this issue. The Committee also believes it is important that schools with existing agricultural education programs put in place a succession plan to ensure the future viability of these programs.

4.3 Teacher training and professional learning

This section considers what training is available to Victorian teachers at the pre-service and in-service levels. Consideration is given to the training and professional learning required to teach agriculture as a specialist subject and to enable agriculture to be incorporated into the broader curriculum. This section also considers how current training and professional learning offerings can be improved.

4.3.1 Pre-service teacher training

Pre-service teacher training requirements are in a state of transition, with a move to nationally consistent standards. Currently, to register as a teacher in Victoria, applicants must hold an approved qualification and most entrants into teaching complete either an approved four year teaching qualification or four years of higher education study, including at least one year of an approved teaching qualification.³³⁰

However, under the new national standards, graduate entry initial teacher education programs must be a minimum of two years full-time equivalent. From 2017, Victorian higher education providers will only offer two-year graduate entry initial teacher education programs.³³¹

This section explores the pre-service teacher training available for those students seeking to become specialist agriculture teachers and looks briefly at the training provided to all pre-service teachers with respect to agricultural education. It also examines how pre-service teacher training could provide more agricultural education opportunities.

Training as a specialist agriculture teacher

Agriculture is a specialist area of teaching. The Victorian Institute of Teaching, which is responsible for the regulation of the teaching profession in Victoria, has developed Specialist Area Guidelines which outline the minimum level of study within a specific discipline needed to teach in specialist areas in Victorian schools.³³² There is no requirement for schools to insist that teachers comply with the Guidelines in order to teach in particular areas.³³³

³³⁰ Victorian Institute of Teaching, *Qualification for teacher registration 2012 – Qualification policy* (2012).

³³¹ Victorian Institute of Teaching, *Approved teacher education programs*, <<http://www.vit.vic.edu.au/finditfast/Teacher-education-programs/Pages/Approvedteachereducationprograms.aspx>> viewed 28 August 2012, 1.

³³² Victorian Institute of Teaching, *Victorian Institute of Teaching – Specialist area guidelines* (2008). Available at <http://www.vit.vic.edu.au/SiteCollectionDocuments/PDF/1672_Specialist-Area-Guidelines-Nov08.pdf> viewed 15 August 2012.

³³³ *ibid.*, 1.

The minimum requirements for teachers wishing to specialise in agriculture are described in the technology studies section of the Guidelines. These provide that technology teachers (including agriculture teachers) must hold:

- one year of study in technology studies which includes studies in a range of materials and systems
- one of the following:
 - a sub-major study in the specialist area
 - an industry or VET qualification equivalent to certificate IV or higher in the specialist area
 - a certificate of proficiency in a relevant trade area.³³⁴

Secondary teachers are also required to complete a method subject where they are expected to develop a sound understanding of the curriculum, assessment and pedagogy of the specialist area they will be teaching.³³⁵ Agriculture is not offered as a method within any approved teacher education programs in Victoria. However, there are a number of providers that offer technology studies as a method.

The Victorian Institute of Teaching informed the Committee that pre-service teachers who have the required background in the area of agriculture and wish to teach agriculture upon graduation, study the technology studies method to specialise in agriculture.³³⁶

Stakeholders expressed concern about the lack of available pre-service training for students seeking to become agriculture teachers in Victoria. In particular, VAAHE and former agriculture teacher, Mr Bill Dullard, recommended that an agriculture method be made available to students in graduate entry initial teacher education programs in Victoria.³³⁷ However, Mr Firth of VCAA stated that he was not sure that a method was needed in Victoria.³³⁸

Some interstate universities offer training for pre-service teachers seeking to specialise in agriculture. Charles Sturt University and the University of New England were identified by the NSW Association of Agriculture Teachers as examples of institutions that train agriculture teachers.³³⁹ For instance, the University of New England offers students enrolled in the Graduate Diploma in Education the ability to undertake an agriculture method if their undergraduate degree is in a related area.

Exposure to agricultural education for all pre-service teachers

The Committee did not receive evidence about the extent to which agricultural education is currently included in the general syllabus of pre-service teacher training courses in Victoria. However, PIEF recently commissioned a survey about student and teacher

³³⁴ *ibid.*, 6.

³³⁵ Letter from Chief Executive Officer, Victorian Institute of Teaching, to Chair, Victorian Parliament Education and Training Committee, 13 August 2012, 1.

³³⁶ *ibid.*, 1.

³³⁷ Mr Bill Dullard, *Submission 23*, 1; VAAHE, *Submission 87*, 7.

³³⁸ Mr John Firth, above n 325, 5.

³³⁹ NSW Association of Agriculture Teachers, *Submission 7*, 2. See also Farrer Memorial Agricultural High School, *Submission 6*, 2.

knowledge of the primary industries, which found that very few of the teachers surveyed studied subjects related to primary industries while they were at university.³⁴⁰

LandLearn, an agricultural education program for primary and secondary schools formerly run by the Department of Primary Industries, was involved in delivering professional development to student teachers in Victoria. An evaluation of the LandLearn program found that this training provided a useful method for engaging with future teachers and led to repeated contact from the student teachers seeking LandLearn activities for use in the classroom.³⁴¹

Mr Firth of VCAA suggested it would be beneficial for trainee teachers from relevant disciplines to have links to schools with established agricultural education programs to provide them with a greater exposure to this area:

I think one thing we could look to do is to strengthen those links between the education faculties, people who are providing the teacher training, and those schools that offer agriculture and horticulture, so that more students in that year of training are exposed to those programs.³⁴²

Improving pre-service teacher training – The Committee’s view

To sustain quality agricultural education in Victorian schools it is necessary to have an adequate supply of qualified agriculture teachers. The Committee is concerned about the lack of pathways for pre-service teachers in Victoria to specialise in agriculture.

The Committee encourages the Victorian Government to work with higher education providers to explore the viability of introducing an agriculture method into teaching courses. Those higher education providers that have existing expertise in agriculture and who offer teaching courses would appear best-placed to offer this option. If such a method were introduced in Victoria, the Committee considers it would be worthwhile for the Victorian Government to introduce incentives such as scholarships to attract student interest in this area.

The Committee also considers that it would be beneficial to increase the exposure of all student teachers to agricultural education. The Committee believes that the work previously undertaken by LandLearn to provide professional learning to student teachers provided a valuable introduction to agricultural education for the future teaching workforce. The Committee believes this professional learning should be reintroduced for pre-service teachers. Further, the Committee considers that there would be benefit in encouraging pre-service teachers from relevant disciplines to undertake teacher training placements in schools with established agricultural education programs.

³⁴⁰ Australian Council for Educational Research, *Food, fibre and the future: Report on surveys of students’ and teachers’ knowledge and understanding of primary industries*, report for Primary Industries Education Foundation (2011), 22.

³⁴¹ Department of Primary Industries (Victoria), *Participatory performance story report: LandLearn 2005 to 2010* (2010), 15.

³⁴² Mr John Firth, above n 325, 5.

Recommendation 14: Increasing the opportunities for pre-service teachers to study agricultural education

That the Victorian Government:

- work with higher education providers that offer both agricultural and teaching qualifications to explore the possibility of introducing an agriculture method into their teaching courses
- provide scholarships to attract students into studying an agriculture method as part of their teaching courses
- provide learning on agricultural education for all pre-service teachers
- provide increased opportunities for pre-service teachers to work in schools with an agricultural focus as part of their teaching placements.

4.3.2 Teacher professional learning

Professional learning is a key way that in-service teachers enhance their skills and knowledge. There appears to be limited professional learning activities with an agriculture focus available to Victorian teachers.

Professional learning for agriculture teachers

VAAHE is the primary provider of professional learning for agriculture teachers in Victoria. It delivers professional learning to Victorian teachers by offering workshops throughout the year and holding an annual state conference. A representative of the Committee attended VAAHE's 2011 conference and found it extremely valuable.

Mr Andrew Cosby, the President of VAAHE, noted that the Association's reliance on volunteers means it is limited in the amount of professional learning activities that can be offered:

It is really the two days, and if we have enough energy, maybe another one-day workshop throughout the year for the ag. teachers ... We do not have someone sitting in an office in Melbourne or somewhere coming up and creating all the workshops and organising it. It comes from us, who are already full-time teachers and on top of that trying to organise the conference. We do not have any support from that level at all — no funding at all. We are self-funded. We are people who are passionate about what we do, but where we are now, I am wearing out.³⁴³

The level of support provided to VAAHE is discussed in more detail in section 4.4.2 below.

Mr Cosby also noted that teachers can face difficulties accessing professional learning opportunities due to the cost to the school of providing casual relief teachers.³⁴⁴

Professional learning in agriculture for teachers across the curriculum

A number of participants emphasised that teachers without a background in agriculture need support to strengthen their content knowledge of agriculture. Mr Ben Stockwin, the

³⁴³ Mr Andrew Cosby, President, VAAHE and agriculture and horticulture teacher, Elisabeth Murdoch College, *Transcript of evidence*, Melbourne, 7 November 2011, 7.

³⁴⁴ *ibid.*, 7.

Executive Manager of PIEF, explained that teachers are unlikely to use agriculture as a context in other subjects unless they feel confident teaching it:

Professional learning is absolutely crucial to supplement any kind of resource development. It is one thing to have hundreds of resources available that are easy to find on a website, but unless teachers know how to deliver that and have a basic understanding of the concepts behind it, they either will not teach it, they will teach it poorly, or they will fall back on their own bias that they have picked up through the media or through other means and so on.³⁴⁵

Ms Ann Fagan, an educational consultant, also noted that teacher professional learning helps to assist the uptake of teaching resources:

Teachers are often more inclined to use that material if they have had professional development and training around it rather than just having something arrive in the post or by an alert via the internet or whatever.³⁴⁶

Mr Joe Mazzarella, Principal of Pyramid Hill College, a government school in northern Victoria, stated, 'We need to have our teachers offered more professional development in the area of agriculture ... I think we could be seen to be doing more to support that in schools.'³⁴⁷

The Committee's research found that there are only a handful of professional learning activities operating within Victoria that assist teachers to incorporate agriculture into the broader curriculum. For example, Dairy Australia, the national services body for the dairy industry, provides a professional learning workshop for secondary school teachers who participate in the Camembert in the Classroom program.³⁴⁸

There are several professional learning programs that have the potential to be delivered in Victoria. The Primary Industry Centre for Science Education (PICSE) provides professional learning activities for science teachers to champion the primary industries as a means of engaging science students. PIEF is also exploring models to deliver professional learning to teachers and has conducted a pilot professional learning workshop.³⁴⁹

A number of participants highlighted the benefits of the LandLearn program, which promoted teaching about sustainable agriculture in the curriculum by providing teachers with professional development, curriculum support materials and a regular newsletter.³⁵⁰ LandLearn's role in developing curriculum resources is discussed further below in section 4.4.3.

An evaluation of the LandLearn program for the period 2005 to 2009 identified LandLearn was a credible and sought after professional development program for teachers across the state.³⁵¹ A representative from the Department of Primary Industries told the Committee that LandLearn was a 'good program but the reality is that after 16

³⁴⁵ Mr Ben Stockwin, above n 322, 5.

³⁴⁶ Ms Ann Fagan, above n 323, 2-3.

³⁴⁷ Mr Joe Mazzarella, Principal, Pyramid Hill College, *Transcript of evidence*, Pyramid Hill, 2 November 2011, 8.

³⁴⁸ Dairy Australia, *Camembert in the classroom module: Teacher & Year 9–11 student handbook* (n.d.), 2. Available at <<http://www.dairyaustralia.com.au/~media/Documents/Education-and-careers/Secondary-schools/CCC%20-%202012/Camembert%20Teacher%20%20Student%20Handbook%20Year%209-11%20LR%202012.ashx>> viewed 28 May 2012.

³⁴⁹ Primary Industries Education Foundation, *Annual report 2010–11* (2011), 3.

³⁵⁰ Joint submission of Dairy Industry People Development Council (DIPDC) and Dairy Australia, *Submission 89*, 21; Country Education Project, *Submission 100*, 5; Ms Gaye Whitehead, Agriculture and horticulture teacher, Catholic College Bendigo, *Transcript of evidence*, Melbourne, 7 November 2011, 7; Ms Ann Fagan, *Submission 48*, 1; Department of Primary Industries (NSW), *Submission 101*, 2.

³⁵¹ Department of Primary Industries, above n 341, 15.

years we thought we have the core material up there and we are looking at other ways of being involved in training and education'.³⁵² The program was discontinued in 2011.

Ms Fagan, who formerly coordinated the LandLearn program, submitted that it was important that Victoria have a program such as LandLearn:

A schools-focussed program such as LandLearn is necessary to provide the promotion and support, teacher professional learning and curriculum-based resources to encourage inclusion of agriculture based learning within the Victorian Essential Learning Standards.³⁵³

The joint submission by the Dairy Industry People Development Council and Dairy Australia on behalf of the Victorian dairy industry called on the Victorian Government to support the LandLearn program and enhance its resourcing of the program.³⁵⁴

Professional learning for 'out of field' agriculture teachers

There is no requirement for schools to insist that teachers comply with the Victorian Institute of Teaching's Guidelines in order to teach in specialist areas.³⁵⁵ In reality, it may be necessary for a teacher from a related discipline to teach agriculture. Ms Fagan explained, 'A science teacher with an interest in agriculture is often the person who ends up teaching it in schools now.'³⁵⁶

The Committee observed that it can be desirable for a motivated teacher from a related field to take on agriculture studies in the absence of a specialist agriculture teacher. The Committee heard evidence from Mrs Seleena Nichols who, as a science teacher, took on the role of VCE Agriculture and Horticultural Studies teacher at Padua College, a Catholic secondary school in Mornington, and has been highly successful in attracting students into the subject. She told the Committee:

I originally was thrown in the deep end to teach agriculture and horticulture, I had an environmental science background and was a VCE biology teacher. I did not know the ag. hort. curriculum or what was involved. It was dwindling. We had a combined Year 11–12 class. It was not large enough to run as separate VCE subjects, and it was really on its way out of the college. I sort of jumped in there. I was thrown in the deep end, but when I started to get into it I really enjoyed the topics and the curriculum.³⁵⁷

VAAHE stated that its priority for agricultural education was to ensure there are well-trained teachers available and teachers who have a passion for the subject.³⁵⁸ The Committee considers that there would be benefit in supporting non-agriculture teachers with a passion for the subject to develop the necessary skills and knowledge to be effective agriculture teachers. The Committee considers that enhanced professional learning programs should be used to achieve this outcome.

Improving teacher professional learning – The Committee's view

The Committee considers that professional learning opportunities are important for agriculture teachers to enhance their skills and knowledge. These opportunities are also

³⁵² Mr Ron Harris, Executive Director, Farm Services Victoria, Department of Primary Industries (Victoria), *Transcript of evidence*, Melbourne, 24 October 2011, 8.

³⁵³ Ms Ann Fagan, *Submission 48*, 1.

³⁵⁴ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 21-22.

³⁵⁵ Victorian Institute of Teaching, above n 332, 1.

³⁵⁶ Ms Ann Fagan, above n 323, 4.

³⁵⁷ Mrs Seleena Nichols, Agriculture and horticulture teacher, Padua College, *Transcript of evidence*, Melbourne, 7 November 2011, 4.

³⁵⁸ Mr Andrew Cosby, above n 343, 3.

important for non-agriculture teachers to ensure that they have the confidence to incorporate agriculture as a context into the broader curriculum.

The Committee is concerned that there are currently limited agricultural professional learning opportunities available to teachers in Victoria. The Committee believes that the Victorian Government should support existing organisations, such as VAAHE, PICSE and PIEF, to deliver more of these activities in Victoria. The Committee also believes it is important that interested teachers are supported and encouraged to attend professional learning, for example by assisting with course fees and the costs of substitute teachers.

LandLearn previously played a key role in providing professional learning activities to teachers in relation to agriculture. The Committee is concerned that the discontinuation of this program has left a major gap in the support available to Victorian teachers, both in terms of professional learning and curriculum resources. Based on the evaluation of the program and stakeholder views, the Committee recommends that the Victorian Government reintroduce the LandLearn program or an equivalent program.

Recommendation 15: Agricultural professional learning for teachers

That the Victorian Government:

- support existing organisations such as the Victorian Association of Agricultural and Horticultural Educators, the Primary Industries Education Foundation and the Primary Industry Centre for Science Education to deliver more agricultural professional learning activities in Victoria
- support teachers to attend agricultural professional learning activities.

Recommendation 16: Reintroduce LandLearn

That the Victorian Government reintroduce the LandLearn program or an equivalent program.

4.4 Teaching resources

The availability of engaging and high quality teaching resources makes it easier for teachers to deliver agricultural education in schools. This section provides an overview of the range of available agricultural teaching resources and considers how these resources could be enhanced.

4.4.1 What makes an effective teaching resource?

There is no shortage of primary industries teaching resources available to teachers. PIEF's stocktake of primary industries educational activities identified approximately 1000 individual activities offered by 250 organisations across Australia.³⁵⁹

Despite this wealth of resources, PIEF identified that many of these resources have been unsuccessful in capturing the interest of teachers. Reasons for this include:

- the resources focused on promoting a particular industry as opposed to focusing on educational issues

³⁵⁹ Mr Ben Stockwin, above n 322, 2.

- the resources were not linked to curriculum outcomes or targeted at any particular year levels
- teachers had to work hard to find a way to incorporate the resources into their teaching program.³⁶⁰

Several participants emphasised the importance of linking teaching resources to the curriculum and ensuring they are engaging for both teachers and students. For instance, Ms Fagan, an educational consultant, stated 'there is not a lot of value in providing just resources, whether they are printed or electronic, if they do not link directly into the curriculum outcomes the teachers have to achieve with their students'.³⁶¹

Mr Stockwin of PIEF identified the need to also involve teachers in the design of teaching resources and relate the resources to the real world:

It is engaging with teachers to discuss what their needs are and to give them ownership and participation of the development of the resources ... resources that have direct reference to a student's everyday life, are rigorous in the fact that they can stand up to decent study and academic rigour. For that reason, contentious issues, such as live exports, genetic modification of grains ... make fantastic units of work because they are real world issues that adults are struggling with in the everyday world, and they are the things that students love.³⁶²

PIEF is advocating for further research on what makes an effective resource to assist in the delivery of the new Australian Curriculum.³⁶³

4.4.2 Resources for VCE Agricultural and Horticultural Studies

VCAA provides a list of resources to support VCE Agricultural and Horticultural Studies. Although there are a number of books that can assist in the delivery of the subject, there is no dedicated textbook for the subject.

The lack of a dedicated textbook was not identified as a key concern by stakeholders, with two stakeholders acknowledging that a textbook would not be viable for the small student cohort and would become quickly out-dated.³⁶⁴

However, some stakeholders did identify that there would be benefit in providing more resources to support the delivery of VCE Agricultural and Horticultural Studies. Dr Alan Ford, an agriculture and horticulture teacher at Ballarat and Queen's Anglican Grammar School, noted there is a lack of coordination of resources for VCE Agricultural and Horticultural Studies.³⁶⁵

Mr Cosby of VAAHE advocated for a coordinator to be employed to gather resources:

It would be ideal to have someone who was employed within the state — again, the science people have their science people and the home eco people have got theirs — where you would have a person employed in Victoria helping and gathering resources together ... and pulling

³⁶⁰ Primary Industries Education Foundation, *Submission 62*, 6-7.

³⁶¹ Ms Ann Fagan, above n 323, 5. See also VAAHE, *Submission 87*, 4; Mr Ben Stockwin, above n 322, 8.

³⁶² Mr Ben Stockwin, above n 322, 8.

³⁶³ *ibid.*, 10.

³⁶⁴ Mr Andrew Cosby, President, VAAHE and agriculture and horticulture teacher, Elisabeth Murdoch College, *Transcript of evidence*, Langwarrin, 13 February 2012, 9; Mrs Seleena Nichols, Agriculture and horticulture teacher, Padua College, *Transcript of evidence*, Mornington, 13 February 2012, 6.

³⁶⁵ Dr Alan Ford, above n 323, 5.

information together to create that book if need be, but we do not have anyone coordinating. As an association we are just normal teachers ... We have not got someone dedicated out there in the area of agriculture supporting teachers.³⁶⁶

Many of the larger teacher professional organisations employ a curriculum or professional learning coordinator. However, the small membership of VAAHE makes this unfeasible.

The Committee considers that VAAHE requires greater support to coordinate curriculum resources and deliver professional learning targeted at agriculture and horticulture teachers. Accordingly, the Committee considers that the Victorian Government should work with VAAHE to identify opportunities to resource a part-time position within the Association to collate curriculum resources from different sources and organise professional learning for Victorian agriculture teachers. One opportunity that could be explored is seeking financial support from the agriculture sector for such a position.

Recommendation 17: Resources and professional learning for agriculture and horticulture teachers

That the Victorian Government work with the Victorian Association of Agricultural and Horticultural Educators to identify opportunities to resource a part-time position within the Association to collate relevant curriculum resources and organise professional learning.

4.4.3 Resources for agricultural education across the curriculum

The Committee received evidence about a number of primary industries teaching resources available online that can be used to incorporate agricultural education as part of the broader school curriculum. These include:

- PIEF has set up the website Primezone to be a one-stop shop for primary industries education resources for primary and secondary school teachers.³⁶⁷ The website currently contains links to over 50 resources which PIEF has assessed as being of educational value and directly relevant to the draft Australian Curriculum.³⁶⁸
- PICSE has developed a range of teaching resources for use in pre-tertiary chemistry and biology classes. These resources are available to teachers online or can be ordered from PICSE.³⁶⁹
- The Department of Education and Early Childhood Development (DEECD) uses the online portal FUSE and the Ultranet to support curriculum design and delivery. These websites have over 60 endorsed digital learning objects on agriculture and horticulture that schools and students are able to access.³⁷⁰

³⁶⁶ Mr Andrew Cosby, above n 364, 9.

³⁶⁷ Primary Industries Education Foundation, *Submission 62*, 4. See also Primary Industries Education Foundation, *Primezone*, <<http://www.primezone.edu.au/>> viewed 28 August 2012.

³⁶⁸ Mr Ben Stockwin, above n 322, 5.

³⁶⁹ Primary Industry Centre for Science Education, *Primary Industry Centre for Science Education*, <<http://www.picse.net/HUB/index.htm>> viewed 28 August 2012.

³⁷⁰ Ms Cathy Beesey, Group Manager, Student Learning, Office for Government School Education, Department of Education and Early Childhood Development (Victoria) (DEECD), *Transcript of evidence*, Melbourne 24

The primary industries sector also produces a range of curriculum resources for teachers and schools. For example:

- Dairy Australia provides curriculum resources to primary school aged children through its free online curriculum website, Discover Dairy. Dairy Australia estimates that approximately 120 000 primary school children used some of its resources during the 2011 school year.³⁷¹
- The Poultry Cooperative Research Centre has developed the online educational tool, Poultry Hub, to support agricultural studies at Australian schools and universities and the site received international recognition from the Food and Agriculture Organisation of the United Nations for its global reach and importance.³⁷²
- Cotton Australia offers a package of educational resources for teachers, including a seed planting kit, information on cotton and how jeans are made, as well as cotton samples.³⁷³
- The Australian Forest Education Alliance has a dedicated website designed to provide school teachers, educators and students with information and teaching resources on Australian forests and forest-based products.³⁷⁴

A number of industry bodies also invest in PIEF and/or PICSE, rather than producing their own resources or agriculture programs. For example, Dr Terry Longhurst, Manager of Strategic Science, Livestock Production Innovation at Meat and Livestock Australia (MLA), a producer-owned company providing marketing and research programs for the cattle, sheep and goat industries, explained:

MLA does not work directly with schools. We do work with the Primary Industries Education Foundation which does work with schools ... and they coordinate and deliver education resources into primary and secondary schools. As I said, PICSE, the program we are just starting to support also will be delivering resources into secondary schools.³⁷⁵

The former LandLearn program also produced a range of curriculum resources for primary and secondary school students. The evaluation of the LandLearn found that there had been increasing numbers of schools and teachers using LandLearn activities and resources on a regular on-going basis in a range of year levels, learning domains and topics.³⁷⁶ The teacher resources and students activities produced by LandLearn continue to remain available on the LandLearn website.³⁷⁷

Although there is no shortage of resources available to teachers at the Prep to Year 10 level, not all these resources have been successful in the past in engaging teachers and students. Accordingly, the Committee believes there would be benefit in promoting the

October 2011, 4; Department of Education and Early Childhood Development (Victoria), *Teacher resources*, <<https://fuse.education.vic.gov.au/pages/Teacher.aspx>> viewed 29 August 2012; Department of Education and Early Childhood Development (Victoria), *Ultranet*, <www.ultranet.vic.edu.au> viewed 29 August 2012.

³⁷¹ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 20.

³⁷² Cooperative Research Centres Committee, *Submission 54*, 2; Poultry CRC, *Poultry hub*, <<http://www.poultryhub.org/>> viewed 15 August 2012.

³⁷³ Cotton Australia, *Education resources for students, teachers and communities*, <<http://cottonaustralia.com.au/cotton-classroom/education-resources/>> viewed 26 July 2012.

³⁷⁴ Australian Forest Education Alliance, *Forest Learning – About us*, <<http://www.forestlearning.edu.au/about>> viewed 26 July 2012.

³⁷⁵ Dr Terry Longhurst, Manager, Strategic Science, Livestock Production Innovation, Meat and Livestock Australia, *Transcript of evidence*, Canberra, 20 March 2012, 3.

³⁷⁶ Department of Primary Industries, above n 341, 15.

³⁷⁷ Department of Primary Industries (Victoria), *LandLearn*, <<http://landlearn.net.au/>> viewed 15 August 2012.

high quality resources that are already available online from organisations such as PIEF and PICSE to schools and teachers in Victoria.

The Committee also considers that industry bodies looking to support agricultural education in schools should invest in well-established organisations such as PIEF and PICSE. These bodies can ensure that teaching resources have the necessary links to the curriculum and are engaging for students and teachers. The consolidation of resources also makes it more likely that the resources produced will be of high quality and meet teacher and student needs. The Committee also believes that PIEF plays a much-needed role in providing national leadership and coordination of agricultural teaching resources.

As recommended in section 4.3.2, the Committee would like to see the LandLearn program or an equivalent program reintroduced in Victoria. The Committee considers that the program could also help to design new curriculum resources for Victorian schools following the introduction of the Australian Curriculum. It is imperative that any new resources be developed in consultation with the agriculture sector, teachers and PIEF to ensure that resources reflect the needs of these stakeholders.

Recommendation 18: Promoting available agricultural teaching resources

That the Victorian Government promote the teaching resources available through the Primary Industries Education Foundation and the Primary Industry Centre for Science Education to Victorian schools and teachers.

Recommendation 19: The agriculture sector's investment in teaching resources

That the industry associations within the agriculture sector direct funding to established programs which produce teaching resources, such as the Primary Industries Education Foundation and the Primary Industry Centre for Science Education.

Recommendation 20: Designing new curriculum resources

That the Victorian Government, through the LandLearn program or equivalent program, design new curriculum resources for Victorian schools following the introduction of the Australian Curriculum, in consultation with the agriculture sector, teachers and the Primary Industries Education Foundation.

4.5 School farms

A number of schools maintain small farms as part their agricultural education programs. This section considers the benefits and issues associated with school farms. It also considers opportunities to provide hands-on agricultural experience to students at schools that do not have farms.

4.5.1 The benefits of school farms

School farms provide students with the opportunity to gain a hands-on experience of agriculture. Several young people told the Committee that it was this practical experience that they most enjoyed about studying agriculture at school. For example, Tara, who recently completed Year 12 at Padua College, told the Committee:

I started ag. in Year 9 because it looked like a fun subject. I just loved it. I loved the practical side of it. I find it really hard to learn sitting at a desk. I like to do stuff. Physical work is how I learn best ... I just love getting out there and doing stuff with the land and growing things.³⁷⁸

Similarly, Lachlan, a Year 8 student from Elisabeth Murdoch College, stated, 'One of my favourite things is the interaction with the animals and the time that we get to learn about what kind of animal they are and how to look after them.'³⁷⁹

School farms also raise student awareness about the diversity of careers available within the agriculture sector. The Committee spoke with Kyle, a former student at Elisabeth Murdoch College, who integrated his interest in robotics and technology with the school's farm. He told the Committee about the potential to engage students with an interest in technology in agriculture through the school farm:

My love and understanding of technology has been integrated very closely into my passion for the farm as well. However, I am not going to run a farm, I am not going to be a farmer. I am not interested really in that sense, but I would quite happily work in a company or work for myself to help farmers and make things for them, as you saw with my system there. In that sense again, students could easily come down now and work with me on the technology stuff, if they wanted to; not actually working with the animals but just writing programs and creating websites to integrate with what I am doing. That covers a huge area of study in IT or computer science.³⁸⁰

4.5.2 Resourcing school farms

School farms vary in their size and diversity. The Committee heard that these farms often require additional human and financial resources to maintain the facilities and care for livestock. Mrs Nichols of Padua College explained the additional work involved for teachers:

It is not like a normal classroom subject. Having the animals brings in a whole other avenue where you have livestock that you have to look after, and you cannot leave at 3.15 in the afternoon without making sure that they are well fed and watered. There is a large range of extra responsibilities just based on teaching in that department. You are not just in a classroom that you can shut the door on and walk away from as well; you have that whole area out there that you need to manage and make sure is resourced correctly. Even just over school holidays — I think I mentioned I have a lot of the livestock at my house at the moment, so it does not end. You are constantly thinking or worrying or planning or making sure that it all works.³⁸¹

DEECD also identified that the delivery of the senior secondary agricultural education programs 'poses significant challenges for many schools, due to the need for specialist teachers and resources and the continuous upkeep required for animals and equipment'.³⁸²

³⁷⁸ Tara, Former Year 12 student, Padua College and currently deferred student, Bachelor of Agriculture, The University of Melbourne, *Transcript of evidence*, Mornington, 13 February 2012, 2.

³⁷⁹ Lachlan, Year 8 student, Elisabeth Murdoch College, *Transcript of evidence*, Langwarrin, 13 February 2012, 2.

³⁸⁰ Kyle, Former student, Elisabeth Murdoch College, *Transcript of evidence*, Langwarrin, 13 February 2012, 6.

³⁸¹ Mrs Seleena Nichols, above n 364, 4. See also Mr Bill Dullard, *Submission 23*, 3.

³⁸² DEECD, *Submission 82*, 10.

VAAHE advocated for greater resourcing of school farms in Victoria. It suggested that the Victorian Government should provide funding or grants to schools for improvements to farm infrastructure and to enable farm assistants to be employed.³⁸³

The Committee examined the resourcing of school farms in New South Wales and Queensland and found that governments in both these jurisdictions provide significant support for school farms.

The New South Wales Government has set up a State Agricultural Advisory Group that allocates secondary schools with an agriculture program an agricultural grant entitlement. Each school's entitlement is determined on the basis of a yearly survey. A total of \$464 780 is being distributed to schools in 2012, with the largest single amount for an individual school being \$6655. The State Agricultural Advisory Group also makes recommendations in relation to capital funding for schools for items such as tractors and rotary hoes. The New South Wales Government also provides schools that operate established agricultural plots with a farm assistant entitlement of 0.6 full-time equivalent for high schools and 0.4 full-time equivalent for kindergarten to Year 12 schools in rural areas.³⁸⁴

The Queensland Government has an annual grant program valued at \$600 000 for government schools with agricultural centres. Queensland schools can use the agricultural education grant to offset the day-to-day running costs of agriculture departments, including the development of infrastructure, facilities and resources and professional development for teachers.³⁸⁵

The Committee believes that it is important that the Victorian Government support schools to maintain their farms. School farms can greatly enrich the agricultural learning experience for students. The experience of working with animals and crops on these schools farms also raises students' awareness about potential careers in agriculture.

These farms are resource intensive for schools and teachers to maintain. The Committee is concerned that Victorian schools do not currently receive any additional government assistance to assist with the upkeep of farms and believes that the Victorian Government should support schools to maintain their school farms and facilities through the allocation of annual grants and/or providing schools with a farm assistant entitlement.

Recommendation 21: Assisting schools to maintain school farms and facilities

That the Victorian Government provide additional support to schools with established farms.

4.5.3 Assisting schools without farms to provide practical agricultural experiences

Many schools are not able to maintain a farm due to land or resourcing constraints. However, in rural and regional Victoria there are opportunities for schools to link with local farmers and industry to provide students with a hands-on experience of agriculture.

³⁸³ VAAHE, *Submission 87*, 7. See also Mr Bill Dullard, *Submission 23*, 1; Mr Stan Lewin, National Director, Australian and International Agricultural Exchange, *Submission 102*, 7.

³⁸⁴ Letter from Director-General, Department of Education and Communities (NSW) and Managing Director, TAFE NSW, to Chair, Victorian Parliament Education and Training Committee, 31 July 2012.

³⁸⁵ Letter from Minister for Education, Training and Employment (Queensland), to Chair, Victorian Parliament Education and Training Committee, 1 August 2012.

Tyrell College, a government school in Sea Lake, which was also discussed in chapter three, provides an excellent example of a school working with industry to expose students to the practical nature of agriculture. The local grain storage company allowed the College to use 80 hectares of land to enable the agricultural students to experience a cropping program on a commercial scale.³⁸⁶

Local farmers and industry can also provide students with access to relevant expertise. A combined submission from a range of education and training stakeholders in the greater Bendigo region identified that there are opportunities for teacher knowledge to be supplemented by utilising the expertise of people working in the agriculture sector.³⁸⁷

The Committee spoke with a number of industry partners involved in the Gateways 4 Sustainable Communities program in northern Victoria, which was discussed in chapter three. One industry partner, Mr Robert Moon, the owner of a mixed farming enterprise, spoke about the potential to use local community expertise in schools:

In most rural communities there is a real untapped resource — and not just rural communities, a lot of urban communities are the same — of either your retirees or your well-established businessman who have a bit of spare time and can see an opportunity to put something back into what has been given out. We have a local men's shed down here. There are a lot of skills there which we do not have among staff members, but maybe there is an opportunity to look at bringing them in to bring those skills to the students.³⁸⁸

Mrs Nichols from Padua College also described the benefits of using local farmers as mentors for her students:

As a classroom teacher, it is such a varied subject and because the subject is so varied, the students can choose topics of interest to them. I cannot be an expert in all those fields and none of us as agriculture and horticulture teachers can be. I also think it teaches them best practice from an industry perspective as well. So if it is an area that they are interested in, they are speaking to people from that industry as well. I think that is where it works fantastically well. All students at Year 11 and particularly Year 12 will speak to people from the industry that they are actually studying.³⁸⁹

The Committee believes that in the absence of a school having its own farm, there are enormous benefits in schools developing relationships with local farmers and the agriculture sector to enhance the delivery of their agricultural education programs.

In the previous chapter the Committee recommended that the Victorian Government promote opportunities for partnerships between schools and the agriculture sector (see recommendation 13). The Committee believes schools without agricultural facilities should be encouraged to form these partnerships with local farmers and the agriculture sector to give students exposure to the practical side of agriculture and provide them with access to relevant expertise.

³⁸⁶ NAB Schools First, *School: Tyrell College (VIC); Partner: AWB Grainflow (Cargill) Sea Lake; Title of the project: Dynamic Agriculture*, <<http://www.schoolsfirst.edu.au/sf-2011-winners/tyrrell-college.phps>> viewed 11 February 2012.

³⁸⁷ Joint submission of Loddon Mallee Regional Office, DEECD, Bendigo TAFE, Bendigo Schools Trade Training Centre and Goldfields Local Learning and Employment Network, *Submission 26*, 7.

³⁸⁸ Mr Robert Moon, Owner, mixed farming enterprise, *Transcript of evidence*, Pyramid Hill, 2 November 2011, 8.

³⁸⁹ Mrs Seleena Nichols, above n 364, 6.

4.5.4 Animal ethics requirements in schools

Many of the schools with farms keep livestock such as cows, goats, chickens or sheep. These schools are required to comply with animal ethics laws and codes of practice in using farm animals for teaching purposes.

Under the *Australian code of practice for the care and use of animals for scientific purposes*, all teaching activities involving the use of animals must be approved by an animal ethics committee.³⁹⁰ The Victorian Schools Animal Ethics Committee (VSAEC) is responsible for reviewing the activities carried out by all government, independent and Catholic schools in Victoria.

There are two methods available to schools to gain approval for a teaching activity with animals from VSAEC:

- Pre-approved activities: VSAEC has a list of pre-approved activities that teachers are able to carry out by submitting a notice of intent on the online system. Once the activity is completed, a completion notice is presented at a VSAEC meeting. A school can also modify a generic pre-approved activity or create its own pre-approved activity.
- Application for approval: A school undertaking an activity that is not a pre-approved activity must submit an application for approval to VSAEC. This application requires the school to provide details regarding the educational objectives of the activity with consideration to the welfare of the animal. These applications need to be approved at a VSAEC meeting and schools cannot begin an activity without VSAEC approval.³⁹¹

A number of stakeholders who spoke to the Committee raised concerns that the requirements for seeking approval from VSAEC are complex and resource intensive for teachers.³⁹² There was also concern that schools lack clear information about how to comply with the legal requirements for animal welfare.

Mr Charlie Clarke, a teacher at Woodleigh School, an independent secondary school in Baxter, and a representative on VSAEC, noted that there is a need to further simplify the process for teachers:

It certainly does need to be simplified. There is a two-stage process. There are number of things that they have gone through and worked out a procedure for doing; for example ... Drenching sheep ... For things that they have gone through they have a procedure set out, and you can go online and register to do it and say you will follow their guidelines, and that is a very quick and simple 5-minute process, but it is a very limited list. If you are outside doing basic operations with sheep and cattle and one or two others, there is not a predefined approval system ... you have to do it from scratch — you have to write down the whole procedure with this involved paperwork. That is the side that is putting people off.³⁹³

Mrs Nichols of Padua College also highlighted the concerns about the lack of information available to schools and teachers about the animal ethics requirements:

³⁹⁰ National Health and Medical Research Council, *Australian code of practice for the care and use of animals for scientific purposes* (7th edition, 2004), 5.

³⁹¹ Letter from Acting Executive Director, Student Learning Outcomes Division, DEECD, to Chair, Victorian Parliament Education and Training Committee, 13 June 2012, 1-2.

³⁹² Mrs Seleena Nichols, above n 364, 5-6. See also Mr Christopher Houlihan, Principal, Padua College, *Transcript of evidence*, Mornington, 13 February 2012, 5; Mr Andrew Cosby, above n 364, 7.

³⁹³ Mr Charlie Clarke, Teacher, Woodleigh School, *Transcript of evidence*, Langwarrin, 13 February 2012, 8.

My only comment about the animal ethics committee is their lack of information out to the schools. The schools are in the dark, and they are just not promoting and getting the information out there and making the process an easy process for schools to complete and understand. Through being involved in the agriculture and horticulture teachers association [VAAHE] — I am on the committee — so many schools have struggled through this process where there is so much misinformation around.³⁹⁴

VSAEC explained to the Committee that the process for approval is still relatively new for schools and it is taking time to raise the awareness of schools needing to comply with these legal requirements for animal welfare.³⁹⁵ VSAEC stated that there are a number of resources available to schools and teachers to help them understand and meet the requirements, namely:

- The VSAEC website contains the details of what schools in all sectors need to know and do when using animals in teaching.
- A bulletin is sent to schools each term.
- Professional learning presentations are available to teachers.
- The Animal Ethics Executive Officer is available to provide advice to schools throughout the application process.³⁹⁶

The Committee notes that the New South Wales Government has developed a new education program to encourage the adoption of animal welfare practices by school teachers and students. The program provides training and support to new agriculture teachers who receive mentoring from more experienced staff.³⁹⁷ Both teachers and students also have access to online resources and advice.

The Committee recognises that caring for farm animals can be an enriching aspect of school agricultural education programs and it is important to ensure that the welfare of all animals is protected. The Committee believes that further consideration should be given to whether the requirements for schools using animals in agricultural education programs can be streamlined or simplified.

The Committee acknowledges the efforts of VSAEC in raising school and teacher awareness about the animal ethics requirements, but believes that more work needs to be done to promote and educate schools and teachers about the requirements.

Recommendation 22: Assisting schools to meet animal ethics requirements

That the Victorian Government streamline and simplify the ethics requirements for schools using animals in agricultural education programs and improve the education and advice available to schools about the animal ethics requirements.

³⁹⁴ Mrs Seleena Nichols, above n 364, 5.

³⁹⁵ Letter from Acting Executive Director, Student Learning Outcomes Division, DEECD, above n 391, 1.

³⁹⁶ *ibid.*, 2.

³⁹⁷ *The Land*, 'Animal welfare program for NSW schools', 30 May 2012. Available at <<http://theland.farmonline.com.au/news/nationalrural/agribusiness-and-general/general/animal-welfare-program-for-nsw-schools/2569335.aspx>> viewed 4 October 2012; Department of Education and Training (NSW), *Animals in schools*, <<http://www.schools.nsw.edu.au/animalsinschools/>> viewed 8 August 2012.

Chapter 5: The delivery of vocational education and training for the agriculture sector

Key findings

- The vocational education and training (VET) sector is a key provider of education and training for the agriculture sector.
- There is a trend of increasing participation in agricultural VET in Victoria. However, individual agricultural training providers often operate in markets where the number of students is small, placing financial pressures on the providers.
- It is important to attract more persons into agricultural training in the VET sector in the longer term and to monitor the cost of training to ensure that agricultural training remains viable for training providers and accessible to students.
- Cost and inability to access training due to location or transport issues are key barriers to attracting more persons into agricultural training.
- The agriculture sector has a strong preference for acquiring skill sets to perform specific functions or tasks. Greater flexibility and support is needed in the funding and delivery of these skill sets.
- While many training providers are providing quality training for the agriculture sector, some training is too generalised and needs to be tailored to specific industry needs.
- It is critical that there be enhanced consultation between the VET sector and the agriculture sector. There is considerable potential to use industry training brokers to facilitate this consultation.

The delivery of vocational education and training for the agriculture sector

Chapters five and six of this report focus on vocational education and training (VET) for the agriculture sector. This chapter looks at the delivery and content of agricultural training in the VET sector in Victoria. It also considers the participation levels and access to agricultural training in the VET sector and whether the current training is meeting the needs of the agriculture sector.

5.1 An overview of agricultural training in the VET sector

The VET sector is a key source of education and training for the agriculture sector due to the practical, hands-on and industry-focused nature of VET.³⁹⁸ This section outlines the VET training pathways and courses that are available for the agriculture sector. It also considers the participation in VET agricultural training in Victoria.

5.1.1 VET training pathways for the agriculture sector

There are a range of pathways for obtaining a VET qualification in an agricultural-related field, namely:

- studying with a registered training organisation (RTO)
- entering into a traineeship
- undergoing recognition of prior learning (RPL)
- participating in the VET in Schools program.³⁹⁹

A brief overview of these pathways is set out below, with the exception of the VET in Schools program, which was discussed in detail in chapter three.

Studying with a registered training organisation

RTOs are responsible for issuing nationally recognised VET qualifications. To register as an RTO in Victoria, an organisation must apply to the Victorian Registration and Qualifications Authority (VRQA) and demonstrate compliance with the national

³⁹⁸ Essential Services Commission (Victoria), *VET fee and funding review. Volume II: Technical analysis* (2011), XII.

³⁹⁹ Department of Education, Employment and Workplace Relations (Australia), *AHC10 qualifications and Australian apprenticeships guide* (2011), 4. Available at <<http://www.pagegangster.com/p/QtETB/#/page/3>> viewed 4 June 2012.

standards set out in the Australian Quality Training Framework Essential Conditions and Standards for Initial Registration and VRQA guidelines.⁴⁰⁰

There are over 1100 RTOs in Victoria and these include:

- technical and further education (TAFE) institutes
- enterprises and businesses
- commercial private providers
- schools
- adult and community education providers.⁴⁰¹

New entrants to the agriculture sector and existing employees seeking to upskill can enrol in an agricultural qualification with an RTO. The Department of Education and Early Childhood Development (DEECD) advised that there are 59 RTOs that offer agricultural-related courses across the state.⁴⁰²

Traineeships

Traineeships are designed for new entrants into the agriculture sector and they combine paid employment with off-the-job training or workplace-based training organised through an RTO.⁴⁰³

The agriculture sector has a traineeship model for training new entrants into the sector as opposed to an apprenticeship model. The key difference between apprenticeships and traineeships is the level of commitment between the employee and the employer. In a traineeship, the contract of employment can be terminated by either party, whereas in an apprenticeship it can only be terminated by mutual agreement.⁴⁰⁴ Apprenticeships and traineeships are also treated differently with respect to their eligibility for a government-subsidised training place. This issue is discussed in section 5.3.1 below.

Mr Gordon Griffin, Education and Training Adviser for Rural Skills Australia, an organisation that has a strong focus on promoting rural apprenticeships and traineeships, spoke positively about the impact of the traineeship model for the agriculture sector:

Traineeships have really worked for agriculture. The numbers across Victoria have been fairly solid over the years and we have been able to build on them ... The farm trades apprenticeship originally was one size fits all. You had to do beef, dairy, pigs and poultry as part of the program ... The traineeship has enabled us to implement through the national training package

⁴⁰⁰ Victorian Registration and Qualifications Authority, *FAQs: VRQA guidelines for VET providers* (2010). Available at <<http://www.eduweb.vic.gov.au/edulibrary/public/vrqa/registration-vetguidelinesfaq.pdf>> viewed 10 October 2012.

⁴⁰¹ Victorian Registration and Qualifications Authority, *Victorian Registration and Qualifications Authority: Victoria's education and training regulator. Annual report 2010–2011* (2011), 21.

⁴⁰² Letter from Minister for Education (Victoria) and Minister for Higher Education and Skills (Victoria), to Chair, Victorian Parliament Education and Training Committee, 12 September 2012, 3.

⁴⁰³ Department of Education and Early Childhood Development (Victoria), *A guide to apprenticeships and traineeships* (5th edition, 2011) Skills Victoria, 7.

⁴⁰⁴ *ibid.*, 20–21.

something that farmers actually use and need — ‘What are you doing on your property that you need somebody trained in?’. The traineeship was able to give them that.⁴⁰⁵

Recognition of prior learning

Students enrolling in a VET qualification may wish to obtain RPL, which is the formal recognition of the skills and knowledge that a person has obtained through their previous study, work and life experiences.⁴⁰⁶

RTOs are responsible for undertaking RPL assessments and students must provide the RTO with evidence of their prior learning.⁴⁰⁷ RPL can be used for the partial or full recognition of a VET qualification.⁴⁰⁸

The strong emphasis placed on on-the-job learning by the agriculture sector means that RPL can offer an important pathway into training for existing workers. Mr John Spasevski, Director, Market Facilitation at Skills Victoria within DEECD, explained:

If we look at recognition of prior learning, what it offers is if you have a workforce that is highly skilled but lowly qualified, if you have a workforce that is ageing and has lots of experience, a recognition of prior learning process is very legitimate and quite appropriate. Agriculture fits into this. We do not want to have a situation where we have a highly experienced farmer sitting in a classroom, going through the traditional method of teaching and learning. It does not do the farmer any favours and it is also perhaps not the best way of directing institute resources as well.⁴⁰⁹

5.1.2 Agricultural qualifications and courses in the VET sector

The VET qualifications available under the Australian Qualifications Framework are certificates I to IV, diploma, advanced diploma, vocational graduate certificate and vocational graduate diploma.

RTOs deliver these qualifications by offering accredited courses. There are three types of accredited courses that can be offered in Victoria, namely qualifications from national training packages, Victorian accredited courses and courses accredited by other jurisdictions that are recognised in Victoria.⁴¹⁰

The majority of qualifications delivered in the VET sector are drawn from training packages, which are sets of nationally endorsed standards and qualifications.⁴¹¹

The AHC10 Agriculture, Horticulture and Conservation and Land Management training package (the AHC10 training package) contains the VET qualifications for the agriculture sector. The key VET agricultural qualifications include:

⁴⁰⁵ Mr Gordon Griffin, Education and Training Adviser, Rural Skills Australia, *Transcript of evidence*, Shepparton, 3 November 2011, 3. C.f. Ms Meg Parkinson, Chair, Workplace Relations Committee, Victorian Farmers Federation (VFF), *Transcript of evidence*, Melbourne, 24 October 2011, 12.

⁴⁰⁶ Department of Education and Early Childhood Development (Victoria), *Recognition of prior learning: Using your training dollar more effectively*, <http://www.skills.vic.gov.au/__data/assets/pdf_file/0007/424807/1112-SV-11_A5_RecogPriorLearn_v4.pdf> viewed 20 June 2012.

⁴⁰⁷ *ibid.*

⁴⁰⁸ *ibid.*

⁴⁰⁹ Mr John Spasevski, Director, Market Facilitation, Skills Victoria, Department of Education and Early Childhood Development (Victoria) (DEECD), *Transcript of evidence*, Melbourne, 24 October, 2011, 9.

⁴¹⁰ Victorian Registration and Qualifications Authority, above n 401, 21.

⁴¹¹ Essential Services Commission, above n 398, 11.

- five general agriculture qualifications, one at each level from certificate II to advanced diploma
- four general production horticulture qualifications, one at each level from certificate II to diploma
- sector-specific qualifications in dairying, horse breeding, pork production and poultry production at various levels
- a range of qualifications for the service sectors such as agribusiness, irrigation, rural machinery, shearing, wool classing and wool handling.⁴¹²

There are also over 50 types of traineeships offered in Victoria that are drawn from the qualifications contained in the AHC10 training package.⁴¹³

AgriFood Skills Australia was responsible for the development of the AHC10 training package as part of its role as the national Industry Skills Council for the agrifood sector. The AHC10 training package was released in 2011 after several years of development and consultation by AgriFood Skills Australia. During the course of the Inquiry, RTOs were transitioning over to the new AHC10 training package.

The AHC10 training package merged three previous training packages, namely:

- RTD02 Conservation and Land Management
- RTE03 Rural Production
- RTF03 Amenity Horticulture.

The extent to which the new training package is responding to the sector's needs is discussed in section 5.4.2.

There were also 18 Victorian accredited agricultural-related qualifications that could be offered by RTOs in addition to the courses in the AHC10 training package as at September 2012.⁴¹⁴

5.1.3 Participation in agricultural VET

This section provides a brief overview of the enrolments and completions for vocational agriculture qualifications.

Enrolment and completion data for the VET sector can be presented in different ways. This section refers to data drawn from relevant training packages and fields of education:

- Reference is made to the RTE03 Rural Production training package which was used until 2011, as it contained the agricultural qualifications within the scope of this Inquiry for the relevant time periods.
- The field of education identifier is also referred to in this section. This identifier is a statistical measure used in Australia to define the subject matter of an

⁴¹² Department of Education, Employment and Workplace Relations, above n 399, 12-14.

⁴¹³ Letter from Minister for Education and Minister for Higher Education and Skills, above n 402, attachment D.

⁴¹⁴ *ibid.*, attachment A.

educational activity. Agriculture is grouped into the ‘Agriculture, environmental and related studies’ field of education.⁴¹⁵

Agricultural training enrolments and completions

Between 2004 and 2011 there was a trend of increasing enrolments in the RTE03 Rural Production training package (figure 15). Encouragingly, Mr Spasevski of Skills Victoria noted that there is starting to be growth in enrolments in some areas of critical skills shortage.⁴¹⁶

Figure 15: Victorian enrolments in the RTE03 Rural Production training package (2004–2011)⁴¹⁷

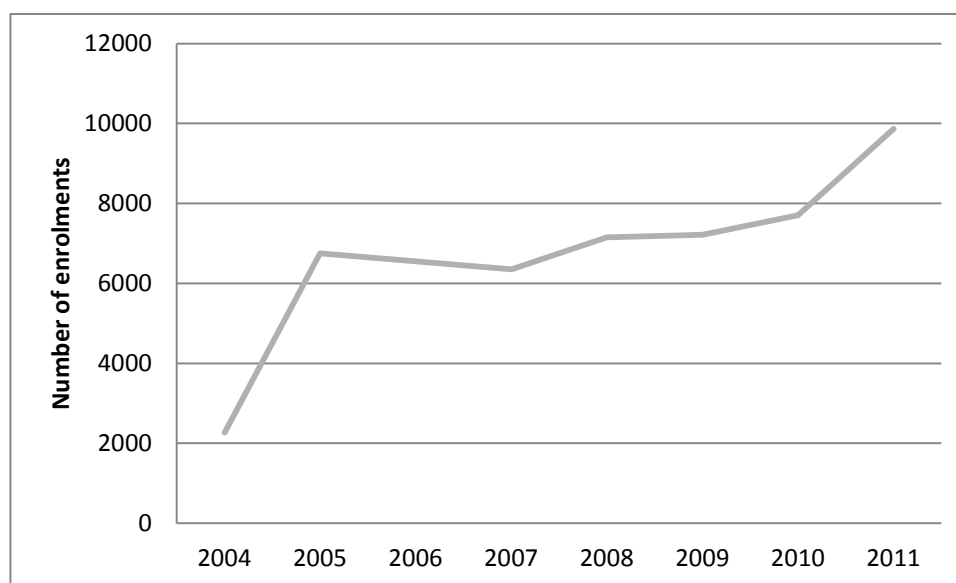
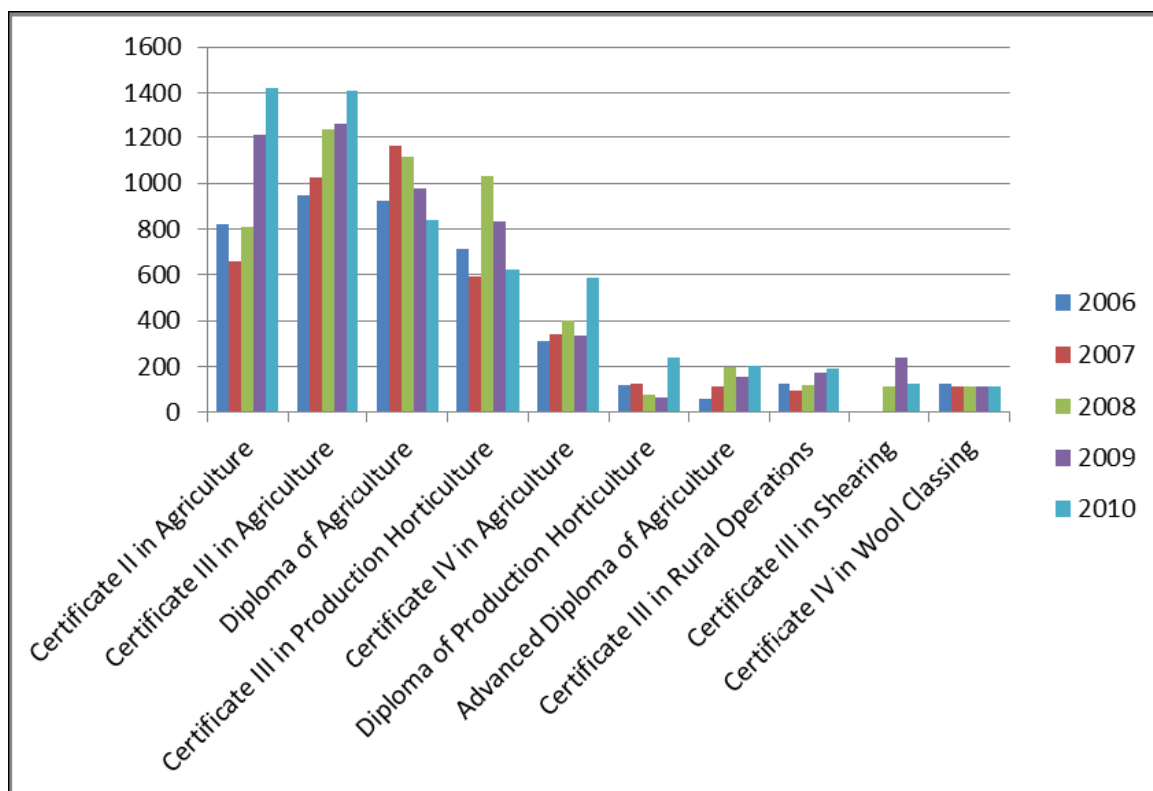


Figure 16 below sets out the enrolment figures for the ten most popular qualifications in the RTE03 Rural Production training package over a five year period. There are mostly positive enrolments trends with respect to these qualifications, with the exception of the Certificate III in Production Horticulture and the Diploma of Agriculture.

⁴¹⁵ Australian Bureau of Statistics, 1272.0 – *Australian Standard Classification of Education (ASCED)*, <<http://www.abs.gov.au/ausstats/abs@.nsf/0/56C477941726CFF0CA256AAF001FCA50?opendocument>> viewed 2 August 2012.

⁴¹⁶ Mr John Spasevski, above n 409, 8.

⁴¹⁷ Letter from Minister for Education and Minister for Higher Education and Skills, above n 402, 4.

Figure 16: Victorian enrolments for selected agricultural VET qualifications (2006–2010)⁴¹⁸

The evidence collected by the Committee indicates that, although many training providers have experienced growth in their enrolments in agricultural courses, there is a diversity of experience:

- The Goulburn Ovens Institute of TAFE (GOTAFE), which has its main campus in Shepparton, has experienced growth in the delivery of agricultural programs in recent years.⁴¹⁹
- The Northern Melbourne Institute of TAFE (NMIT), which delivers agricultural training from its Epping campus, has experienced ‘sluggish’ enrolments in recent years in its primary industry program, although the 2011 enrolments were marginally up when compared to the previous year.⁴²⁰
- Longerenong College, an agricultural college that is operated by the not-for-profit provider WORKCO Limited, has achieved an increase of 33% in the core course enrolments since 2007, which the College attributed to the employment of a Development Officer, who actively promotes Longerenong to potential students across Victoria (see case study 6).⁴²¹
- Rural Industries Skill Training, an industry-run RTO based near Hamilton, has seen a significant increase in the number of agriculture trainees enrolled in

⁴¹⁸ Victorian TAFE Association, *Submission 78*, 8, citing 2010 NCVER data.

⁴¹⁹ Goulburn Ovens Institute of TAFE (GOTAFE), *Submission 91*, 3.

⁴²⁰ Faculty of Earth Sciences, Northern Melbourne Institute of TAFE (NMIT), *Submission 29*, 1.

⁴²¹ Longerenong College, *Submission 39*, 2.

Certificate II and III in Agriculture since 2006, which was largely attributed to the work of its Development Officer.⁴²²

- The South West Institute of TAFE (South West TAFE), which delivers agricultural training at Glenormiston College near Terang, has seen fluctuating student numbers in its agricultural training in the past three years.⁴²³

Case study 6: Ms Donna Winfield, Development Officer at Longerenong College⁴²⁴

'I was employed in 2006. It was a huge investment by WORKCO to make this position available. Longerenong, as you saw today, is an absolute gem and iconic to this particular area. It would have been so sad to lose, so why not tell everyone about it?

That was basically our thought process, that we needed to make sure that we were travelling the state, getting into schools, talking to careers teachers and getting to as many expos as we wanted and could get to. Certainly some were more successful than others. It is fair to say that it has absolutely worked. We have the passion, and we are telling them about the career opportunities, so there has been a lot of travel. We have recreated and redesigned all our course guides in a very professional manner as well.'



Ms Donna Winfield, Development Officer, Longerenong College.

The trends in completions for selected qualifications from the RTE03 Rural Production training package are set out below in figure 17. However, it is important to note that during this time period there were fluctuations in the number of graduates enrolled in these qualifications.⁴²⁵

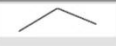









⁴²² Mr Bill Hamill, Chief Executive Officer, Rural Industries Skill Training, *Transcript of evidence*, Horsham, 29 November 2011, 2-3.

⁴²³ South West Institute of TAFE, *Student numbers for Glenormiston in agriculture, horticulture, equine & conservation*, supplementary evidence received 30 November 2011.

⁴²⁴ Ms Donna Winfield, Development Officer, Longerenong College, *Transcript of evidence*, Horsham, 29 November 2011, 5.

⁴²⁵ Victorian TAFE Association, *Submission 78*, 12.

Figure 17: Victorian completion trends for selected agricultural VET qualifications (2008–2010)⁴²⁶

Qualification	2008	2009	2010	Trend
Certificate II in Agriculture (RTE20103)	158	200	171	
Certificate III in Agriculture (RTE30103)	70	118	192	
Certificate III in Production Horticulture (RTE31603)	87	147	95	
Certificate III in Rural Business (RTE31903)	2	0	39	
Certificate IV in Agriculture (RTE40103)	32	27	46	
Certificate IV in Wool Classing (RTE40303)	34	26	28	
Diploma of Agriculture (RTE50103)	29	51	78	
Diploma of Production Horticulture (RTE50303)	12	15	77	
Advanced Diploma of Agriculture (RTE60103)	34	24	31	
Certificate III in Shearing (RTE31503)	7	33	66	

At the national level, the 'Agriculture, environmental and related studies' field of education has one of the lowest projected qualification completion rates, as can be seen in figure 18 below.

However, it is hard to draw conclusions from the completion data for agricultural qualifications. The National Centre for Vocational Education Research (NCVER), an independent body responsible for collecting, evaluating and communicating research and statistics about VET in Australia, notes that it is difficult to determine the significance of course completion rates within the VET sector because some students are only seeking to learn particular skills and never intend to complete a full qualification.⁴²⁷ The statistics on completion rates do not distinguish between these different types of students.

Accordingly, NCVER also reports on the proportion of modules passed by students using the term 'load pass rates' as it sees this as a better measure of success for those students not wishing to complete a qualification.⁴²⁸

The load pass rate for students enrolled in a module from the RTE03 Rural Production training package in Victoria was 81.8% in 2007.⁴²⁹ At the national level, the 'Agriculture, environmental and related studies' field of education also had a relatively high load pass rate, which is more in line with other fields of study (see figure 18).

This data is consistent with the evidence the Committee received that the agriculture sector has a strong preference for learning particular skills or acquiring skill sets as

⁴²⁶ *ibid.*, 12, citing 2011 Skills Victoria data.

⁴²⁷ Kevin Mark and Tom Karmel, *The likelihood of completing a VET qualification: A model-based approach* (2010) NCVER, 7.

⁴²⁸ *ibid.*, 3.

⁴²⁹ Letter from Minister for Education and Minister for Higher Education and Skills, above n 402, 4.

opposed to completing a full qualification. This issue is further discussed in section 5.4.2 below.

Figure 18: Estimated national completion rates and load pass rates by field of education for qualifications at certificate I and above (2005–2007)⁴³⁰

Field of education	Estimated qualification completion rate (%)			Load pass rate (%)		
	2005	2006	2007	2005	2006	2007
Agriculture, environmental and related studies	18.1	17.9	19.5	83.2	83.9	82.2
Architecture and building	27.1	26.3	27.1	84.8	85.2	85.1
Creative arts	26.9	27.2	25.6	77.5	77.0	76.5
Education	48.4	41.5	45.6	84.0	79.3	82.9
Engineering and related technologies	25.0	23.8	25.5	85.1	85.4	84.5
Food, hospitality and personal services	26.6	22.1	22.2	82.2	82.7	83.9
Health	44.9	45.7	41.7	83.1	82.2	81.5
Information technology	20.4	18.7	23.7	70.2	69.6	71.3
Management and commerce	29.6	29.3	28.8	79.6	79.5	79.8
Mixed field programs	13.3	15.8	16.9	56.0	57.4	61.5
Society and culture	36.0	36.6	36.6	80.1	80.4	80.6

Traineeship commencements and completions

Agricultural traineeship commencements in Victoria have fluctuated between 2004 and 2011. However, there has been an overall increase in commencements during this period (see figure 19 below).

While there is no clear data on completion rates, Primary Skills Victoria, the former industry training advisory body to the Victorian Government for the primary industries sector, submitted that the indications are that they are below 50% for agricultural traineeships.⁴³¹ Data provided by DEECD also suggests that traineeship completion rates are relatively low.⁴³² By way of comparison, the national contract completion rate for apprentices and trainees in non-trade areas is 53%.⁴³³

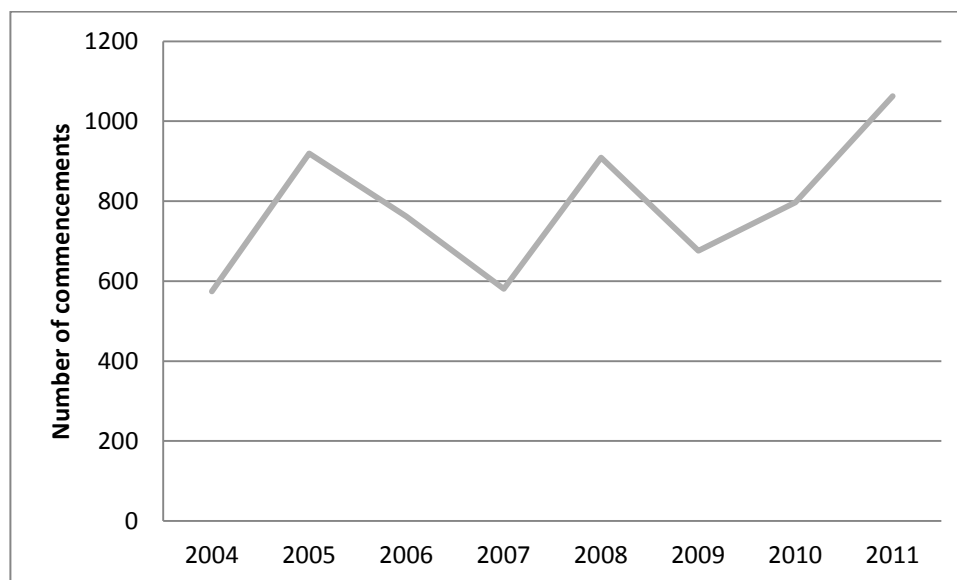
The completion rates among agricultural trainees are discussed in section 5.3.3 in the context of increasing participation in agricultural VET.

⁴³⁰ National Centre for Vocational Education Research, *Australian vocational education and training statistics: The likelihood of completing a VET qualification 2005–07* (2011), 8.

⁴³¹ Primary Skills Victoria, *Submission 84*, 27.

⁴³² Letter from Minister for Education and Minister for Higher Education and Skills, above n 402, attachment F.

⁴³³ Alice Bednarz, *Lifting the lid on completion rates in the VET sector: How they are defined and derived* (2012) NCVET, 13. Available at <<http://www.ncver.edu.au/publications/2467.html>> viewed 15 August 2012.

Figure 19: Commencements for traineeships from the RTE03 Rural Production training package (2004–2011)⁴³⁴

Recognition of prior learning assessments

RPL assessments in the rural production area have steadily increased in Victoria.⁴³⁵ In 2010, 11% of all enrolled students were assessed in at least one unit of competency using a skills recognition assessment.⁴³⁶

The principles underpinning RPL were widely supported by participants in this Inquiry, however it was noted that the demand for RPL from the agriculture sector had not been as strong as expected. Marcus Oldham College, a private higher education provider for agricultural education based in Geelong, submitted, 'RPL processes may not have flourished in an environment where it is the skills and knowledge that are valued rather than their expression in a credential.'⁴³⁷

Conversely, Primary Skills Victoria alerted the Committee to its concern that there had been an over-emphasis on RPL by some Victorian providers. This issue is discussed in section 5.4.2 below.

5.2 Delivery challenges for agricultural VET

This section considers the challenges that training providers face in delivering vocational agricultural education in Victoria.

5.2.1 Thin markets in agricultural VET

Agricultural training operates in thin markets. NCVET defines thin markets in VET as 'those in which the actual and potential number of learners may be too small to attract

⁴³⁴ Letter from Minister for Education and Minister for Higher Education and Skills, above n 402, attachment E.

⁴³⁵ DEECD, *Submission 82*, 15.

⁴³⁶ *ibid.*, 15.

⁴³⁷ Marcus Oldham College, *Submission 19*, 4. See also Skills Australia, *Submission 41*, 3; Victorian TAFE Association, *Submission 78*, 13; GOTAFE, *Submission 91*, 7.

training providers'.⁴³⁸ Thin training markets can occur in specific occupational, industry or geographic areas.⁴³⁹

In the case of agricultural training, it appears that both geography and the nature of the sector contribute to these thin markets. Mr Spasevski of Skills Victoria explained:

We know that in some regional and remote locations we have niche industries in sectors that by definition have smaller student numbers seeking training, and we do operate in areas of thin markets. We understand that the ability to provide education and training in these areas is a little more difficult, as opposed to higher demand courses.⁴⁴⁰

Similarly, Mr Greg Laidlaw, Rural and Workforce Development Officer at Moira Shire Council, submitted:

One of the biggest issues is Registered Training Organisations being able to deliver appropriate training courses so that it attracts a core group of students in a particular location that makes the training viable for both the RTO and the students.⁴⁴¹

The Committee heard that these thin markets place financial pressures on agricultural training providers and can limit the breadth of courses that can be offered to students. The Sunraysia Institute of TAFE, the major provider of VET in north western Victoria, submitted:

The lack of young people seeking a career in the industry limits the range of training products and services due to the cost of provision in a thin market. It is simply not profitable for a training provider to offer a broad scope of training products when the projected class or attendance number is so low.⁴⁴²

Further, the Victorian TAFE Association, the peak body for public providers of TAFE, noted that these thin markets impact particularly on the higher level VET qualifications, with a lack of demand preventing the regular delivery of these qualifications in multiple locations.⁴⁴³ The Committee heard evidence of this firsthand, with GOTAFE submitting that it planned to deliver some higher level qualifications biennially in an effort to attract the requisite student numbers for program viability.⁴⁴⁴

The Dairy Industry People Development Council (DIPDC) and Dairy Australia, which made a joint submission to the Inquiry on behalf of the Victorian dairy industry, also highlighted that thin markets can impact on the quality of training provided to the agriculture sector:

Participants in training are relatively few compared to other industry sectors and are geographically spread. Driving competition between providers does not develop the economies of scale and synergies to ensure the ongoing provision of high quality training services that meet the needs of the industry.⁴⁴⁵

⁴³⁸ Fran Ferrier, Tom Dumbrell and Gerald Burke, *Vocational education and training providers in competitive training markets* (2008) National Centre for Vocational Education Research, 8.

⁴³⁹ *ibid.*, 8.

⁴⁴⁰ Mr John Spasevski, above n 409, 11.

⁴⁴¹ Mr Greg Laidlaw, Rural and Workforce Development Officer, Moira Shire Council, *Submission 35*, 5. See also Joint submission of Dairy Industry People Development Council (DIPDC) and Dairy Australia, *Submission 89*, 6; G21–Geelong Region Alliance, Education and Training Pillar, *Submission 53*, 9; Sunraysia Institute of TAFE, *Submission 77*, 2.

⁴⁴² Sunraysia Institute of TAFE, *Submission 77*, 2.

⁴⁴³ Victorian TAFE Association, *Submission 78*, 16.

⁴⁴⁴ GOTAFE, *Submission 91*, 7.

⁴⁴⁵ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 14.

In its 2012 environmental scan AgriFood Skills Australia highlighted that thin markets are 'becoming more prevalent, jeopardising the quality of facilities, resources and teaching staff, and ultimately, the viability of delivery'.⁴⁴⁶

The Committee heard that providers and industries have adopted different strategies in an effort to manage the impact of thin markets. For example, Mr Ian Carroll, Chief Finance and Accounting Officer from the Central Gippsland Institute of TAFE (GippsTAFE), told the Committee that GippsTAFE had been combining agricultural classes where there were common units of study and introducing more flexible online learning tools to help address the issue.⁴⁴⁷

Mr Shane Hellwege, Group Manager of Industry, People and Capability at Dairy Australia, explained that the National Centre for Dairy Education Australia (NCDEA), which delivers dairy-specific training across Victoria, as well as interstate, was set up to address the issue of thin training markets:

It was set up because what we saw were isolated pockets of delivery trying to be done in very thin markets and essentially not being viable for a training organisation ... It means that someone looking to do a diploma, for example — remembering we are national — in South Australia, where there might be only one or two interested in doing that level of qualification, because it is a thin market there it means it gives us the opportunity to combine that with delivery into Queensland or New South Wales or into Victoria in different regions as well and I guess get together a cohort of students who can be serviced by a central national centre in terms of being able to do that. That may entail actually physically moving people at times, but we are also expending a lot of effort on looking at e-learning solutions to be able to deliver that and centrally delivered and locally assessed ...⁴⁴⁸

However, the Wellington Shire Council submitted that some measures implemented by RTOs to deal with thin markets are not meeting the needs of the agriculture sector:

The RTO compromise can often be, combining classes such as Horticulture and Ag Horticulture which does not provide an ideal result for students. This does not meet the needs of industry. The alternative of not running such training is even worse.⁴⁴⁹

Many contributors to the Inquiry called for greater recognition of the costs of operating in thin markets. For example, Rural Skills Australia submitted:

Even when there is a loading for our sector it still does not take into account the real costs of operating in regions and in often thin markets. Many RTO's indicate to us that they are finding [it] increasingly difficult to make the dollars fit. In addition the amount of funding that does not make it to the 'coal face' but is absorbed by RTO administrations should be looked at as a matter of urgency.⁴⁵⁰

The Committee notes the newly introduced regional loading, which is discussed below, may help to alleviate some of the additional costs faced by agricultural training providers operating in thin markets. However, the Committee remains concerned about the potential for the thin agricultural training market to threaten the viability of delivery in regional areas. The Committee believes that the issue of thin training markets must

⁴⁴⁶ AgriFood Skills Australia, *2012 Environmental scan of the agrifood industry* (2012), 21.

⁴⁴⁷ Mr Ian Carroll, Chief Finance and Accounting Officer, Central Gippsland Institute of TAFE, *Transcript of evidence*, Ellinbank, 14 February 2012, 5.

⁴⁴⁸ Mr Shane Hellwege, Group Manager, Industry, People and Capability, Dairy Australia, *Transcript of evidence*, Melbourne, 6 March 2012, 6.

⁴⁴⁹ Wellington Shire Council, *Submission 63*, 6.

⁴⁵⁰ Rural Skills Australia, *Submission 80*, 4. See also The State Agriculture Provider Network, *Submission 40*, 3; AgriFood Skills Australia, *Submission 51*, 4; Longerenong College, *Submission 39*, 3; Primary Skills Victoria, *Submission 84*, 15.

ultimately be addressed by attracting more people into agricultural training in rural and regional areas. Many of the recommendations in this report are directed at this objective, particularly those aimed at improving the image of agriculture and promoting careers in the sector (see chapter two).

5.2.2 The cost of delivering agricultural VET

Both public and private training providers are able to access government funding for delivering training to students with a government-subsidised training place. Funding is currently allocated to providers on the basis of a formula that takes into account the qualification level, the weighting allocated to the course being undertaken and, if applicable, the weighting applied to specific students (Indigenous students or young people aged 15 to 19 who do not hold a Year 12 certificate or equivalent and are from a low socio-economic background).

Several training providers told the Committee that agricultural training is expensive to deliver under the existing funding model.⁴⁵¹ This is in addition to the cost associated with operating in a thin training market.

Agricultural training providers often maintain farms, machinery and infrastructure to support the delivery of agricultural training. For instance, Mr Phil Tripp, Head of the Department of Agriculture and Animal Science at NMIT, told the Committee that these facilities are costly to maintain, stating, 'We've got our agricultural farm which, as I said, is about 650 hectares; we've got a horse stud; vineyard and these are very expensive operations to run.'⁴⁵²

Training providers are also responsible for overseeing the provision of any workplace-based training for agricultural trainees. It was noted that in agriculture, this imposes a cost burden on training providers due to the geographic spread of agricultural trainees. Ms Sylvia Vagg, Manager of Educational Development at NCDEA, explained:

It is quite an expensive model when you have got disparate groups. It is not like welcoming you into the factory floor and picking up 14 trainees and spending the whole day. You might have driven two hours to do that, but you pick up 14 trainees. In our space you pick up two if you are lucky in a day, and the dairy industry tends to be closely populated.⁴⁵³

Similarly, Mr Bill Hamill, Chief Executive Officer of Rural Industries Skill Training, stated:

Agriculture is something that you do not just have in a classroom. We cannot bring 50 people into a classroom and train them in agriculture ... We do all our training in the workplace. We have them out on farms, we do fencing, we do livestock handling and all those are on-farm. Under the traineeship program we have got to visit the student four times a year on the farm, in their workplace. We do it more, but that costs money, so we have got cars and we have got people. It would be different if we were delivering hospitality or something like that where we

⁴⁵¹ Mr Greg Hallihan, Executive Officer, Primary Skills Victoria, *Transcript of evidence*, Melbourne, 7 November 2011, 6; Mr Bill Hamill, above n 422, 4; Mr Paul Culpan, Chief Executive Officer, GOTAFE, *Transcript of evidence*, Shepparton, 3 November 2011, 6; Rural Industries Skill Training, *Submission 81*, 6; VFF, *Submission 64*, 7; Faculty of Earth Sciences, NMIT, *Submission 29*, 4; Mr Phil Tripp, Head, Department of Agriculture and Animal Science, NMIT, *Transcript of evidence*, Melbourne, 5 December 2011, 6; Ms Sylvia Vagg, Manager, Educational Development, National Centre for Dairy Education Australia, *Transcript of evidence*, Melbourne, 7 November 2011, 11.

⁴⁵² Mr Phil Tripp, above n 451, 6. See also Mr Rob MacGregor, Seasonal teacher, Chisholm Institute of TAFE, *Transcript of evidence*, Melbourne, 6 March 2012, 2.

⁴⁵³ Ms Sylvia Vagg, above n 451, 11. See also Mr John Brereton, General Manager, Industry Development Community College Gippsland, *Transcript of evidence*, Ellinbank, 14 February 2012, 2.

could just bring everyone together, but we are out there ... and the costs just mount, but the funding is not matching it.⁴⁵⁴

Several witnesses also told the Committee that training was simply more expensive to deliver in rural and regional locations. The State Agriculture Provider Network, which represents a diversity of RTOs delivering agricultural VET in Victoria, explained that 'there is little acknowledgement that typically it costs regional providers more to provide training in regional areas, due to costs of travel, access to resources, higher costs of good[s] & services etc'.⁴⁵⁵

There have been a number of changes to the funding arrangements for Victorian training providers since the Committee gathered this evidence as a result of the 2012 reforms set out in *Refocusing Vocational Training in Victoria*.

The weighting system for government-subsidised training has changed from being based on an industry weighting to each individual qualification attracting a subsidy weighting. Under the new regime, foundation and apprenticeship qualifications attract higher hourly rates, while lower rates are attributed to diplomas and above (as student loans are available) and to lower-level certificates where the direct vocational benefit has been deemed to be lower.⁴⁵⁶

Providers are also now able to set fees at a level that they believe reflects the cost of their training due to the removal of the maximum hourly cap on fees. Finally, all government-subsidised training delivered in non-metropolitan areas now receive a 5% loading.⁴⁵⁷ This loading replaces the previous funding that TAFE institutes received for regional provision.

The changes to provider funding arrangements applied to all new course commencements from 1 July 2012, with continuing students transitioning to the new fee arrangements from 1 January 2013.⁴⁵⁸

It is too early to tell whether these funding reforms will address the concerns of training providers regarding the cost of delivering agricultural training. However, the Committee believes it is important for the continuation of these courses that the funding rate for agricultural training fairly reflects the costs of delivery.

The Committee recommends that the Victorian Government monitor the impact of the recent fee and funding reforms on agricultural training providers to determine whether tuition subsidies are adequate.

Recommendation 23: Monitoring the impact of funding reforms on agricultural training providers

That the Victorian Government monitor the impact of the 2012 fee and funding reforms on agricultural training providers to determine whether tuition subsidies are adequate.

⁴⁵⁴ Mr Bill Hamill, above n 422, 4.

⁴⁵⁵ The State Agriculture Provider Network, *Submission 40*, 3. See also Longerenong College, *Submission 39*, 3; Community College Gippsland, *Submission 50*, 9; Rural Skills Australia, *Submission 80*, 4.

⁴⁵⁶ Department of Education and Early Childhood Development (Victoria), *Refocusing vocational training – government subsidies* (n.d.), 1. Available at <<http://www.eduweb.vic.gov.au/edulibrary/public/commrel/vet-subsidies.pdf>> viewed 10 October 2012.

⁴⁵⁷ Department of Education and Early Childhood Development (Victoria), *Training provider questions*, <<http://www.education.vic.gov.au/about/directions/vetfaqprovider.htm>> viewed 1 June 2012.

⁴⁵⁸ *ibid.*

5.2.3 The language, literacy and numeracy levels of agricultural students in the VET sector

Approximately half of working age Australians experience problems with language, literacy and numeracy skills and 13% are classified in the lowest literacy category.⁴⁵⁹

A number of training providers identified students' low language, literacy and numeracy levels as a barrier to effective learning amongst the agricultural workforce. For instance, Mr John Brereton, General Manager, Industry Development at Community College Gippsland, a not-for-profit RTO, stated that many trainees require literacy and numeracy support in order to complete their traineeship.⁴⁶⁰

It was also highlighted that there is a relatively high proportion of people from non-English speaking backgrounds working in the agriculture sector and these people may need greater language, literacy and numeracy support as part of any VET training. Mr Michael Schaefer, Executive Officer of AusChem Training (Vic), which promotes training in the use of agricultural and veterinary (AgVet) chemicals in Victoria, explained the challenge for training providers delivering AgVet chemical courses to individuals from non-English speaking backgrounds:

All the labels of chemicals in Australia are produced only in English, so if people cannot read the label and interpret it, I really struggle with the idea that they can actually successfully complete a course at level III, because that is one of the clear elements of competency and performance criteria and it underpins the rest of all of their capacity to apply chemicals safely. It is really important that any RTO that was to deliver the AgVet chemical course, ought to be delivering it within the context of an English language program so that it is done to build up their literacy and numeracy levels in English at the same time, not done independently.⁴⁶¹

The 11 Industry Skills Councils, which are responsible for providing advice on the workforce development and skills needs in their area of industry coverage, released a report in 2011 examining the language, literacy and numeracy problems experienced by Australian workers and students in the VET system. The report, *No more excuses*, made a range of recommendations, including:

- increasing the capacity in the VET system, and of all practitioners, to support the language, literacy and numeracy skill development needs of students and workers
- better identification of the language, literacy and numeracy skills of students before training, and targeted funding to address identified language, literacy and numeracy skill gaps.⁴⁶²

AgriFood Skills Australia is already working with VET teachers and training providers to build their capacity to integrate language, literacy and numeracy skills into training for the agrifood sector. AgriFood Skills Australia has also developed a series of publications

⁴⁵⁹ Industry Skills Council, *No more excuses: An industry response to the language, literacy and numeracy challenge* (2012), ii. Available at <http://www.isc.org.au/pdf/NoMoreExcuses_FINAL%20single%20page.pdf> viewed 19 June 2012.

⁴⁶⁰ Mr John Brereton, above n 453, 3. See also VFF, *Submission 64*, 5; Mr Michael Schaefer, Executive Officer, AusChem Training (Vic), *Transcript of evidence*, Ellinbank, 14 February 2012, 4; Charles Darwin University, *Submission 11*, 1; Community College Gippsland, *Submission 50*, 4.

⁴⁶¹ Mr Michael Schaefer, above n 460, 4. See also Mr Gary Godwill, Director, Fruit Growers Victoria, *Transcript of evidence*, Shepparton, 3 November 2011, 6-7.

⁴⁶² Industry Skills Council, above n 459, 1.

aimed at building the language, numeracy and literacy skills and understanding of VET practitioners working with the agrifood sector.⁴⁶³

The Committee believes there would be benefit in the Victorian Government supporting and promoting the work of AgriFood Skills Australia in the area of language, literacy and numeracy.

More broadly, the Committee acknowledges that improving the language, literacy and numeracy skills of the Australian workforce represents a significant challenge for all levels of government. The Committee believes that Victorian Government should continue to work with the Australian Government to raise language, literacy and numeracy skills in Australia.

Recommendation 24: Improving language, literacy and numeracy skills of agricultural students

That the Victorian Government support and promote the work of AgriFood Skills Australia to integrate language, literacy and numeracy skills into agricultural training.

5.3 Increasing participation in agricultural VET

This section focuses on the challenges that students face in accessing or completing agricultural training in the VET sector and explores ways to improve participation and retention in agricultural training.

5.3.1 The cost of training

The Committee heard that cost can be a major barrier to students accessing vocational agricultural training.

A cost-sensitive sector

The amount that a student or employer pays for training varies according to the course and whether the student qualifies for a government-subsidised training place or a student concession. A number of submissions suggest that the current fee levels for agricultural courses present a barrier to participation, particularly where students or employers are required to pay full tuition fees. For instance, the Young Agribusiness Professionals, which is part of the Victorian Farmers Federation and represents farmers and agribusiness professionals aged between 18 and 35, submitted:

A key barrier for agricultural education in Australia is cost. Price shock of courses is an extenuating factor in determining whether a farmer will engage in additional education. Many farmers who wish to undertake skills deepening are only able to do so at considerable personal cost to them. With the price of agricultural courses, in particular Certificates 3 and 4 now being over double the amount they were several years ago, there is no incentive to upskill.⁴⁶⁴

Similarly, Mr Alan Broughton, an organic agriculture educator and researcher at the Organic Agriculture Association and Australian Landscape Trust, explained that the tuition fees had been a disincentive for persons undertaking training in the Diploma of

⁴⁶³ *ibid.*, 25.

⁴⁶⁴ Young Agribusiness Professionals (YAPs), VFF, *Submission 76*, 6. See also United Dairyfarmers of Victoria, *Submission 33*, 1.

Agriculture specialising in organics, a course that was developed by the Organic Agriculture Association:

One of the biggest barriers, I think, is the fee structure ... There have been quite a lot of people who have been very interested in doing the course, but when they have heard what the fees are they have said, 'No, it's just not possible'.⁶⁷

The evidence suggests that the agriculture sector is sensitive to the cost of training. DIPDC and Dairy Australia attribute this sensitivity in the dairy industry to two key factors. Firstly, the industry is made up of a high proportion of family businesses, many of which have been under significant stress from drought and the global financial crisis. Secondly, there is a culture within the sector that values practical on-the-job experience over formal learning or qualifications and a history of accessing new industry thinking and knowledge through free extension services.⁴⁶⁵

DIPDC and Dairy Australia highlighted that price sensitivity assessments of the industry had found that even the cost of some government-subsidised courses were above the cost that farmers were willing to pay. In response the dairy industry has subsidised key industry training programs.⁴⁶⁶

In the next section, the Committee discusses the Victorian Training Guarantee (VTG) and makes a number of recommendations aimed at increasing access to government-subsidised training. The Committee considers that the implementation of these recommendations will help to address some of the concerns raised regarding the cost of agricultural training. However, there will always be a cohort of students required to pay full fees to access training and their participation is likely to be determined by whether they perceive a private benefit in undertaking the training. In this regard, the Committee believes it is vital that the agriculture sector and employers place a greater value on, and begin to demand, formal qualifications in the workforce, as was highlighted in chapter two.

Access to government-subsidised training under the Victorian Training Guarantee

Students who are eligible for government funding under the VTG pay subsidised tuition fees to training providers. To be eligible to access a government-subsidised training place, individuals must meet one of the following criteria:

- under 20 years of age
- undertaking a foundation skills course
- undertaking an apprenticeship
- undertaking a certificate II or above level qualification, where their existing highest qualification is the Victorian Certificate of Education (VCE) or Victorian Certificate of Applied Learning (VCAL)

⁴⁶⁵ Mr Alan Broughton, Organic agriculture educator and researcher, Organic Agriculture Association and Australian Landscape Trust, *Transcript of evidence*, Ellinbank, 14 February 2012, 2.

⁴⁶⁶ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 27.

- twenty years and older and upskilling by undertaking a course at a higher level than their existing qualification.⁴⁶⁷

In addition, individuals must be an Australian citizen, an asylum seeker or a holder of a permanent or temporary protection visa.

There was widespread discontent among the Inquiry participants about the operation of the VTG. In particular, stakeholders felt that several of the eligibility criteria for a subsidised training place are too restrictive and impact on the ability of people to participate in agricultural training. The key concerns with respect to the criteria are outlined below.

Upskilling requirement

Individuals who are 20 years and older are eligible for a government-subsidised training place if they are undertaking training at a higher qualification than any qualification they currently hold. This is referred to as 'upskilling'. The exceptions to this are if the person is enrolling in a foundation skills course (these relate mainly to language, literacy and numeracy) or an apprenticeship.

The evidence to the Committee overwhelmingly suggests that the agriculture sector and training providers are opposed to the upskilling criteria in its current form.⁴⁶⁸ Most participants were concerned that it impedes the ability of the agriculture sector to build a skilled workforce and address skills shortages. For example, Rural Industries Skill Training submitted:

Agriculture is a net importer of labour and often people entering an agricultural career may have gained a trade in another industry (building, manufacturing, commerce). Because in most cases this trade level is equal to or higher than a Certificate III level, those new entrants are not eligible for a government funded training place at either a Certificate II or Certificate III level. These are the foundation levels for skills training that a new entrant into the industry would require to become employable. As agriculture has very real skills and labour shortage[s] the current eligibility requirements are a barrier to building capacity and a productive workforce in agriculture.⁴⁶⁹

Several industry bodies told the Committee that the upskilling criteria was impacting on their ability to attract individuals seeking a career change into their industries. Mr John Wilson, General Manager of Fruit Growers Victoria, the peak body for the pome fruits industry in Victoria, told the Committee:

Retraining is an area where we can gain a lot of people into our industry. Some people are looking for the proverbial sea change ... We have come across a lot of that. However, at \$300 to \$400 a unit, we are looking at \$5000-odd for a diploma course that these people want to complete. It is beyond a lot of people's means. If they have some sort of higher education, they are precluded from the subsidies at the moment, so whilst we do not want to create a scenario

⁴⁶⁷ Department of Education and Early Childhood Development (Victoria), *Refocusing vocational training in Victoria* (2012), 5.

⁴⁶⁸ Mr Shane Hellwege, above n 448, 7; Mr John Wilson, General Manager, Fruit Growers Victoria, *Transcript of evidence*, Shepparton, 3 November 2011, 4; Mr Phil Tripp, above n 451, 5 December 2011, 7; Mr Nathan Scott, Group Coordinator, Better Beef Network and Consultant, Mike Stephens and Associates, *Transcript of evidence*, Ballarat, 28 November 2011, 3; Mr Stuart Grigg, Principal Shearing Coach, SCAA Shearer Woolhandler Training, *Transcript of evidence*, Ballarat, 28 November 2011, 5; The Australian Veterinary Association (Victorian Division), *Submission 66*, 1; VFF, *Submission 64*, 7; Mr John Brereton, above n 453, 3; Wellington Shire Council, *Submission 63*, 6; YAPs, *Submission 76*, 10; Longerenong College, *Submission 39*, 3; Rural Skills Australia, *Submission 80*, 6; GOTAFE, *Submission 91*, 9; Primary Skills Victoria, *Submission 84*, 11-13; Faculty of Earth Sciences, NMIT, *Submission 29*, 3.

⁴⁶⁹ Rural Industries Skill Training, *Submission 81*, 4.

of professional students, where there is a legitimate opportunity opening up and somebody is supported by an agronomic business, I think it would be beneficial if that was dropped as a barrier.⁴⁷⁰

Similarly, Mr Stuart Grigg, Principal Shearing Coach of SCAA Shearer Woolhandler Training, an industry-run RTO, stated:

Our biggest conflict is where we bring the ones who have come from a plumbing or building background and want to be retrained in the shearing industry, and there is nothing really transferable. It is a whole new set of skills they have to learn. Because they have come from that background, there is no funding for them.⁴⁷¹

A number of participants also submitted that, within the agriculture sector, it can be important for a person to obtain qualifications at the same or lower level due to the diversity of work undertaken on a farm and the upskilling criteria impedes the ability to do this. For example, Mr Brereton of the Community College Gippsland, explained:

It is a multidisciplinary area — in other words, often you need engineering expertise, you need business acumen and business expertise and in some cases you need a background in agronomy. It is not unusual in a small owner-operator business for someone to wish to have a number of qualifications to service that enterprise, so if they already have a diploma of agriculture and they want a diploma in business management or something like that, then they are precluded under the funding law. I think agriculture is particularly unique in this sense because of the, let us say, multifaceted nature of an agriculture enterprise.⁴⁷²

A number of Inquiry participants argued that individuals should be able to access subsidised training under the VTG once their existing qualifications become outdated. For example, Primary Skills Victoria stated:

Those with qualifications held in excess of seven years may well have met industry requirements then; but it has to be questioned whether they can continue to reflect the ongoing needs of a dynamic workforce. A “sunset clause” should exist to encourage workers with outdated qualifications to access subsidised training rather than create financial barriers that deter an ageing workforce to learn new skills.⁴⁷³

Participants identified that this sunset period should apply when a person’s pre-existing qualifications are over five or seven years old. In its review of VET fees and funding, the Essential Services Commission recommended that the Victorian Government should consider allowing people whose highest qualification is between seven and 15 years old access to a partially subsidised training place for enrolment in a qualification at an equivalent level, and access to a subsidised training place where their qualification is greater than 15 years old.⁴⁷⁴

Some Inquiry participants suggested that all people undertaking agricultural training should be eligible for subsidised places under the VTG given the skills shortages facing the sector. For instance, NMIT submitted, ‘Subsidised training across the spectrum of

⁴⁷⁰ Mr John Wilson, above n 468, 4.

⁴⁷¹ Mr Stuart Grigg, above n 468, 5.

⁴⁷² Mr John Brereton, above n 453, 4. See also Community College Gippsland, *Submission 50*, 6; Primary Skills Victoria, *Submission 84*, 12.

⁴⁷³ Primary Skills Victoria, *Submission 84*, 23-24. See also The State Agriculture Provider Network, *Submission 40*, 3; VFF, *Submission 64*, 13; YAPs, *Submission 76*, 10; Rural Skills Australia, *Submission 80*, 6.

⁴⁷⁴ Essential Services Commission (Victoria), *VET fee and funding review. Volume 1: Blueprint for change* (2011), 26.

the industry should be reintroduced to encourage participation in the sector of qualified, skilled staff and new entrants.⁴⁷⁵

DEECD's submission noted that a high proportion of individuals within the agriculture sector should be eligible for a subsidised training place due to the low qualification levels of the workforce:

There is concern in the sector about the upskilling criteria of the Victorian Training Guarantee (VTG) in relation to career changers ... and graduates who may need to build specialist vocational training on top of their diplomas or degrees. Given the high proportion of individuals working in the sector who hold no post-school qualifications, the Government notes that there are considerably more individuals in the agricultural sector who would be able to access government-subsidised training through the VTG, than would be ineligible.⁴⁷⁶

The Committee believes it is important that there are not significant cost barriers for people seeking to enter the agriculture sector or for existing workers seeking to obtain a breadth of qualifications. At the same time, the Committee acknowledges that VET funding must be sustainable.

The Committee believes that an appropriate balance might be struck if the Victorian Government were to allow individuals whose highest qualification is over seven years old to access subsidised training places in the VET sector. Given the potential funding implications of this decision, the Committee believes that the Victorian Government should review this proposal and consider whether the funding should be restricted to training for occupations experiencing skills shortages, such as the agriculture sector, or whether the subsidy should be full or partial.

Recommendation 25: Reviewing the application of the Victorian Training Guarantee to individuals with previous qualifications

That the Victorian Government review the feasibility of allowing individuals whose highest qualification is over seven years old to access subsidised training places under the Victorian Training Guarantee.

Apprenticeships and traineeships

Under the VTG, government-subsidised training places are available to people undertaking training as part of an apprenticeship, regardless of age or pre-existing qualifications. This does not extend to traineeships. Individuals undertaking a traineeship are only eligible for subsidised training if they meet one of the other criteria in the VTG.

A number of stakeholders contended that traineeships and apprenticeships should be treated consistently for the purposes of the VTG. For example, the Victorian Farmers Federation, the state's peak body for farmers, submitted:

As agricultural apprentices are now referred to as "trainees" they miss out on funded training if they have a prior qualification and chose to engage in an Australian Apprenticeship. The VFF believes that agriculture trainees are discriminated against. The trainees' work function is the same as those employed in a traditional Apprenticeship yet they do not have access to funding like their apprenticeship colleagues do.⁴⁷⁷

⁴⁷⁵ Faculty of Earth Sciences, NMIT, *Submission 29*, 4. See also Country Women's Association of Victoria, *Submission 43*, 2; Wellington Shire Council, *Submission 63*, 9.

⁴⁷⁶ DEECD, *Submission 82*, 24.

⁴⁷⁷ VFF, *Submission 64*, 7. See also Mr Greg Hallihan, above n 451, 10; Primary Skills Victoria, *Submission 84*, 16-17.

In its review of VET fees and funding the Essential Services Commission also recommended that the Victorian Government treat trainees and apprentices consistently under the VTG.⁴⁷⁸

Mr Spasevski of Skills Victoria explained that a decision was made to treat apprenticeships and traineeships differently under the VTG due to the entry requirements for occupations that rely on apprenticeships or traineeships:

In order to become an electrician or a plumber you have no option but to go the apprenticeship route, as opposed to some other occupations that rely on traineeships in retail and hospitality. You can get into those occupations without having to necessarily go down the apprenticeship or traineeship pathway.⁴⁷⁹

Traineeships are an important entry-level pathway into the agriculture sector. The Committee considers that, at a minimum, the eligibility criteria under the VTG should be expanded to include trainees from occupations experiencing skills shortages.

Recommendation 26: Treatment of agricultural traineeships under the Victorian Training Guarantee

That the Victorian Government enable individuals undertaking traineeships in occupations experiencing skills shortages to access government-subsidised training places under the Victorian Training Guarantee.

The treatment of VCE and VCAL

At the time the Committee gathered evidence for the Inquiry, VCE and VCAL were equated to a certificate II qualification for the purpose of the VTG. This meant that these school-based qualifications were taken into account for determining whether individuals twenty years and older were upskilling.⁴⁸⁰

A number of stakeholders argued that VCE and VCAL should not be taken into account for the purpose of the VTG. For example, the Victorian Farmers Federation submitted, 'This restriction prevents students wishing to study agriculture accessing critical technical competencies required at this Certificate II level'.⁴⁸¹

As part of the recent VET reforms, the VTG was expanded to provide subsidised training places to individuals undertaking a certificate II or above level qualification where their existing highest qualification is VCE or VCAL.⁴⁸² The Committee considers that this amendment to the VTG responds positively to the concerns raised during the Inquiry.

5.3.2 The availability of agricultural VET across Victoria

Agriculture is carried out across much of Victoria and unsurprisingly a significant amount of Victoria's agricultural training is delivered in the inner and outer regional areas of Victoria.

The Victorian TAFE Association submitted that, amongst TAFE providers, the delivery of qualifications from the RTE03 training package in 2010 was dominated by regional

⁴⁷⁸ Essential Services Commission, above n 474, 25.

⁴⁷⁹ Mr John Spasevski, above n 409, 6.

⁴⁸⁰ Letter from Minister for Education and Minister for Higher Education and Skills, above n 402, 5.

⁴⁸¹ VFF, *Submission 64*, 7. See also The State Agriculture Provider Network, *Submission 40*, 4; YAPs, *Submission 76*, 6; Primary Skills Victoria, *Submission 84*, 16.

⁴⁸² Department of Education and Early Childhood Development, above n 467, 5.

providers and reflected local specialisations, for example there was a greater focus on production horticulture in north west Victoria and a greater focus on dairy in the Gippsland region and north east Victoria.⁴⁸³

Mr John Goldsmith, Chair of the State Agriculture Provider Network, commented that he believes there is adequate geographic coverage across the state in terms of agricultural training providers.⁴⁸⁴ However, some stakeholders noted that transport to training is often an issue for young people in regional areas. For example, the Wellington Shire Youth Council, which is made up of 18 people between the ages of 12 to 25 who represent young people within the shire, submitted:

Young people have identified that transport to and from an educational institution would affect whether they enrolled in a class or not. There is inadequate transport available to the public, and [the] majority of young people have to rely on someone else to drive.⁴⁸⁵

Similarly, the Country Women's Association of Victoria, a volunteer organisation for women from urban and regional areas, noted that there is '[a]lmost non-existent public transport to get to work on a farm or to a study location' for people aged over 16 years old.⁴⁸⁶

The Committee heard that even where public transport is available, students must often commute long distances to access training institutions. Dr Wanda Korndorffer, Director of Innovation at the Gordon Institute of TAFE, who appeared on behalf of the G21—Geelong Region Alliance, a formal alliance of government, business and community organisations across five municipalities in the Geelong region, stated:

We do have apprentices in horticulture, for example, from the Colac region who will travel to our east campus. For some of them, that is an hour to get to the railway station, an hour travelling on the train, waiting for a bus, then another maybe 15 minutes or so to get to our east campus, and then the return journey at night. They may not even get home till half past nine at night.⁴⁸⁷

A range of recommendations were made by stakeholders to enhance the availability of transport to agricultural training in regional Victoria. These include:

- introducing a restricted driver's licence to allow young people to attend work or training⁴⁸⁸
- introducing subsidised transport⁴⁸⁹
- providing all TAFE students with free travel on school buses.⁴⁹⁰

Several stakeholders also observed that information and communications technology (ICT) has significant potential to improve access to training in regional and remote

⁴⁸³ Victorian TAFE Association, *Submission 78*, 9.

⁴⁸⁴ Mr John Goldsmith, Chair, The State Agricultural Provider Network, *Transcript of evidence*, Horsham, 29 November 2011, 2.

⁴⁸⁵ Wellington Shire Youth Council, *Submission 63A*, 3. See also Faculty of Earth Sciences, NMIT, *Submission 29*, 4; The State Agriculture Provider Network, *Submission 40*, 3; Country Women's Association of Victoria, *Submission 43*, 1; South Gippsland Bass Coast Local Learning and Employment Network (LLEN), *Submission 47*, 3; South West LLEN, *Submission 95*, 4.

⁴⁸⁶ Country Women's Association of Victoria, *Submission 43*, 1.

⁴⁸⁷ Dr Wanda Korndorffer, Director, Innovation, The Gordon Institute of TAFE, G21—Geelong Region Alliance, *Transcript of evidence*, Melbourne, 24 October 2011, 5.

⁴⁸⁸ Country Women's Association of Victoria, *Submission 43*, 1.

⁴⁸⁹ Faculty of Earth Sciences, NMIT, *Submission 29*, 4.

⁴⁹⁰ Gippsland East LLEN, *Submission 65*, 15.

areas. For example, Skills Australia, which was the independent statutory body formerly responsible for providing advice to the Australian Government on workforce skills needs, submitted:

Information and Communications Technology (ICT) has the potential to be a critical tool in providing greater access to learning, including across rural, regional and remote areas. The continuing integration of ICT into VET is essential to the realisation of individual learner and employer aspirations.⁴⁹¹

A number of training providers are already using ICT to assist with the delivery of agricultural training. For example, Rural Skills Australia has developed the Rural Skills Online Program that enables trainees enrolled with participating RTOs to access web-based learning resources for over 100 units of competence from the AHC10 training package. Mr Griffin of Rural Skills Australia highlighted that these online resources reduce the amount of time students need to spend in a classroom:

What we provide is the knowledge component sitting on a website tied in with what we call a training tracker, which is a tool that gives the provider the mechanism to set up the assessment process and communicate that with the learner, so they do not have to be in the classroom doing stuff on the whiteboard. The knowledge stuff — the reading, the research, the information about the unit of competency — sits online. People go and do the reading, and there is a short assessment or a test-your-knowledge item about what you have read.⁴⁹²

However, there was consensus that the hands-on nature of agriculture means that technology can never fully replace face-to-face training. Rather, stakeholders noted that both forms of delivery need to be blended. For example, Councillor David Cotsell, a member of the Education and Training Pillar and the Environment Pillar of the G21—Geelong Region Alliance, explained:

Online training may contribute to solutions but we note that many agricultural courses require extensive hands-on and practical training by virtue of the task, as does competency assessment — handling of livestock, horticulture and shearing might be examples here.⁴⁹³

The Committee believes that it is vitally important to ensure that students can access agricultural training across Victoria. While noting that there appears to be an adequate number of training providers offering agricultural education in Victoria, the Committee is concerned by the reported difficulty that some rural and regional students experience in accessing these providers. The Committee suggests it would be beneficial for the Victorian Government to explore strategies to improve access to agricultural training in rural and regional areas. Possible strategies include assisting training providers to make greater use of ICT to deliver training and investigating transport solutions for VET students.

Recommendation 27: Enhancing access to agricultural VET in rural and regional areas

That the Victorian Government investigate and put in place measures to enhance access to agricultural VET in rural and regional Victoria, such as increased use of information and communications technology to deliver training courses.

⁴⁹¹ Skills Australia, *Submission 41*, 5. See also Mr Anthony Chapman, Seeds and Field Services Manager, The Wimmera Grain Company, *Transcript of evidence*, Horsham, 29 November 2011, 4; Sunraysia Institute of TAFE, *Submission 77*, 7.

⁴⁹² Mr Gordon Griffin, above n 405, 5.

⁴⁹³ Councillor David Cotsell, Member, Education and Training Pillar and Environment Pillar, G21—Geelong Region Alliance, *Transcript of evidence*, Melbourne, 24 October 2011, 3.

5.3.3 Increasing agricultural traineeship completion rates

As noted earlier, Victorian agricultural trainees have a low contract completion rate. The Committee explored this issue with several stakeholders in an attempt to determine the factors contributing to this low completion rate.

The Community College Gippsland submitted that a significant number of trainees leave due to finding better employment opportunities or because employers selected unsuitable candidates in the first place.⁴⁹⁴

Similarly, Mr Griffin of Rural Skills Australia believed that employers and trainees can make the wrong choice or circumstances simply change over the course of the traineeship period:

A lot of it depends on a number of different reasons. Some of it is about the wrong choice being made at the start. Either the employer made the wrong choice or the kid made the wrong choice. Some of it has to do with financial factors. Things change and they do not want to stay.⁴⁹⁵

Mr Spasevski of Skills Victoria told the Committee that one of the major determining factors for completing a traineeship is the relationship and environment within a trainee's workplace.⁴⁹⁶

Mr Spasevski also suggested that failing to complete a traineeship should not always be viewed as a negative:

A lot of people gain other meaningful employment during the course of their traineeship, or in fact if they are training in an area where they perhaps made a poor decision, they can move into another area where they can specialise and align more with their interests and that in fact is a good thing.⁴⁹⁷

The Victorian Government has developed an apprenticeship support officer program to provide pastoral support to young apprentices and trainees in the first year of their apprenticeship or traineeship.⁴⁹⁸ There are also apprenticeship field officers who provide regulatory advice and support to apprentices and trainees throughout the duration of their training contract.⁴⁹⁹

Primary Skills Victoria recommended that the Victorian Government adopt a more strategic approach to ensuring that employers provide adequate on-the-job support to trainees in an effort to increase traineeship retention rates.⁵⁰⁰

As part of the Australian Apprenticeships Reform announced in December 2011, the Australian Government has committed to providing more mentoring support for apprentices and trainees.⁵⁰¹

⁴⁹⁴ Community College Gippsland, *Submission 50*, 4.

⁴⁹⁵ Mr Gordon Griffin, above n 405, 3.

⁴⁹⁶ Mr John Spasevski, above n 409, 7.

⁴⁹⁷ *ibid.*, 7.

⁴⁹⁸ Department of Education and Early Childhood Development (Victoria), *Apprenticeship support officers*, <<http://www.skills.vic.gov.au/Pages/apprentices/apprenticeship-support-officers.aspx>> viewed 29 August 2012.

⁴⁹⁹ Department of Education and Early Childhood Development (Victoria), *Apprenticeship field officers*, <<http://www.skills.vic.gov.au/Pages/apprentices/apprenticeship-field-officers.aspx>> viewed 28 August 2012.

⁵⁰⁰ Primary Skills Victoria, *Submission 84*, 29.

The Committee considers that traineeships are an important career pathway into the agriculture sector. The Committee acknowledges that traineeship retention rates are influenced by a range of factors, including individuals finding that they are not suited to the role. However, the Committee believes that it is important that there is adequate support to trainees and employers of trainees in the workplace and hopes that the additional measures announced by the Australian Government will bolster the support currently offered in Victoria.

5.3.4 Pathways from higher education to VET

There is potential to increase participation in agricultural VET by encouraging agricultural higher education graduates to undertake VET qualifications.

Several stakeholders highlighted that it is becoming more common for agricultural higher education graduates to undertake agricultural VET qualifications as they often wish to build on the more theoretical knowledge they gained in their undergraduate agricultural course through a more practically orientated VET course. For example, GOTAFE submitted:

Whilst we do not have specific data outlining the degree of reverse articulation from a previous University qualification into an Agriculture VET qualification, we do know that it exists. Current state government policies around eligibility for a funded place will exclude access to this cohort of potential students.⁵⁰²

For students moving from higher education to VET, RPL and credit transfer is available. Credit transfer is a means of a student gaining credit for subjects or competencies they completed at the same or another institution or training provider.⁵⁰³

The main barrier identified for students articulating from the higher education sector into the VET sector is the cost of training.⁵⁰⁴ As discussed above, individuals who hold higher qualifications than the VET qualification they are seeking to undertake are precluded from accessing government-subsidised training under the VTG.

Professor Richard Roush, Dean, Melbourne School of Land and Environment at The University of Melbourne, also identified that there is potential to combine vocational and higher education subjects into a program:

The idea I have always had about this is to try to recreate in Australia a bit of what is done in the community college system in the United States where you can take the first two years of a four-year university program but you can also simultaneously do vocational subjects side-by-side. What is lacking in the Australian system is a capacity to actually get a few university subjects under your belt in the same distributed network that TAFE already runs.⁵⁰⁵

The Committee welcomes the evidence that it is becoming more common for agricultural higher education graduates to undertake agricultural VET. The Committee encourages

⁵⁰¹ Department of Education, Employment and Workplace Relations (Australia), *Australian apprenticeships reform* (n.d.), 2. Available at <australianapprenticeships.gov.au/documents/AustralianApprenticeshipsReform.pdf> viewed 15 August 2012.

⁵⁰² GOTAFE, *Submission 91*, 7. See also Mr Gavin Drew, *Transcript of evidence*, Ballarat, 28 November 2011, 2; Victorian TAFE Association, *Submission 78*, 17.

⁵⁰³ National Centre for Vocational Education Research, *VET glossary – Full record*, <http://www.ncver.edu.au/resources/glossary/glossary_full_record.html?query=BROWSE&entry=Credit+transfer> viewed 5 September 2012.

⁵⁰⁴ GOTAFE, *Submission 91*, 7; Victorian TAFE Association, *Submission 78*, 17.

⁵⁰⁵ Professor Richard Roush, Dean, Melbourne School of Land and Environment, The University of Melbourne, *Transcript of evidence*, Melbourne, 7 November 2011, 3.

VET providers to encourage and promote the benefits of VET qualifications to these graduates.

5.4 Ensuring VET meets the needs of the agriculture sector

This section considers whether the VET sector is currently meeting the needs of the agriculture sector. It also looks at how training can be made more responsive to the agriculture sector's needs.

5.4.1 Is agricultural VET meeting the needs of the agriculture sector?

The evidence is mixed on whether agricultural VET is currently meeting the needs of the Victorian agriculture sector.

Recent research on the Victorian agrifood sector undertaken at the request of Regional Development Victoria looked at whether current training within the TAFE sector is meeting the sector's needs. The research found that there were differing views amongst the agriculture sector on this issue:

There is criticism across the agrifood industry that regional TAFE colleges are not generally engaging with local industry and specialising strongly enough in skills needed in the local agrifood industry sectors. Instead they are developing more general programs such as hairdressing or bookkeeping which can be delivered anywhere. This issue with TAFE is not universal. A number of respondents to the research indicated that they work very closely with the TAFE in their area and the TAFE programs were becoming much more aligned with their industry sector needs.⁵⁰⁶

The Committee was told about a number of examples where training is meeting the needs of a relevant industry. For example, Mr Wilson of Fruit Growers Victoria, stated, 'We have nothing but praise for two TAFE colleges — ECG McMillan based in Warragul and GOTAFE here [Shepparton]. We work well with both of them and have done exactly that.'⁵⁰⁷

NCDEA, which provides dairy-specific training throughout Victoria, was commonly cited as a training model that is meeting the needs of the dairy industry. For example, Mr Laidlaw of Moira Shire Council, commented:

Instead of NCDEA delivering ad hoc courses they communicate with the agricultural sector to establish the need and demand in certain areas of the sector. The NCDEA is highly responsive in meeting these needs, offering innovative solutions to industry training issues.⁵⁰⁸

⁵⁰⁶ McKinna et al, *Performance issues impacting the development of the Victorian agrifood sector* (2010), 229. Available at <http://www.rdv.vic.gov.au/__data/assets/pdf_file/0004/67963/McKINNA-DBI-Agrifood-sector-report-5-NOVEMBER-2010.pdf> viewed 15 August 2012.

⁵⁰⁷ Mr John Wilson, above n 468, 3. See also Mr Barry Batters, Chair, Grains Industry Training Network, *Transcript of evidence*, Melbourne, 7 November 2011, 8; Regional Development Australia Barwon South West Committee, *Submission 31*, 6.

⁵⁰⁸ Mr Greg Laidlaw, *Submission 35*, above n 441, 4. See also Mr John Dalton, Chair, WestVic Dairy, *Transcript of evidence*, Glenormiston, 30 November 2011, 3; Ms Sarah Parker, Chief Executive Officer, Murray Dairy, *Transcript of evidence*, Shepparton, 3 November 2011, 4; Ms Louise Sheba, Project Manager, DemoDAIRY, *Transcript of evidence*, Glenormiston, 30 November 2011, 7; Greater Shepparton City Council, *Submission 30*, 1; South Gippsland Bass Coast LLEN, *Submission 47*, 4.

Ms Geraldine Christou, Manager of Economic Development at the Greater Shepparton City Council, observed that the change to demand-driven funding has meant that training providers must increasingly ensure that the training they offer is relevant to industry. She noted:

Now, particularly with Goulburn Ovens TAFE, they have been forced to actually look more at what the industry requires, because of course they are getting funding for the actual number of students who are attending the courses rather than for running the courses. They have had to really meet the needs of industry.⁵⁰⁹

However, not all stakeholders felt that the needs of the agriculture sector were being met by training providers. In particular, it was noted that some training is too generalised and needs to be tailored to specific industry needs. For example, the Vegetable Growers' Association of Victoria submitted:

Issues surrounding education and training relate to the courses not being consistent with the vegetable industry practices and do not satisfy the training that employers are requiring for their employees. The general opinion is that courses currently available through TAFE do not meet the requirements of the vegetable industry.⁵¹⁰

Mr Rod Hall, the Association's Membership Services Coordinator, explained to the Committee that the diversity of the vegetable growing industry makes it difficult to meet the needs of individual growers:

It is the diversity of this industry, it is not a single crop. There are so many different ways of growing lettuce, many types of lettuce being grown these days — iceberg, cos lettuce et cetera at different times of the year. Those growers have specific needs for their workers to understand how they are going to manage those particular requirements of their crop. They believe, maybe as it has been experienced in opportunities in the past, the breadth of training has not been available or that specific training has not been available. That is where the bricks and mortar training facilities has become less of a valued opportunity.⁵¹¹

Similarly, Mr Ross Cardile, an agriculture teacher at NMIT, explained that different employers want different skills from graduates so it can be difficult for training providers to ensure that a graduate is work-ready:

work-ready for some people might be working in an industry where they need to use a chainsaw or they need to fence, in another operation it might be muster and move livestock or artificially inseminating livestock so it's a difficult thing. Work-ready to me is a little bit like getting a licence, they'll come in and they'll get qualifications but then they'll have to go out into the industry and develop the skills and, I suppose, the expertise in that particular field.⁵¹²

Some stakeholders also noted that the training available within their region was not meeting the needs of the local agriculture sector. The G21 Agribusiness Forum stated that the diversity of the agriculture sector posed a challenge for local education and training providers. The Forum submitted:

there is not a diverse enough range of training options in the region to meet the variety of needs of the agriculture sector. Therefore to undertake training and education individuals often have to travel outside the Region, this acts a major barrier to educational attainment; as individuals do not have opportunity to leave their operations or places of employment for [a]

⁵⁰⁹ Ms Geraldine Christou, Manager, Economic Development, Greater Shepparton City Council, *Transcript of evidence*, Shepparton, 3 November 2011, 3.

⁵¹⁰ Vegetable Growers' Association of Victoria, *Submission 49*, 1.

⁵¹¹ Mr Rod Hall, Membership Services Coordinator, Vegetable Growers' Association of Victoria, *Transcript of evidence*, Melbourne, 24 October 2011, 3.

⁵¹² Mr Ross Cardile, Agriculture teacher, NMIT, *Transcript of evidence*, Melbourne, 5 December 2011, 3.

large amount of time to undertake study, or have the resources to stay in another Region when undertaking study.⁵¹³

The Committee welcomes the evidence that a number of industries are working closely with training providers to ensure that training meets industry needs. However, the Committee acknowledges that there are still some industries and regions where there is dissatisfaction with the agricultural training on offer. The next section discusses ways for ensuring that VET meets the need of the agriculture sector.

5.4.2 VET that meets the needs of the agriculture sector

This section explores the learning preferences of the agriculture sector and ways to make sure that VET meets the sector's needs.

The need for flexibility

The Committee heard that agricultural training needs to be flexible to accommodate the training preferences and availability of the agricultural workforce. Mr Anthony Chapman, Seeds and Field Services Manager at the Wimmera Grain Company, explained that the workload of those employed in agriculture places constraints on when farmers and employees can attend training:

With the old grain system where there were lulls during the year there might have been two or three months in the year, certain times where there was availability for people to go off-farm and do things ... Nowadays there is a lot more spraying ... there seems to be a more constant flow of work through the year and I think that is holding people back. The farmers are saying to their sons, 'That is all well and good but we still have spraying, we still have this to do', and they are not affording them the time to get away. Whether that means night sessions or blocks I do not know, but I think it will be fine as long as they keep working and saying 'Okay, we are going to do blocks where you have to come into the centres' and making sure they try and time them as best they can in the quiet periods of the cropping cycles.⁵¹⁴

The Sunraysia Institute of TAFE submitted, 'There is a need for industry to inform the time and mode of delivery to optimise participation in effective and efficient education and training.'⁵¹⁵ This need for greater flexibility within the VET system was echoed by a number of stakeholders.⁵¹⁶

The Committee considers that the training system needs to be flexible enough to accommodate the preferences and circumstances of students and the agriculture sector.

The Committee is of the view that improved engagement between the agriculture sector and training providers should help to address these concerns. The Committee also believes that greater accommodation of the industry's preference for skills sets, which is discussed below, will also contribute to this.

⁵¹³ G21 Agribusiness Forum, *Submission 57*, 5.

⁵¹⁴ Mr Anthony Chapman, above n 491, 4. See also Mr John Brereton, above n 453, 2.

⁵¹⁵ Sunraysia Institute of TAFE, *Submission 77*, 11.

⁵¹⁶ Mr Arthur Blewitt, Chief Executive Officer, AgriFood Skills Australia, *Transcript of evidence*, Canberra, 20 March 2012, 10-11; Mr Ian Joseph, Chair, Agribusiness Council of Australia, *Transcript of evidence*, Canberra, 20 March 2012, 5; Rural Skills Australia, *Submission 80*, 6; Mr Ram Gopal, General Manager, Australian College of Agriculture and Horticulture, *Transcript of evidence*, Melbourne, 7 November 2011, 4; G21–Geelong Region Alliance, Education and Training Pillar, *Submission 53*, 9.

Qualifications or skill sets?

There is a strong government focus on encouraging individuals to complete a full VET qualification.⁵¹⁷ This emphasis on qualifications acknowledges that qualifications are typically the recognised route into an occupation. Research also suggests that individuals with qualifications have superior labour market outcomes.⁵¹⁸ As Mr Spasevski of Skills Victoria noted, 'There is an abundance of literature that points to the value and benefit of a person holding a qualification, and the government's position is that it is fully supporting the attainment of qualifications.'⁵¹⁹

However, the agricultural workforce has a strong culture of acquiring skills for the immediate task at hand.⁵²⁰ This results in learners gradually building skill sets, which may or may not lead to a full qualification.

Within the agriculture sector, this preference for skill sets appears to reflect the following:

- the sector does not have a strong emphasis on formal qualifications⁵²¹
- employers want training tailored to their individual needs⁵²²
- individuals are seeking training to fill immediate skill gaps.⁵²³

Broadly speaking, skill sets are the grouping of units of competency into a related set, below the level of a full qualification.⁵²⁴ Skill sets enable a person to perform specific functions or tasks, whereas full VET qualifications are intended to train a person for an occupation.⁵²⁵

There are two types of skill sets. Firstly, there are those skill sets that are formally recognised within training packages because they link to a licensing or regulatory requirement, or defined industry need.⁵²⁶ Secondly, RTOs are also able to tailor skill sets to meet the specific needs of a student.⁵²⁷

There are ten skill sets in the AHC10 training package.⁵²⁸ A recent literature review on skill sets by NCVET found that the key benefits that stakeholders commonly associate with skill sets are that they:

⁵¹⁷ DEECD, *Submission 82*, 25.

⁵¹⁸ John Mills, Kaye Bowman et al, *Workforce skills development and engagement in training through skill sets: Literature review* (2012) National Centre for Vocational Education Research, 18. Available at <<http://www.ncver.edu.au/publications/2483.html>> viewed 15 August 2012.

⁵¹⁹ Mr John Spasevski, above n 409, 13.

⁵²⁰ AgriFood Skills Australia, *2011 Environmental scan of the agrifood industry* (2011), 26. See also Community College Gippsland, *Submission 50*, 6; Dr Wanda Korndorffer, above n 487, 4; Grains Industry Training Network, *Submission 83*, 5-6; GOTAFE, *Submission 91*, 9; Department of Employment, Economic Development and Innovation (Queensland), *Submission 73*, 3; AgriFood Skills Australia, *Submission 51*, 2; Mr Brian Duggan, Manager, Workplace Relations and Legal Affairs, National Farmers' Federation, *Transcript of evidence*, Canberra, 20 March 2012, 4; Mr Arthur Blewitt, above n 516, 5.

⁵²¹ Mr Arthur Blewitt, above n 516, 5.

⁵²² Mr Brian Duggan, above n 520, 5.

⁵²³ John Mills, Kaye Bowman et al, above n 518, 25.

⁵²⁴ *ibid.*, 10.

⁵²⁵ *ibid.*, 10.

⁵²⁶ Department of Education, Employment and Workplace Relations (Australia), *AHC10 Agriculture, Horticulture and Conservation and Land Management* (2012), 121. Available at <http://training.gov.au/TrainingComponentFiles/AHC10/AHC10_Header_R3.0.pdf> viewed 8 October 2012.

⁵²⁷ John Mills, Kaye Bowman et al, above n 518, 7.

⁵²⁸ Department of Education, Employment and Workplace Relations, above n 526, 121-127.

- offer a pathway towards a full qualification
- provide an opportunity to top-up skills
- attract students into the VET system.⁵²⁹

The agriculture sector strongly advocated for skill sets to be publicly funded. For example, Mr Brian Duggan, Manager, Workplace Relations and Legal Affairs at the National Farmers' Federation, stated:

On the skill set issue, industry is quite clear ... What industry is calling for is that units of competency can be grouped and delivered as required; simple as that. Public policy needs to change, that funding should not be linked to a training qualification outcome ... That is what industry would simply call on government, and has called on government, to implement.⁵³⁰

Similarly, Mr Arthur Blewitt, Chief Executive Officer of AgriFood Skills Australia, explained:

There is one key chink in our armour that does not work, and that is around skill sets. All of our industry wants that because they do not commit strongly to full qualifications. We have a low completion rate in qualifications of about 24% ... We have been pushing hard to government to get the funding of skill sets ... Unfortunately there is no funding for that. You have to enrol in a full qualification. As a result of that, a lot of people enrol in a full qualification and then you end up with a 24% completion because they get what they want and they leave. We have raised this at federal level and to state governments and, of course, the states fund most of the training and they are reluctant to do that simply because of the cost. That is the big gap we have.⁵³¹

DEECD's submission acknowledged the importance of the training system adapting to the needs and preferences of the agriculture sector:

The message for Government is that different cohorts need different training products, and the training system should be flexible enough to provide students, employees and employers with the right type of training for their circumstances and preferences. This may include greater flexibility in funding and delivering "skill sets" or "building blocks" or cross-industry qualifications drawn from several Training Packages.⁵³²

Stakeholders have warned that there could be negative consequences for both government and the agriculture sector if there is not a greater acknowledgement of the sector's preference for skill sets. Skills Australia submitted that low qualification completion rates represent wastage for individuals, employers and government.⁵³³ AgriFood Skills Australia has publicly stated that if government insists on full qualifications, there is a risk that the agriculture sector will move outside the VET sector and towards non-formal education and training.⁵³⁴

The evidence presented to the Committee clearly indicates that the agriculture sector has a strong preference for acquiring skills incrementally through skill sets. Although the Committee acknowledges and supports the attainment of qualifications within the agriculture sector, the Committee believes that skill sets are a valuable tool for the

⁵²⁹ John Mills, Kaye Bowman et al, above n 518, 18-20.

⁵³⁰ Mr Brian Duggan, above n 520, 5.

⁵³¹ Mr Arthur Blewitt, above n 516, 5.

⁵³² DEECD, *Submission 82*, 24.

⁵³³ Skills Australia, *Submission 41*, 3.

⁵³⁴ AgriFood Skills Australia, above n 446, 26.

sector. Accordingly, the Committee recommends that the Victorian Government provide greater support and flexibility in funding and delivering skill sets to the agriculture sector.

Recommendation 28: Supporting skill sets for agricultural VET

That the Victorian Government provide greater support and flexibility in funding and delivering skill sets to the agriculture sector.

RPL that meets industry needs

RPL is beneficial to the agriculture sector because it makes training more efficient for students and encourages greater participation in education and training. As Mr Griffin of Rural Skills Australia succinctly explained to the Committee, 'you need to do it [RPL], because people do not want to be retrained for the same thing four times'.⁵³⁵

However, stakeholders emphasised that RPL needs to be credible to the agriculture sector. For example, the joint submission of DIPDC and Dairy Australia stated:

The dairy industry does value skills recognition because it is critical to establishing the benchmark for engagement in further learning. However it is of little value if it is not credible to individual learners specifically and dairy industry generally.⁵³⁶

Similarly, Ms Patricia Murdock, Executive Manager, Workplace Relations at the Victorian Farmers Federation, explained that the agriculture sector supports RPL but wants quality, rather than a 'rubber stamp to training'.⁵³⁷

Currently, RPL can be used for the partial or full recognition of a VET qualification. For RPL to be credible, stakeholders felt that it was important that it be used to identify skill gaps and encourage people to undertake further education and training. For example, the Victorian TAFE Association submitted, 'Skills recognition ... ideally acts as a catalyst to further education and training and a pathway to skills development'.⁵³⁸

Similarly, Dr Simon Livingstone, Principal of Marcus Oldham College, noted:

I worked in Queensland agriculture colleges and I saw people get RPL but they never did any study so it was recognition of prior learning but that person was not any better at the end of the day except that they had a certificate. What we need to do is to try to get people to do some study, whether it is at certificate level or right through ...⁵³⁹

As discussed earlier in the chapter, Primary Skills Victoria also raised concerns about the RPL practices of some training providers due to an unprecedented spike in enrolments in the Diploma of Production Horticulture in northern Victoria.⁵⁴⁰ It believed this spike was likely to be driven by a significant increase in RPL and questioned whether this was bringing any real benefit to the agricultural workforce or simply being driven by the opportunism of some training providers.⁵⁴¹

⁵³⁵ Mr Gordon Griffin, above n 405, 4.

⁵³⁶ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 32.

⁵³⁷ Ms Patricia Murdock, Executive Manager, Workplace Relations, VFF, *Transcript of evidence*, Melbourne, 24 October 2011, 9.

⁵³⁸ Victorian TAFE Association, *Submission 78*, 13. See also Sunraysia Institute of TAFE, *Submission 77*, 5; Joint submission of DIPDC and Dairy Australia, *Submission 89*, 32.

⁵³⁹ Dr Simon Livingstone, Principal, Marcus Oldham College, *Transcript of evidence*, Melbourne, 7 November 2011, 6.

⁵⁴⁰ Primary Skills Victoria, *Submission 84*, 18-19.

⁵⁴¹ *ibid.*, 18-19.

When Primary Skills Victoria's concern was put to DEECD, Mr Spasevski responded by noting that the Victorian Government had put in place policies and initiatives to encourage RPL which could account for the increase:

I understand Primary Skills Victoria's concerns are driven by an apparent spike in the number of RPL enrolments. If we put it into perspective, I think across the whole of the VET system we are looking at 6.7% of all enrolments having one module assessed through an RPL process. We are talking very small numbers. It is slightly higher in certain parts of primary skills but that is because we have come off a very low base of recognition of prior learning. Projects that have been designed to increase the uptake of RPL, which includes the Skills for Growth Program and any projects specifically designed to target RPL, will result in a spike and that may appear as though it is out of the ordinary, and too much RPL activity is happening, when in fact this is not the case.⁵⁴²

Some stakeholders suggested capping the amount of RPL that can be undertaken or funding that can be released through RPL as a means of ensuring that RPL meets the needs of the agriculture sector.

For example, Rural Industries Skill Training submitted that RPL should not comprise of more than 30% of a qualification. Mr Hamill of Rural Industries Skill Training explained:

Certainly there is a place for RPL, but ... someone could have been in the shearing industry ... over the last 10 years as a shearer, and they could have learnt the wrong techniques all the way through. You can go there and say, 'Yes, they can still shear their X number of sheep', but they might not have the right techniques. They really need to be brought back into the classroom and taught. It is a great belief of mine that there are certain skills in the industry that can be RPLed but you should bring them back to teach them and bring them up to speed with what the current industry issues are and the current science behind it.⁵⁴³

Primary Skills Victoria recommended that there be a capped funding model from RPL where a maximum of 30% of total government funding is released where less than 70% of formal training and assessment is taken.⁵⁴⁴

Other stakeholders recommended that there be closer monitoring of RPL provision for quality and greater transparency to ensure that RPL meets industry needs.⁵⁴⁵

The Victorian Government has responded to these types of concerns through changes to RPL funding and compliance as part of the Refocusing Vocational Training in Victoria reforms. From 1 January 2013 there will be stronger requirements on training providers when claiming a subsidy for reported RPL.⁵⁴⁶ On 1 July 2012 the funding rate for RPL was reduced to 50% of the published subsidy price for the majority of courses and units.⁵⁴⁷

The Committee believes that RPL is an important means of increasing the participation of the existing agricultural workforce in agricultural education and training. However, the Committee considers it is vital that RPL is credible and benefits the individual and the agriculture sector. The Committee hopes that the changes to RPL funding and compliance will help to achieve this. The Committee also believes it is important that the

⁵⁴² Mr John Spasevski, above n 409, 9-10.

⁵⁴³ Mr Bill Hamill, above n 422, 5. See also Rural Industries Skill Training, *Submission 81*, 4.

⁵⁴⁴ Primary Skills Victoria, *Submission 84*, 4.

⁵⁴⁵ Rural Skills Australia, *Submission 80*, 4; Mr John Brereton, above n 453, 6; Primary Skills Victoria, *Submission 84*, 22.

⁵⁴⁶ Department of Education and Early Childhood Development, above n 457.

⁵⁴⁷ Department of Education and Early Childhood Development, above n 456, 2.

Victorian Government monitor RPL provision and liaise with the agriculture sector to help identify any RPL anomalies or concerns with individual training providers.

A training package that meets industry needs

As noted earlier in this chapter, during the course of this Inquiry, RTOs were transitioning to a new training package.

The Committee found that there were conflicting views about whether the new AHC10 training package meets the needs of the agriculture sector. DIPDC and Dairy Australia submitted that greater flexibility was needed in the construction of the curriculum to better meet the workforce training needs of the dairy industry.⁵⁴⁸ Representatives from the Victorian TAFE Association also raised concerns that the interests of the Victorian agriculture sector had not been adequately reflected in the consultation process which led to the new training package.⁵⁴⁹ However, Rural Industries Skill Training submitted that the training package gives training providers the flexibility they need to deliver agricultural training:

the current Training Packages and the Framework that sits beneath them provides Training Providers with the flexibility to deliver high quality and relevant training. Too often the Training Package (Curriculum) gets blamed for poor training provision. This should not be the case.⁵⁵⁰

Rural Industries Skill Training emphasised the need for the training package to respond to issues identified by training providers or industry in a timely manner, stating:

What providers do ask for, is a quick response from the authorities responsible for curriculum when an issue arises and becomes an impediment to the delivery of a particular course or qualification.⁵⁵¹

AgriFood Skills Australia has recently put in place a continuous improvement register to ensure that the AHC10 training package can be updated quickly. Stakeholders noted that in the past the process for updating the training package had been slow to respond to changes.⁵⁵² However, the Committee received positive feedback about the responsiveness of the new register. Mr Goldsmith of the State Agriculture Provider Network, told the Committee:

My experience so far is that we have had one reasonably important issue where we wanted the qualifications for Certificate II and Certificate III in Agriculture altered ... We put that submission to AgriFood, and within a short period that was altered. There is now a version 2.1 available before any of the RTOs are actually using the training package. My experience at the moment is that that was really good. It was really responsive. Time will tell if that continues.⁵⁵³

Specific areas of training need

Participants in this Inquiry identified several areas of specific training need for the agriculture sector, which are discussed below. These areas could also be incorporated

⁵⁴⁸ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 9.

⁵⁴⁹ Ms Nita Schultz, Executive Officer, CEO Council, Victorian TAFE Association, *Transcript of evidence*, Melbourne, 7 November 2011, 8; Associate Professor Kath White, Dean, School of Food, Land and Service Industries, University of Ballarat, *Transcript of evidence*, Melbourne, 7 November 2011, 8; Ms Sylvia Vagg, above n 451, 8.

⁵⁵⁰ Rural Industries Skill Training, *Submission 81*, 5.

⁵⁵¹ *ibid.*, 5. See also Mr Bruce Anderson, *Submission 61*, 2.

⁵⁵² Community College Gippsland, *Submission 50*, 9; Mr Gordon Griffin, above n 405, 4; Central Gippsland Institute of TAFE, *Submission 42*, 4.

⁵⁵³ Mr John Goldsmith, above n 484, 4.

into higher education or non-formal education, however, the Committee discusses them here as most of the evidence the Committee received related to the need for these elements to be included as part of VET.

Business and human resource management

Business and human resource management skills were overwhelmingly highlighted as the most pressing need for agricultural employers. This accords with AgriFood Skills Australia's 2011 environmental scan which identified that '[e]mployment and business management practices must be improved; managers need to commence the journey towards being 'employers of choice' and create high performing workplaces.'⁵⁵⁴

Focus group research conducted by Marcus Oldham College with successful dairy farmers highlighted the importance of business skills for those working in the agriculture sector:

successful farmers conceptualise themselves as business people with the technical knowledge relevant to the conduct of their particular business. Knowledge of business structures, finance and equity alternatives, business and strategic planning were valued knowledge by these successful farmers, and it was their business knowledge that defined their success.⁵⁵⁵

DEECD explained that the complexity of modern day agriculture has driven the need for this business expertise:

as farm businesses become increasingly complex due to upscaling of operations, increased mechanisation and a drive towards greater productivity and diversification, owner-operators and farm managers are in need of stronger business management expertise.⁵⁵⁶

Mr Chapman of the Wimmera Grain Company stressed that all agricultural courses should involve a business skills component given the responsibility involved in managing a modern farm:

But now every farm is dealing in a six or seven figure turnover. Even the smallest farm would turn over half a million dollars. If you think of a kid going home at 18 who is just past year 12 and you are saying, 'Run a half a million dollar business', it is not really fair on them.⁵⁵⁷

Marcus Oldham College echoed this point regarding the importance of incorporating business skills in all forms of agricultural education and training, submitting:

there is a need for an increased number of courses that provide a combination of knowledge from both the technical and the business domains ... at the formal levels of secondary, VET and higher education; but also available in the more informal sector of adult and continuing education.⁵⁵⁸

Many stakeholders also highlighted the importance of farmers improving their human resource management skills. Mr Ron Paynter, a member of the Warragul Branch of the Victorian Farmers Federation, explained that attracting more people into the agriculture sector requires employers to become better people managers:

⁵⁵⁴ AgriFood Skills Australia, above n 520, IV.

⁵⁵⁵ Marcus Oldham College, *Submission 19*, 2.

⁵⁵⁶ DEECD, *Submission 82*, 3. See also Mr Shane Hellwege, above n 448, 9; Wellington Shire Council, *Submission 63*, 3; Joint submission of Loddon Mallee Regional Office, DEECD, Bendigo TAFE, Bendigo Schools Trade Training Centre and Goldfields LLEN, *Submission 26*, 8.

⁵⁵⁷ Mr Anthony Chapman, above n 491, 2.

⁵⁵⁸ Marcus Oldham College, *Submission 19*, 3.

A major issue we face is that predominantly the traditional farms are run by a single operator or there is a husband-and-wife partnership operating them. Often their skills in terms of being employers and their experience in being employers are non-existent or minimal or absolutely atrocious, quite frankly, in some cases. If we were able to upskill the farming population about what it is to be an employer and provide appropriate workplace conditions that would be more amenable to young people coming into the industry ...⁵⁵⁹

Similarly, Mr Graham Paynter, a farmer in the Gippsland region, stated:

There are so many farmers who are very poor employers. They expect far too much of their employees. They expect them to work six days a week and on weekends, and do not really remunerate them in the correct way. It is going to be very hard to address that, but we really need to do something about it.⁵⁶⁰

Health, safety and wellbeing

The Committee also heard that there needs to be a greater emphasis on health, safety and wellbeing education in agricultural training.

Farms are dangerous workplaces and farm owners have a legal responsibility to ensure their farm is a safe workplace and train their employees in safe operating procedures.⁵⁶¹ Mr Lindsay Anderson, a member of the Warragul Branch of the Victorian Farmers Federation, outlined the need for an emphasis on safety:

I see one of the biggest training needs other than training young staff is probably training the older generation in what is required now in terms of OHS and just the administration role of having staff, because it is a minefield setting out there for people who are going along until something happens and then it is a big problem.⁵⁶²

The Australian Centre for Agricultural Health and Safety, which offers a farm safety course across Australia, expressed the view that health and safety modules in training are not always being effectively delivered. The Centre submitted that 'often ... a box is ticked to say someone has received training and is competent in fundamental health and safety issues, however the application of these skills in a practical setting may be dubious'.⁵⁶³

In addition, the National Centre for Farmer Health, an organisation that works to improve the health, safety and wellbeing of the farming population, highlighted that 'Australian Farmers are at higher risk of physical disease and injury, mental illness and suicide when compared to rural and metropolitan populations'.⁵⁶⁴ To respond to this issue, the Centre advocated for health, wellbeing and safety to be included in all agricultural training curricula. Professor Sue Brumby, Director of the National Centre for Farmer Health, explained:

⁵⁵⁹ Mr Ron Paynter, Branch member, Warragul Branch, VFF, *Transcript of evidence*, Ellinbank, 14 February 2012, 3. See also DEECD, *Submission 82*, 3; South West LLEN, *Submission 95*, 5; Mr Patrick Murphy, Executive Officer, Central Highlands Agribusiness Forum, *Transcript of evidence*, Melbourne, 28 November 2011, 7.

⁵⁶⁰ Mr Graham Paynter, Farmer, *Transcript of evidence*, Ellinbank, 14 February 2012, 3.

⁵⁶¹ Department of Primary Industries (Victoria), *Introduction to occupational health and safety: Legal booklet*, <<http://www.dpi.vic.gov.au/agriculture/about-agriculture/legislation-regulation/legal-booklets/occupational-health-and-safety>> viewed 18 June 2012.

⁵⁶² Mr Lindsay Anderson, Branch member, Warragul Branch, VFF, *Transcript of evidence*, Ellinbank, 14 February 2012, 3.

⁵⁶³ Australian Centre for Agricultural Health and Safety, *Submission 17*, 2.

⁵⁶⁴ National Centre for Farmer Health, *Submission 60*, 3.

what we see is a population of Victorians who have gone under the radar in terms of health, wellbeing and safety ... The benefits for incorporating agricultural health and medicine into curricula — whether it is at the TAFE level, even the school level, the traineeship level, undergraduate or postgraduate — is very much that at the moment the best people tend to get is occupational health and safety. It is not enough.⁵⁶⁵

The Victorian Parliament's Rural and Regional Committee's 2012 report, *Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce*, also recommended that the Victorian Government encourage greater collaboration between the education and health sectors to ensure that agricultural education providers include health components into their courses.⁵⁶⁶

Succession planning

A number of stakeholders also raised the need for there to be education and training around succession planning for farmers.⁵⁶⁷ The Committee notes that this issue was comprehensively discussed in the Rural and Regional Committee's report and the Committee supports the recommendations in that report aimed at increasing the awareness of succession planning in the agriculture sector.⁵⁶⁸

Specific areas of training need for the agriculture sector – The Committee's view

The Committee believes that business and human resource management skills and health, wellbeing and safety awareness are key training areas that need to be prioritised for the agricultural workforce. Accordingly, the Committee recommends that the Victorian Government promote the importance of these training areas to training providers and the agriculture sector.

The Committee also believes that succession planning is important and that the Victorian Government should give consideration to the Rural and Regional Committee's recommendations on this issue.

Recommendation 29: Promoting business and human resource skills and health, wellbeing and safety education

That the Victorian Government promote the importance of business and human resource skills and also health, wellbeing and safety education to training providers and the agriculture sector.

Engagement between the agriculture sector and the VET sector

The agriculture sector is represented by a significant number of industry associations at the national, state and regional level. At the same time, there are 59 training providers delivering vocational agricultural training in Victoria. This sheer diversity of stakeholders poses a challenge for effective consultation between the sectors. This section looks at

⁵⁶⁵ Professor Susan Brumby, Director, National Centre for Farmer Health, *Transcript of evidence*, Horsham, 29 November 2011, 4.

⁵⁶⁶ Rural and Regional Committee, Parliament of Victoria, *Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce* (2012), 195.

⁵⁶⁷ Joint submission of Loddon Mallee Regional Office, DEECD, Bendigo TAFE, Bendigo Schools Trade Training Centre and Goldfields LLEN, *Submission 26*, 8; Vegetable Growers' Association of Victoria, *Submission 49*, 2; Mr Mike Stephens, Managing Director, Mike Stephens and Associates, *Transcript of evidence*, Ballarat, 28 November 2011, 3.

⁵⁶⁸ Rural and Regional Committee, above n 566, 171.

the consultation that occurs between these two sectors and explores ways to improve engagement.

Formal consultation

There are formal consultative mechanisms in place at the national and state level to ensure that VET meets the needs of industry. At the national level, AgriFood Skills Australia is responsible for developing workforce development strategies and nationally endorsed qualifications to meet the current and emerging needs of the agrifood sector.

The consultative arrangements between the VET sector and Victorian industry have undergone significant change as part of the Refocusing Vocational Training in Victoria reforms. Prior to the reforms, Victoria had 16 industry training advisory bodies (ITABs) whose role was to provide independent advice to government on the training and skills needs within their respective sectors. Primary Skills Victoria was previously the ITAB for the primary industries sector.

The Victorian Government recently introduced a new industry participation model to replace the network of ITABs. The Victorian Government will no longer be funding Primary Skills Victoria. However, Primary Skills Victoria will continue to operate across the transition period to the new consultative arrangements until 1 January 2013. DEECD advised the Committee that Primary Skills Victoria is still negotiating with its member industry associations regarding long-term investment options for its continuation.⁵⁶⁹

The new consultation arrangements include an Industry Skills Consultative Committee and an Annual Industry Skills Conference.⁵⁷⁰ DEECD informed the Committee that it is likely that a number of primary industries associations will nominate a representative for appointment to the Industry Skills Consultative Committee. In addition, a specialist portfolio team will be responsible for actively engaging with primary industries associations about their training needs.⁵⁷¹

These new arrangements aim to improve the level of direct consultation between industry and government.⁵⁷² It is too early to tell whether these new consultative arrangements in Victoria will strengthen the agriculture sectors voice in the delivery of VET training.

It is also important to note that RTOs are required to undertake industry consultation regarding their training and assessment strategies as a condition of their continuing registration.⁵⁷³

Local consultation

The evidence to the Committee suggests that, in addition to formal consultation mechanisms, consultation needs to occur at the local level between the agriculture sector and training providers. The Sunraysia Institute of TAFE's submission notes the benefits of this type of consultation:

⁵⁶⁹ Letter from Minister for Education and Minister for Higher Education and Skills, above n 402, 6.

⁵⁷⁰ Department of Education and Early Childhood Development, above n 467, 10.

⁵⁷¹ Letter from Minister for Education and Minister for Higher Education and Skills, above n 402, 6.

⁵⁷² Department of Education and Early Childhood Development, above n 467, 10.

⁵⁷³ Australian Quality Training Framework, *Essential conditions and standards for continuing registration* (2010), 6.

Participation is usually high where there is significant 'buy in' by the agricultural sector into the design and development of program delivery. Strategies where a course or program committee involving prominent participants is effective.⁵⁷⁴

The Young Agribusiness Professionals explained that industry is best-placed to identify what training it needs and that all industries should be driving agricultural training.⁵⁷⁵ Similarly, Mr Tony Imeson, Executive Officer of the Vegetable Growers' Association of Victoria, explained that it is important that the individual members of an industry association recognise the value of training:

In the future there could be a closer relationship developed but it would have to be based upon whether growers themselves have that interest in doing that training because if not, it does not matter how much we get involved as an association, you can always lead the horse to the trough, you cannot make it drink.⁵⁷⁶

Skills Victoria emphasised that individual industries should engage with their local training providers to ensure that training can be matched to their needs. Mr Spasevski stated:

Where industry may feel as though training products are out of touch or out of step, that is where I would encourage them to seek out a local training provider and begin the conversation and begin the development of a relationship where the best practice with an employer can then be mirrored within the RTO itself. That way you will get a much closer alignment between what the employer is saying they need and what the RTO is then offering.⁵⁷⁷

Encouragingly, the Committee found that many training providers and local agricultural industries are successfully talking to each other about training needs. For example, Mr Hamill of Rural Industries Skill Training told the Committee that his organisation consults with state and national stakeholders and also local employers on an annual basis. Mr Hamill spoke about the value of this consultation:

We have annual focus group meetings with employers ... When they graduate, we get them all together and we talk to them. We say, 'What do you need? Is our training meeting your expectations?'. That also helps us with our Australian Quality Training Framework because we have got to have industry validation, but it is really good because you are talking to the people who are employing these young people or are actively involved.⁵⁷⁸

However, several stakeholders identified that there are some barriers to effective communication between the agriculture sector and individual training providers. Mr James Farmer, Team Leader of Horticulture at GippsTAFE, explained that finding the right time to consult with the agriculture sector can be difficult:

At GippsTAFE we are trying to get more and more industry on side and talk to industry more. Sometimes that is difficult. The people before us talked about being time poor. It is time poor. We are trying to find that right time to get them together and talk to them. The more we talk to them, the more we will know it is specific. Employers do not hesitate to come and say to us, 'My guy has not learnt what he should learn'.⁵⁷⁹

⁵⁷⁴ Sunraysia Institute of TAFE, *Submission 77*, 11.

⁵⁷⁵ YAPs, *Submission 76*, 7.

⁵⁷⁶ Mr Tony Imeson, Executive Officer, Vegetable Growers' Association of Victoria, *Transcript of evidence*, Melbourne, 24 October 2011, 5.

⁵⁷⁷ Mr John Spasevski, above n 409, 14.

⁵⁷⁸ Mr Bill Hamill, above n 422, 3.

⁵⁷⁹ Mr James Farmer, Team Leader, Horticulture, Central Gippsland Institute of TAFE, *Transcript of evidence*, Ellinbank, 14 February 2012, 3.

Some training providers also noted that the fragmented nature of the agriculture sector made it difficult to ensure that all industry voices are heard. For example, GOTAFE submitted:

In some of the agriculture related industry sectors, the industry groups are adhoc and segmented which does not provide opportunity for effective industry engagement and real consultation to take place. GOTAFE has considered the implementation of a more standardised approach to industry engagement, however it has become apparent that we need to develop a specific industry engagement model for each individual industry.⁵⁸⁰

Stakeholders made a range of suggestions for improving communication between the agriculture sector and training providers.

The Victorian Farmers Federation recommended that farmers should be encouraged to participate on RTO boards and advisory committees to ensure relevant and quality training delivery. The Federation argued farmers volunteering for such roles should be provided with remuneration to cover out of pocket expenses.⁵⁸¹

Training brokers were also identified as another way to identify the training needs within various industries in the agriculture sector and match these to training. Training brokers are discussed in more detail below.

The Committee believes it is vital that the agriculture sector lead the development of agricultural training at the local level. This will require individual industries to be proactive in identifying their training needs, and conversely for training providers to be responsive to these needs.

The Committee also believes there would be benefit in encouraging more people from the agriculture sector to participate in consultative mechanisms set up by agricultural training providers. Incentives should be considered to encourage this participation.

Recommendation 30: Supporting the agriculture sector to contribute to the development of agricultural training

That the Victorian Government support individuals and industry associations within the agriculture sector to participate on training provider boards and advisory committees for agricultural training in the VET sector.

The role of training brokers

Training brokers act as an intermediary between industry and providers by identifying training needs and working with providers to ensure that the training provision suits the needs of the industry.

Professor Sue Kilpatrick, an academic who has conducted research on the role of training brokers in the agriculture sector, spoke about the value of training brokers:

If you think about training as a market, you have got lots of small providers ... You have got larger ones like South West TAFE in Glenormiston or the dairy out at Goulburn Ovens, but you have got lots and lots of smaller ones, so they are fragmented, and they are trying to access a market that is also fragmented — lots of people on individual farms. You have got a problem.

⁵⁸⁰ GOTAFE, *Submission 91*, 11.

⁵⁸¹ VFF, *Submission 64*, 8.

The farmers might know what they want, but they do not necessarily know what they need, partly because they do not know what might be available ...

One of the things about the VET system is that you can customise and change training, so they actually have quite a lot of flexibility in what they can do. Here you have lots of possibilities and lots of people who may want training. What a training broker does is bring those two together. They understand and speak the language of both the farmers and the potential learners and the very complex training sector.⁵⁸²

Primary Skills Victoria also noted the value of training brokers. It submitted that 'the success of skills development hinges on training brokers such as GITN [the Grains Industry Training Network] and 'people development managers' that can service the needs of rural communities'.⁵⁸³

The Committee also spoke with the Grains Industry Training Network (GITN) which has been carrying out a training broker role for the grains industry for 18 years. GITN develops short courses linked to competencies in response to specific training needs within the grains industry. GITN contracts experts to deliver the training to the grains industry. Case study seven highlights the work of GITN.

Case study 7: The Grains Industry Training Network and the Women in Grains program⁵⁸⁴

'GITN was established 18 years ago, with strong commitment from Members of the VFF Grains Group. Throughout this period GITN has worked to facilitate the delivery of demand driven professional development and training for the grains industry.

One program which GITN initiated was Women in Grains. This came about when the VFF Grains Group wanted to encourage more women to be involved in industry organisations.

Research funded by Grains Research and Development Corporation [GRDC] enabled GITN to identify the issues which women faced in becoming more involved in their business, community or in industry.

GRDC funded a proposal by GITN to run five self directed learning groups for women, four in Victoria and one in NSW. Participants in these groups – not always women as sometimes their partners came as well [–] covered a huge range of topics from agronomy, understanding soil test results, succession planning, sharefarming and leasing, family communication, field days, corporate governance ...

The Women in Grains was so successful that GRDC funded a national project Partners in Grain across Australia.'

⁵⁸² Professor Sue Kilpatrick, *Transcript of evidence*, Glenormiston, 30 November 2011, 4.

⁵⁸³ Primary Skills Victoria, *Submission 84*, 39.

⁵⁸⁴ Grains Industry Training Network, *Submission 83*, 1.

Ms Nickie Berrisford, GITN's Executive Officer, explained the importance of the role that GITN plays for the grains industry:

it is also about linking with what the industry needs. There are two things: the education and also very much the linkages with industry needs. Often we do not have that link. Somebody sits in a nice office and decides that it would be good if farmers could do this, this and this. The difference with what we do is that, yes, that is important, but it is about what they need and what they want. It is about bringing it together.⁵⁸⁵

A report commissioned by Skills Victoria into the workforce development needs of the Victorian dairy and grains industries found that GITN plays a valuable role in the industry skills development but has insufficient resources.⁵⁸⁶

Professor Kilpatrick noted that existing industry organisations are often best placed to carry out a training broker role.⁵⁸⁷ Primary Skills Victoria recommended that a network of regional coordinators be appointed to act as training brokers across the Victorian agriculture sector.⁵⁸⁸

The Committee believes that the training broker model provides a valuable tool to assist industries within the agriculture sector to design agricultural training that meets their needs.

The Committee considers that an industry-based training broker model is best placed to meet the needs of the agriculture sector. It must be up to individual industries to decide whether this model would be appropriate for them. However, the Committee considers that support should be given to industry bodies, such as GITN, that wish to carry out a training broker role.

Recommendation 31: Supporting agricultural industry bodies to act as training brokers

That the Victorian Government support industry associations within the agriculture sector to carry out a training broker role with respect to agricultural training.

5.4.3 Data on agricultural VET

Training data on the VET sector is collected at both the state and national level. The joint submission by DIPDC and Dairy Australia argued that currently available VET sector data is not meeting the needs of the dairy industry and NCDEA.⁵⁸⁹

The joint submission recommended that improved data be collected by the relevant agencies within the VET sector and made available to allow RTOs to better analyse the performance and impact of VET activities. Mr Richard Habgood, a consultant with DIPDC, stressed the need for stronger relationships between industry and government to facilitate this:

It is about trying to build some better partnerships with people like Skills Victoria engaging with the industry and getting a better sense that we are in this together; what are our joint needs in

⁵⁸⁵ Ms Nickie Berrisford, Executive Officer, Grains Industry Training Network, *Transcript of evidence*, Melbourne, 7 November 2011, 3-4.

⁵⁸⁶ SED Consulting, *Workforce development plan for the Victorian grains and dairy industries*, report for Skills Victoria (2010).

⁵⁸⁷ Professor Sue Kilpatrick, above n 582, 5.

⁵⁸⁸ Primary Skills Victoria, *Submission 84*, 39.

⁵⁸⁹ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 40.

terms of data to help us better evaluate what impact we are having and how we are going to plan better? Rather than there being bureaucracy over there and industry over here, it should be: how can we actually get the two working closer together.⁵⁹⁰

The Committee notes that training providers and industry require training data to help plan the delivery of their training and workforce development strategies. Given the limited evidence received on this issue, the Committee recommends that Skills Victoria review the adequacy of the collection and disclosure of data in consultation with the agriculture sector and training providers.

Recommendation 32: Ensuring data on VET meets the needs of the agriculture sector and training providers

That the Victorian Government review whether the current practices for collecting and disclosing data on VET are meeting the needs of the agriculture sector and training providers.

⁵⁹⁰ Mr Richard Habgood, Consultant, DIPDC, *Transcript of evidence*, Melbourne, 6 March 2012, 6.

Chapter 6: Agricultural colleges and the VET workforce

Key findings

- Victoria's agricultural colleges are an important asset and have enormous potential to contribute to the future of agricultural education in the state.
- Some facilities within Victoria's agricultural colleges are not being utilised to their full potential. Government investment and support, as well as new commercial opportunities, are required to revitalise these facilities.
- Training providers are facing difficulty attracting suitably qualified and experienced vocational education and training (VET) agriculture teachers. Barriers to attracting talented individuals include low pay and a lack of flexibility regarding remuneration arrangements.
- Strategies need to be put in place to ensure that agriculture teachers in the VET workforce have up-to-date industry skills and to reduce the administrative burden on VET teachers.

Agricultural colleges and the VET workforce

This chapter considers two issues relating to vocational training for the agriculture sector, namely Victoria's agricultural colleges and the vocational education and training (VET) workforce.

6.1 Victoria's agricultural colleges

Agricultural colleges have traditionally played a major role in delivering vocational agricultural training in Victoria. Historically, Victoria had six state agricultural colleges:

- Dookie Agricultural College
- Glenormiston Agricultural College
- Longerenong Agricultural College
- Burnley Horticultural College
- McMillan Rural Studies Centre in Gippsland
- Gilbert Chandler College of Dairy Technology in Werribee.⁵⁹¹

Over the last 30 years the system of agricultural colleges has undergone significant structural changes. In the 1980s these colleges were grouped under the entity and control of the Victorian College of Agriculture and Horticulture. That institution merged with The University of Melbourne in 1997.⁵⁹²

In 2005 The University of Melbourne decided to discontinue its relationship with four of the campuses, maintaining only Burnley and Dookie.⁵⁹³ This led to Longerenong, Glenormiston and McMillan being transferred to the VET sector and the Gilbert Chandler College of Dairy Technology being transferred to the Department of Primary Industries (DPI). Longerenong, Glenormiston and McMillan are now operated by TAFE or community providers and it was a condition of the tender process that these providers operate the properties as farm-based training facilities, delivering agricultural education and related training.⁵⁹⁴ Gilbert Chandler is currently operated by DPI as a research farm.

⁵⁹¹ *Victorian College of Agriculture and Horticulture Act 1982 (Vic) s 2.*

⁵⁹² The University of Melbourne, *History*, <<http://www.land-environment.unimelb.edu.au/history/>> viewed 31 May 2012.

⁵⁹³ Longerenong College, *Submission 39*, 1.

⁵⁹⁴ Letter from Acting Executive Director, Student Learning Outcomes Division, Department of Education and Early Childhood Development (Victoria) (DEECD), to Chair, Victorian Parliament Education and Training Committee, 13 June 2012, 2.

This section looks at how the Dookie campus, Longerenong College and Glenormiston College are used to deliver agricultural education and training and considers how to develop them into best practice centres of agricultural education and research. Dookie campus, Longerenong College and Glenormiston College have been singled out by the Committee for discussion in this section as this reflects the evidence provided by stakeholders.

It should be noted that although Dookie is a campus of The University of Melbourne, which is a higher education provider rather than a VET provider, it is discussed in this section due to its long history as an agricultural college. There is also discussion about The University of Melbourne's future plans with respect to the Dookie campus in chapter eight on higher education.

6.1.1 The role of the agricultural colleges

Traditionally, agricultural colleges provided the full suite of agricultural training to young entrants into the agriculture sector. The evidence received from persons who attended these colleges attests to the comprehensive nature of the training provided. For example, Mr Roger Moulton, who attended Longerenong College in 1965, submitted:

I consider it was the most outstanding educational experience of my life. While the course content was fairly pedestrian compared to today, it did give a broad and sound introduction to practical agriculture ...⁵⁹⁵

Similarly, Mr Ian Reid, who attended Dookie when it was an agricultural college, spoke about the broad training he received there:

I have been very fortunate in my life, and that was due to the practical training I got in basic science at Dookie Agricultural College, which was a hands-on training program. You lived in the environment. You lived as a group of people where you crossed all walks of life, all ideas; you cross-fertilised and you just developed as a person as well as for a career in agriculture.⁵⁹⁶

Mr Don McArthur, who also attended Dookie, noted that agricultural colleges such as Dookie traditionally provided an important pathway for young people into the agriculture sector.⁵⁹⁷

6.1.2 The facilities and programs at the agricultural colleges

This section provides an overview of the facilities and programs at the Dookie campus, Longerenong College and Glenormiston College. It also outlines the views of stakeholders about the current state of the facilities and the breadth of agricultural education and training offered at these colleges.

Overview of the facilities and programs

The Dookie campus, Longerenong College and Glenormiston College have extensive landholdings and facilities that are used to deliver a range of agricultural education and training. A brief overview of the facilities and programs at each of these colleges is set out below.

⁵⁹⁵ Mr Roger Moulton, *Submission 1*, 1.

⁵⁹⁶ Mr Ian Reid, *Transcript of evidence*, Shepparton, 3 November 2011, 5. See also Mr Robert Elletson, *Submission 56*, 1.

⁵⁹⁷ Mr Don McArthur, *Transcript of evidence*, Shepparton, 3 November 2011, 4.

The Dookie campus

The Dookie campus is used to support the delivery of higher education programs at The University of Melbourne. The University offers a number of intensive agricultural-related subjects at the Dookie campus to students studying the Bachelor of Agriculture. It is also used to support the field work aspects of students undertaking research degrees.

The Dookie campus has 2446 hectares of farmland that is used for broadacre cropping, sheep, beef, dairy, orchard, vineyard and winery enterprises.⁵⁹⁸ Each of these farms is operated on a commercial basis, as well as for research and teaching purposes. There are a variety of accommodation styles on the campus, including traditional dormitories and small group shared residential facilities.⁵⁹⁹

Glenormiston College

Glenormiston College is used as a campus of the South West Institute of TAFE (South West TAFE). A range of agricultural VET qualifications and short courses are delivered at the College, with a particular focus on beef, sheep and wool, dairy, agronomy and horticulture.⁶⁰⁰

Glenormiston College has 281 hectares of farmland that is used for dairy, sheep and beef production.⁶⁰¹ Horse racing, eventing and show jumping are also supported at the College. Glenormiston College leases its dairy farm for commercial use and operates its beef production on a commercial basis.⁶⁰² It also has accommodation facilities for up to 140 students.⁶⁰³

Longerenong College

Longerenong College is operated by WORKCO Limited, a not-for-profit provider of employment and training services. The College offers a range of agricultural VET qualifications and short courses.

Longerenong College has 1070 hectares of farmland that is used for broadacre cropping, beef cattle, sheep and wool production enterprises.⁶⁰⁴ The farm is operated commercially, as well as for research and teaching purposes.⁶⁰⁵ The College also has accommodation available for 117 students.⁶⁰⁶

Stakeholder views on the facilities and programs

There was significant concern expressed by stakeholders about the future of the facilities and agricultural training at these agricultural colleges. For example, the Victorian Farmers Federation, the state's peak body for farmers, submitted:

⁵⁹⁸ The University of Melbourne, *Teaching and learning facilities and student services*, <<http://www.dookie.unimelb.edu.au/about/teaching.html>> viewed 28 June 2012.

⁵⁹⁹ The University of Melbourne, *Student accommodation – Dookie campus*, <<http://www.dookie.unimelb.edu.au/about/accommodation.html>> viewed 28 June 2012.

⁶⁰⁰ South West Institute of TAFE, *Welcome to Glenormiston College*, <<http://www.swtafe.vic.edu.au/campuses/glenormiston-college/>> viewed 28 June 2012.

⁶⁰¹ *ibid.*

⁶⁰² *ibid.*

⁶⁰³ Mr Joe Piper, Chief Executive Officer, South West Institute of TAFE, *Transcript of evidence*, Glenormiston, 30 November 2011, 4.

⁶⁰⁴ Longerenong College, *About Longerenong College*, <<http://www.longy.com.au/about.html>> viewed 28 June 2012.

⁶⁰⁵ *ibid.*

⁶⁰⁶ Longerenong College, *Submission 39*, 4.

Anecdotal evidence from some of our members have indicated that most of the agricultural colleges they once attended, as a student are no longer up to the standard they once were. Animal husbandry, breeding programs and farming enterprises have been shut down with no demonstrations of breeding and rearing animal production. Maintenance of buildings has not occurred for a decade or more. Vegetable growers have indicated that facilities in Werribee which were once used to train trainees have been sold. More funding is required to fund agricultural colleges. If there are no resources put into plant and equipment for practical demonstrations and use, and no breeding facilities why would students want to enrol in agriculture?⁶⁰⁷

Similarly, Mr John Scott, Chair of the Commercial Poultry Producers Association in Bendigo, lamented the loss of a number of agricultural programs, stating, 'It is apparent that the colleges do not present all aspects of feeding, breeding, stock management and so on that used to be available in years gone by.'⁶⁰⁸

A number of stakeholders were concerned that some of the facilities at these colleges are not being used to their full potential. For example, Ms Anna Fry, a current Bachelor of Agriculture student at The University of Melbourne, noted:

at Dookie, the facilities themselves are quite amazing; they should be utilised much more than they are. They have tried and tried and tried but over the last decade the numbers have just decreased dramatically. In your third year of the bachelor of agriculture you can be up at Dookie full-time and still complete the course. But out of the 14 who are studying the course in third year this year there are four people up there. So they do not have the funds up there to do it for four students; it is just not viable. I completely understand that.⁶⁰⁹

Several stakeholders called on the Victorian Government to upgrade the facilities at the agricultural colleges. For example, Longerenong College submitted:

The college consists of a number of facilities including training, accommodation, farm and recreation. There has been only minor investment in these facilities for an extended period of time ... Whilst remaining functional, there is need for major upgrade in a number of areas, particularly if the college is to continue to grow and provide the highest quality training possible.⁶¹⁰

Mr John Spasevski, Director of Market Facilitation at Skills Victoria in the Department of Education and Early Childhood Development (DEECD), noted that there is ongoing support by the Victorian Government for the agricultural colleges:

The government is keen to support agricultural training across the state, and this includes providing the right facilities and assets across those colleges ... there is ongoing support and commitment for those campuses to continue operating ...⁶¹¹

⁶⁰⁷ Victorian Farmers Federation, *Submission 64*, 4. See also Mr Ram Gopal, General Manager, Australian College of Agriculture and Horticulture, *Transcript of evidence*, Melbourne, 7 November 2011, 2.

⁶⁰⁸ Mr John Scott, Chair, Commercial Poultry Producers Association, Bendigo, *Transcript of evidence*, Shepparton, 3 November 2011, 2.

⁶⁰⁹ Ms Anna Fry, Student, The University of Melbourne, *Transcript of evidence*, Melbourne, 6 March 2012, 7. See also Mr Andrew Mason, Chief Executive Officer, Corangamite Shire Council, *Transcript of evidence*, Glenormiston, 30 November 2011, 3; Mr Roger Moulton, *Submission 1*, 1; Mr Robert Elletson, *Submission 56*, 1.

⁶¹⁰ Longerenong College, *Submission 39*, 4. See also Mr John Scott, *Submission 4*, 3; Wimmera Catchment Management Authority, *Submission 55*, 2; Ms Geraldine Christou, Manager, Economic Development, Greater Shepparton City Council, *Transcript of evidence*, Shepparton, 3 November 2011, 2; Mr John Ackland, Chief Executive Officer, Skillinvest Group, *Transcript of evidence*, Horsham, 29 November 2011, 8.

⁶¹¹ Mr John Spasevski, Director, Market Facilitation, Skills Victoria, DEECD, *Transcript of evidence*, Melbourne, 24 October, 2011, 10.

The University of Melbourne also told the Committee that it plans to redevelop the Dookie campus into a world class centre of excellence for agricultural research. To date, \$5 million has been invested to redevelop the Dookie farms with modern infrastructure and equipment by mid-2014.⁶¹² This plan is discussed in more detail in chapter eight.

6.1.3 The future of Victoria's agricultural colleges

A number of stakeholders were concerned about the future of Victoria's agricultural colleges.

Traditionally, an important component of agricultural colleges has been living on campus. However, there are questions as to whether this style of delivery appeals to today's generation of students.

The University of Melbourne was forced to discontinue delivering the Bachelor of Agriculture at the Dookie Campus due to low student enrolments. Currently, only final year students of the Bachelor of Agriculture have the option to study full-time at Dookie. Professor Richard Roush, Dean of the Melbourne School of Land and Environment (MSLE) at The University of Melbourne, explained:

It [the Bachelor of Agriculture] was originally fully based at Dookie, but after I arrived in this role about 2007 the numbers were just continuing to drop at 15 to 17 students a year — just not viable as a course and not a really good educational experience for students either.⁶¹³

The Young Agribusiness Professionals, which is part of the Victorian Farmers Federation and represents farmers and agribusiness professionals aged between 18 and 35, submitted that many young people want to study in the city and it will be necessary to look at alternative ways to use Dookie and provide students with exposure to practical skills:

The case of Dookie also emphasises a key trend currently within agricultural education — many students studying agriculture wish to stay in the city to continue their studies rather than spend a final year in Dookie. If this trend is to continue, the course providers need to ensure that students are able to go on field trips that provide adequate training and skills.⁶¹⁴

The Country Women's Association of Victoria, a volunteer organisation for women from urban and regional areas, submitted that it is necessary for the agricultural colleges to broaden their appeal to city students.⁶¹⁵

However, not all the agricultural colleges continue to struggle with the issue of low enrolments. As discussed in chapter five, Longerenong College has been successful in increasing its enrolments in recent times due to the employment of a Development Officer and a proactive recruitment campaign.

It was also evident to the Committee that some agricultural colleges are broadening their focus from agriculture in an effort to attract more students and remain viable. For example, Mr Greg Hallihan, Executive Officer of Primary Skills Victoria, the former industry training advisory body to the Victorian Government for the primary industries, stated:

⁶¹² The University of Melbourne, *Dookie 21 – The Dookie of the future*, <<http://www.dookie.unimelb.edu.au/dookie21/>> viewed 19 August 2012.

⁶¹³ Professor Richard Roush, Dean, Melbourne School of Land and Environment, The University of Melbourne, *Transcript of evidence*, Melbourne, 7 November 2011, 3.

⁶¹⁴ Young Agribusiness Professionals, Victorian Farmers Federation, *Submission 76*, 8.

⁶¹⁵ Country Women's Association of Victoria, *Submission 43*, 1.

We have seen private RTOs take them on and try to make them work. Longerenong is an example where they have shifted their focus in the way that they are delivering agriculture, and they have introduced engineering as well. Other ones are struggling. Have you been to Glenormiston? Glenormiston is a beautiful campus, a jewel in many ways. Apart from going multidiscipline it just would have been shut.⁶¹⁶

Similarly, The University of Melbourne currently utilises the campus to deliver short-term intensive subjects from other disciplines and is investigating the potential to expand these initiatives to help generate revenue for the campus. Professor Roush of MSLE at The University of Melbourne explained:

It will be based on a whole range of things, including increased use of the campus in the short-term intensive subjects, as we do now for subjects like Australia in the Wine World, but also to expand it to include short-term intensives on environmental management issues such as how we manage environmental flows to maximise biodiversity benefits.⁶¹⁷

A number of stakeholders noted that the agricultural colleges could be used to expose more young people to careers in agriculture. For example, Matthew, a Year 9 student at Pyramid Hill College, a government school in northern Victoria, stated:

It would also be good to experience going to an agriculture college like Longerenong or somewhere like that just to experience it for a week or a little bit more, just to have a look at what it is like.⁶¹⁸

The Committee heard that Longerenong College has established a program with a local primary school to enable Year 5 and 6 students to visit the College as part of a six-week agricultural course.⁶¹⁹

Similarly, Mr Joe Piper, Chief Executive Officer of South West TAFE, explained that it is using the accommodation facilities at Glenormiston College to provide students with exposure to agriculture:

The site has accommodation for 140 live-in students. That era has passed, but we are using these particular facilities not only for our current live-in students but we have a whole range of work we do with schools and others, so we are bringing schools in for a school taster program for single weeks and in some cases two weeks ...⁶²⁰

6.1.4 The future of the agricultural colleges – The Committee’s view

It is clear to the Committee that Victoria’s agricultural colleges are held in high regard by the community, particularly the alumni. The Committee toured the facilities at the Dookie campus, Glenormiston College and Longerenong College and believes they provide a truly unique agricultural training experience.

In the Committee’s view it is vital that the existing colleges are supported by the Victorian Government to deliver quality agricultural training into the future. The Committee considers it is important to the agriculture sector that the Victorian

⁶¹⁶ Mr Greg Hallihan, Executive Officer, Primary Skills Victoria, *Transcript of evidence*, Melbourne, 7 November 2011, 6.

⁶¹⁷ Professor Richard Roush, above n 613, 9.

⁶¹⁸ Matthew, Year 9 student, Pyramid Hill College, *Transcript of evidence*, Pyramid Hill, 2 November 2011, 7. See also *ibid.*, 9; Longerenong College, *Submission 39*, 6.

⁶¹⁹ Mr John Ackland, above n 610, 6.

⁶²⁰ Mr Joe Piper, above n 603, 4.

Government publicly affirms its commitment to the agricultural colleges and to maintaining the existing facilities.

The Committee also believes that some of the facilities at the agricultural colleges need revitalising. The Committee urges the Victorian Government and industry associations within the agriculture sector to work with providers to explore opportunities to update the existing facilities through attracting new investment.

In addition, the Committee is of the view that the agricultural colleges have enormous potential to be utilised to promote agricultural careers to young people and to deliver agricultural training to a broad cross-section of students. The Committee considers that Victorian Government should, in consultation with providers and industry associations, conduct a feasibility study to identify new opportunities for utilising the facilities to deliver agricultural education to school, VET and higher education students. Possible opportunities that could be explored include school camps and excursions and intensive subjects for university students.

Recommendation 33: Supporting Victoria's agricultural colleges into the future

That the Victorian Government commit to:

- delivering agricultural training at the agricultural colleges
- maintaining the facilities at the agricultural colleges.

Recommendation 34: Exploring new opportunities for Victoria's agricultural colleges

That the Victorian Government work with the operators of the agricultural colleges and the industry associations within the agriculture sector to:

- conduct a feasibility study into how the colleges could be better utilised to deliver agricultural education to school, VET and higher education students
- revitalise the college facilities through attracting new investment.

6.2 Agriculture teachers in the VET sector

This section examines the availability of VET agriculture teachers and considers measures to attract more agriculture teachers to and retain teachers in the VET sector. It also looks at the quality of VET agricultural teaching.

6.2.1 Attracting and retaining VET agriculture teachers

The Committee heard that it can be difficult for training providers to attract suitably qualified and experienced people to become VET agriculture teachers.⁶²¹ This anecdotal evidence is supported by AgriFood Skills Australia's 2011 environmental scan, which identified that there are shortages of trainers, assessors and auditors with up-to-date industry skills and knowledge across the agrifood sector.⁶²²

⁶²¹ Associate Professor Kath White, Dean, School of Food, Land and Service Industries, University of Ballarat, *Transcript of evidence*, Ballarat, 28 November 2011, 10; Charles Darwin University, *Submission 11*, 1; Central Gippsland Institute of TAFE, *Submission 42*, 3; Rural Skills Australia, *Submission 80*, 5; Goulburn Ovens Institute of TAFE (GOTAFE), *Submission 91*, 6; Faculty of Earth Sciences, Northern Melbourne Institute of TAFE (NMIT), *Submission 29*, 2.

⁶²² AgriFood Skills Australia, *2011 Environmental scan of the agrifood industry* (2011), 17.

Compounding this shortage, several stakeholders observed that the VET sector has an older workforce profile. For example, the Australian College of Agriculture and Horticulture, a private registered training organisation (RTO), submitted, 'This is a serious problem facing our industry affecting both VET and higher education sectors largely due to [the] ageing workforce and unavailability of qualified trainers.'⁶²³

Barriers to attracting and retaining VET agriculture teachers

Participants in the Inquiry identified a number of reasons why people are not seeking out a career teaching agriculture within the VET sector.

Both TAFE and private providers emphasised that they struggle to attract talented people from the agriculture sector to deliver their training due to the comparatively low pay offered. For example, the Goulburn Ovens Institute of TAFE (GOTAFE) submitted that the remuneration within the TAFE sector does not meet the expectations of highly proficient trainers:

Attracting suitably qualified educators with a passion for both agriculture and education is not straightforward. Current Industrial Relations arrangements for TAFE Institutes also mean that remuneration arrangements are not flexible enough and do not meet the expectations of many talented people wishing to enter the VET sector.⁶²⁴

Similarly, Mr Bill Hamill, Chief Executive Officer of Rural Industries Skill Training, a private RTO that specialises in agricultural training, discussed the salary constraints within the VET sector:

we really are restricted on how much we can pay those people. We have to pay industry rates because they are vets or agronomists, so their consulting rate is a lot higher than a VET teacher. We have to pay them that rate. We cannot index it upwards too much because we are caught on the other side of the funding side. That is one of the issues that we are facing.⁶²⁵

The Victorian TAFE Association, the peak body for public providers of TAFE, noted that there is strong competition for talented individuals:

Further, TAFE teachers/trainers are required to have industry currency, industry qualifications and teaching qualifications. It is a challenge for TAFE providers to source and grow new teachers/trainers. Opportunities for career development in VET and succession planning by teaching departments can be stifled when the agricultural teaching departments are quite small in staff numbers. There is strong competition for talent. We are finding that the very broad skills set we are looking for in rural/regional communities are the same skills being sought by other employers and TAFE struggles to compete.⁶²⁶

Strategies to attract and retain more VET agriculture teachers

The Committee heard that several training providers have put in place strategies to try and attract quality agricultural trainers. For instance, GOTAFE submitted:

⁶²³ Australian College of Agriculture and Horticulture, *Submission 18*, 16. See also Victorian TAFE Association, *Submission 78*, 19; Rural Industries Skill Training, *Submission 81*, 4; GOTAFE, *Submission 91*, 6.

⁶²⁴ GOTAFE, *Submission 91*, 6. See also Faculty of Earth Sciences, NMIT, *Submission 29*, 2; Longerenong College, *Submission 39*, 6; The State Agriculture Provider Network, *Submission 40*, 4; Mr James Farmer, Team Leader, Horticulture, Central Gippsland Institute of TAFE, *Transcript of evidence*, Ellinbank, 14 February 2012, 3.

⁶²⁵ Mr Bill Hamill, Chief Executive Officer, Rural Industries Skill Training, *Transcript of evidence*, Horsham, 29 November 2011, 4.

⁶²⁶ Victorian TAFE Association, *Submission 78*, 19.

Our strategy in terms of the agriculture teaching workforce is to identify suitable “industry experts” and engage them on a sessional teaching basis or via third party contract. We have been able to find some suitable people currently working within industry who wish to “give back” to industry in terms of educating the next generation. The downside to this approach is that we still need a core group of VET educators who can ensure quality of delivery, co-ordinate programs and ensure pastoral care, which a visiting industry expert does not do.⁶²⁷

Similarly, Associate Professor Kath White, Dean of the School of Food, Land and Service Industries at the University of Ballarat, which delivers vocational agricultural qualifications, explained that the University tries to recruit persons who have strong agricultural experience, with a view of developing their teaching skills:

I think the way we go about it is we nurture people as sessional teachers and then, as a position arises, bring them on as ongoing. We do not necessarily advertise for a teacher; we advertise for a really good agriculture person who has the right competencies and qualifications that we want, and then we work at bringing them to being a good teacher.⁶²⁸

Stakeholders made the following recommendations to attract more persons into teaching agriculture in the VET sector:

- Primary Skills Victoria recommended that the Victorian Government establish a rural bonded scholarship to attract and retain highly skilled people to deliver training in regional VET institutes.⁶²⁹
- The Dairy Industry People Development Council and Dairy Australia, which made a joint submission to the Inquiry on behalf of the Victorian dairy industry, suggested that the Victorian Government invest in a training and remuneration strategy to develop and retain a pool of highly qualified trainers to deliver agricultural training at the Australian Qualifications Framework IV and V levels.⁶³⁰
- Community College Gippsland, a not-for-profit RTO, recommended that there be improved incentives to attract new entrants into the VET sector as trainers.⁶³¹

The Committee is concerned by the reports of a shortage of agriculture teachers in the VET sector. The Committee believes this situation could be improved by ensuring that providers are able to offer remuneration that attracts talented persons in a competitive labour market.

Recommendation 35: Attracting and retaining VET agriculture teachers

That the Victorian Government support VET training providers to offer remuneration that attracts and retains talented agriculture teachers in a competitive market.

6.2.2 The quality of VET teaching for the agriculture sector

This section considers the quality of VET teaching for the agriculture sector. It looks at whether VET trainers have the necessary vocational and teaching skills to deliver quality

⁶²⁷ GOTAFE, *Submission 91*, 6.

⁶²⁸ Associate Professor Kath White, above n 621, 10. See also Wimmera Catchment Management Authority, *Submission 55*, 3.

⁶²⁹ Primary Skills Victoria, *Submission 84*, 34.

⁶³⁰ Joint submission of Dairy Industry People Development Council and Dairy Australia, *Submission 89*, 9.

⁶³¹ Community College Gippsland, *Submission 50*, 8.

agricultural education. It also considers whether the administrative demands placed on VET teachers are detracting from the quality of VET teaching.

Industry currency

The Australian Quality Training Framework (AQTF) is the national set of standards which promote nationally consistent, high quality training and assessment services in the VET sector. Under the AQTF, VET trainers are required to maintain their vocational skills and knowledge.⁶³² This is referred to as industry currency.

Agriculture is a rapidly changing sector and there was some concern that full-time trainers within RTOs may not be up-to-date with the practices and technologies used within the industry. For example, Mr Ian Campbell, Acting Manager of Economic Development at the Wellington Shire Council, noted:

in terms of the farmers themselves who are employing people who are trained or training in agriculture, one of their concerns is that with RTOs you will often get someone who may not necessarily be the best farmer or able to demonstrate best practice in that they were a farmer once and their college or RTO has said, 'Yes, you can now go and teach this course. You can also do other things for us. There you are'. Farmers would prefer that there perhaps be people who are full-time farmers given a bit of training in educating so that they are then able to educate the new farmers coming through a little bit more about what is best practice and those sorts of things ...⁶³³

Consistent with this, a 2011 environmental scan conducted by AgriFood Skills Australia identified that one of the key reasons for the agrifood sector's dissatisfaction with the VET sector was the 'currency of practitioners responsible for the delivery and assessment, and as a consequence the relevance of skills being delivered'.⁶³⁴

Training providers use a variety of approaches to ensure there is industry currency amongst their trainers. For example, Rural Industries Skill Training explained that it does not employ any salaried trainers, but rather contracts in the best industry expert to deliver the training. Mr Hamill of Rural Industries Skill Training outlined the benefits of this approach:

the benefit of that is that the students are seeing the latest. They are seeing people who are actually out there practising in real life, and that excites them ... they may have been introduced to the local vet, who is highly skilled at animal health and who gets talking to them about animal health issues, not someone — and this is not a criticism — that we employ who has been with us for 30 years and who has taught out of a curriculum for 30 years on that program. This is the latest person. That is the model that we use right across the board ...⁶³⁵

The Victorian TAFE Association explained that TAFE providers use the following strategies to ensure their teachers maintain industry currency:

- allowing teachers to undertake placements in industry
- arrangements where significant portions of training delivery are undertaken in industry settings

⁶³² Australian Quality Training Framework, *Essential conditions and standards for continuing registration* (2010), 6.

⁶³³ Mr Ian Campbell, Acting Manager, Economic Development, Wellington Shire Council, *Transcript of evidence*, Ellinbank, 14 February 2012, 4. See also Mr Anthony Thomas, *Submission 98*.

⁶³⁴ AgriFood Skills Australia, above n 622, 11.

⁶³⁵ Mr Bill Hamill, above n 625, 4.

- employing part-time trainers who are still involved in the agriculture sector.⁶³⁶

Some stakeholders called for a greater ability to allow VET teachers to spend time in the agriculture sector to enhance industry currency.⁶³⁷

Teaching qualifications

Persons wishing to become VET teachers must undergo initial teacher training. The AQTF mandates that VET teaching staff must hold at a minimum, a Certificate IV in Training and Assessment or demonstrate equivalent competencies.⁶³⁸ There are a range of higher VET teaching qualifications that can be undertaken by prospective VET teachers, however the vast majority undertake the minimum certificate IV qualification.⁶³⁹

Skills Australia, which was the independent statutory body formerly responsible for providing advice to the Australian Government workforce skills needs, expressed concern about the delivery of the Certificate IV in Training and Assessment, citing research undertaken by the National Centre for Vocational Education Research (NCVER).⁶⁴⁰ This research highlighted concerns about the quality of delivery of the minimum qualification and the authors noted that there may be need to review the providers who offer the qualification and the level of experience of the staff teaching it.⁶⁴¹

Mr John Goldsmith, Chair of the State Agriculture Provider Network, which represents a diversity of RTOs delivering agricultural training in Victoria, also noted that the minimum qualification does not provide a strong grounding in teaching pedagogy:

the TAE [Certificate IV in Training and Assessment] is very much about how you set up your resources to implement competencies from a training package, how you meet the compliance and how you sign off on performance criteria et cetera. That is all very nice, and it is okay, but the problem is when you get in a class or you have a group of students doing a practical activity, how you meet the learning needs of those individuals within a group, which comes from doing a teaching qualification, looking at educational psychology and all those sorts of things. The TAE does not address that at all.⁶⁴²

Similarly, Primary Skills Victoria highlighted that the emphasis of the teaching qualification is on compliance and regulation rather than the fundamentals of teaching practice.⁶⁴³

The NCVER research highlighted that while the quality of initial training and support is important, access to quality and ongoing professional development was more significant for quality training delivery.⁶⁴⁴

Due to the emphasis in the VET sector on trainers having industry currency, many training providers employ trainers on a casual basis.⁶⁴⁵ Rural Industries Skill Training

⁶³⁶ Victorian TAFE Association, *Submission 78*, 19.

⁶³⁷ Community College Gippsland, *Submission 50*, 8; Rural Skills Australia, *Submission 80*, 5.

⁶³⁸ Australian Quality Training Framework, *Users' guide to the essential conditions and standards for initial registration* (2010), 82. Available at http://www.nssc.natase.gov.au/_data/assets/pdf_file/0010/69346/AQTF_Users_Guide_to_the_Essential_Condition_and_Standards_for_Initial_Registration.pdf viewed 24 October 2012.

⁶³⁹ Hugh Guthrie, Alicen McNaughton and Tracy Gamlin, *Initial training for VET teachers: A portrait within a larger canvas* (2011) National Centre for Vocational Education Research, 40-41.

⁶⁴⁰ Skills Australia, *Submission 41*, 4.

⁶⁴¹ Hugh Guthrie, Alicen McNaughton and Tracy Gamlin, above n 639, 8.

⁶⁴² Mr John Goldsmith, Chair, The State Agricultural Provider Network, *Transcript of evidence*, Horsham, 29 November 2011, 4.

⁶⁴³ Primary Skills Victoria, *Submission 84*, 33.

⁶⁴⁴ Hugh Guthrie, Alicen McNaughton and Tracy Gamlin, above n 639, 8.

stated it can be challenging to convince experts in the agriculture sector to undertake the prerequisite teaching qualification:

Accessing quality teachers is becoming more difficult as our organisation utilises industry experts in a contracted deliverer role (as this provides students with the highest quality presenters who have real industry experience). The difficulty is in encouraging these industry people to undertake their Certificate IV in TAE or equivalent (In many cases the financial reward for delivery is not sufficient to encourage them to undertake this additional training).⁶⁴⁶

The Committee spoke with Mr Nathan Scott, a full-time consultant with an agricultural advisory firm, who needed to obtain the pre-requisite teaching qualification in order to teach an electronic identification (EID) course run by Rural Industries Skill Training. He explained that it was challenging to find the time to undertake the course:

There are two ways you can do it. You can take five days out, do it all in one go and it is out of the way, or you can do it outside of work hours, and I think it takes seven weeks or something like that — one night a week. The issue for me was that I have a young family, and to take the time outside of work was difficult. To take five days off when we are consulting is also not ideal, but it is something that everyone needs to have. I know that even in developing the EID course, the electronic identification course, when we ran Train the Trainer, that was one of the issues that a lot of them stated — that they did not have a certificate IV and they did not particularly want to have to get it.⁶⁴⁷

Administrative demands on VET teachers

Stakeholders reported that the heavy focus on meeting process and reporting requirements under the AQTF detracts from the time VET teachers are able to spend on teaching and assessment. For example, Rural Skills Australia submitted:

A common complaint amongst VET staff is the level of paperwork and compliance activities that must be undertaken often to the detriment of 'teaching and assessing'. One comment recently was that the VET teacher felt more like a 'facilitator' than a teacher with all the bureaucratic compliance activities that had to be 'ticked off/recorded and reported on before they actually 'taught'.⁶⁴⁸

Mr Goldsmith of the State Agriculture Provider Network also noted the high levels of administrative work associated with meeting the auditing and compliance requirements. He stated that teachers 'should be out there teaching, researching and improving their resources'.⁶⁴⁹

Improving VET teacher quality – The Committee's view

The Committee acknowledges the key role that VET teachers play in delivering high quality agricultural education.

⁶⁴⁵ Productivity Commission, *Vocational education and training workforce*, Productivity Commission research paper (2011), XXXV.

⁶⁴⁶ Rural Industries Skill Training, *Submission 81*, 4. See also Organic Agriculture Association and Australian Landscape Trust, *Submission 16*, 1.

⁶⁴⁷ Mr Nathan Scott, Group Coordinator, Better Beef Network and Consultant, Mike Stephens and Associates, *Transcript of evidence*, Ballarat, 28 November 2011, 3-4.

⁶⁴⁸ Rural Skills Australia, *Submission 80*, 5. See also Mr John Goldsmith, above n 642, 4; Faculty of Earth Sciences, NMIT, *Submission 29*, 4; The State Agriculture Provider Network, *Submission 40*, 4; Primary Skills Victoria, *Submission 84*, 33; Longerenong College, *Submission 39*, 6.

⁶⁴⁹ Mr John Goldsmith, above n 642, 4.

To support agriculture teachers in their role, the Committee considers it is important that training providers have systems in place to identify the gaps in the vocational or teaching skills of individual agriculture teachers. Further, the Committee believes that the Victorian Government should investigate the best ways to maintain industry currency and enhance teaching practices among agriculture teachers.

The Committee also believes that the Victorian Government should support VET providers to contract in experts in their field in agriculture as a means of improving the industry currency of teachers within the VET sector.

The Committee notes it is important that training providers can attract these skilled persons from industry to deliver training to the agriculture sector. The Committee believes it may be beneficial to introduce an incentive for persons in industry to undertake the prerequisite VET teaching qualification. This incentive could take the form of scholarships or fee subsidies.

The Committee also believes efforts should be made to reduce the administrative burden on VET teachers to allow them more time to focus on delivering quality educational outcomes.

Recommendation 36: Enhancing industry currency and teaching practices in the VET sector

That the Victorian Government:

- investigate the best ways to maintain industry currency and enhance the teaching practices of agriculture teachers in the VET sector
- support VET providers to contract experts to deliver agricultural VET
- introduce incentives for experts from the agriculture sector to undertake VET teaching qualifications
- explore strategies to reduce the administrative demands on VET teachers.

Chapter 7: The current higher education landscape

Key findings

- Agricultural higher education plays a key role in training many of the rural professionals and agricultural research scientists that support the agriculture sector.
- There are four providers of agricultural higher education qualifications in Victoria that offer a diversity of undergraduate and postgraduate agricultural courses.
- It is difficult to obtain a clear picture of agricultural higher education enrolments in Victoria due to data shortcomings. However, the available data indicates that there have been decreasing enrolments in agricultural-related undergraduate courses at the state and national level over the past decade.
- The declining enrolments in agricultural higher education courses is placing resourcing pressures on the Victorian agricultural higher education providers. There is also evidence that the current supply of graduates is not meeting the skilled labour needs of the agriculture sector.

The current higher education landscape

Chapters seven and eight focus on agricultural education in the higher education sector. This chapter examines the role of agricultural higher education and the current provision of agricultural courses in the Victorian higher education sector. It also considers the participation levels in agricultural bachelor degrees and the impact of these participation levels on higher education providers and the agriculture sector.

There is a strong focus in this chapter on agricultural-related bachelor degree courses as these courses are the main pipeline for delivering graduates into the agriculture sector and postgraduate courses and research.

7.1 Agricultural higher education in Victoria

This section outlines the role of agricultural education within the higher education sector and provides an overview of the agricultural courses offered by the sector in Victoria.

7.1.1 Why agricultural higher education matters

The higher education sector fulfils an important education and training role for the agriculture sector. Firstly, agricultural undergraduate programs produce rural professionals, such as agronomists, agricultural scientists, extension practitioners and farm business advisers, to work in the service sectors that support agriculture. Secondly, universities train the agricultural research scientists of the future through their postgraduate research programs.

Interestingly, the anecdotal evidence received by the Committee suggests that agricultural higher education degrees are not currently viewed by the agriculture sector as a necessary pathway into farm-based employment. The joint submission from Dairy Industry People Development Council (DIPDC) and Dairy Australia on behalf of the Victorian dairy industry observed:

With less than five percent [5%] of Victorian dairy farm workers with a Bachelor degree or higher, undergraduate degrees are not typically seen as a priority pathway to dairy farm management in Victoria or the rest of Australia. This is in contrast to the New Zealand dairy industry where a substantial number of dairy farmers and farm managers are tertiary educated.⁶⁵⁰

DIPDC and Dairy Australia noted that the vocational education and training (VET) sector is still the dominant pathway into the dairy sector due to the practical nature of the training, the regional locations of VET providers and the more flexible delivery options.⁶⁵¹

⁶⁵⁰ Joint submission of Dairy Industry People Development Council (DIPDC) and Dairy Australia, *Submission 89*, 42.

⁶⁵¹ *ibid.*, 42.

Ms Meg Parkinson, Chair of the Workplace Relations Committee at the Victorian Farmers Federation, Victoria's peak farming organisation, also explained that young people who grow up on farms may be encouraged to study outside the field of agriculture in order to broaden their experience:

when you grow up on a farm you assume you know something about farming. When you have leave to study you should do something else. Whereas people who grow up doing something else or being at school, if they want to go and do agriculture they look at places like Marcus Oldham because it is hands-on.⁶⁵²

However, Dr Simon Livingstone, Principal of Marcus Oldham College, a private higher education provider based in Geelong, predicted that the sector will place a greater emphasis on higher education in the future:

I think the leading farmers of the future are going to have bachelor degrees, and we can obviously see that now. The industry is well behind that, and if you look at some of the data, I think about 9% — a figure like that — of the working population in agriculture have university-type qualifications as opposed to about 29% in the wider community.⁶⁵³

7.1.2 Agriculture courses offered by higher education providers in Victoria

There are currently four providers of agricultural higher education qualifications in Victoria: La Trobe University, Marcus Oldham College, the Northern Melbourne Institute of TAFE (NMIT) and The University of Melbourne. The University of Ballarat also plans to introduce applied agricultural degrees in the future.

The higher education sector delivers the Australian Qualifications Framework qualifications of diploma, advanced diploma, associate degree, bachelor's degree, graduate certificate, graduate diploma, master's degree and doctoral degree.

The process for accrediting qualifications within the higher education sector depends on the type of higher education provider issuing the qualification:

- Australian universities, which include La Trobe University, The University of Melbourne and the University of Ballarat, are established by legislation and have the authority to accredit and issue their own qualifications.⁶⁵⁴
- Self-accrediting higher education institutions are established by legislation and have the authority to accredit and issue their own qualifications.⁶⁵⁵
- Non self-accrediting higher education institutions, which include Marcus Oldham College and NMIT are registered by the Tertiary Education Quality and

⁶⁵² Ms Meg Parkinson, Chair, Workplace Relations Committee, Victorian Farmers Federation, *Transcript of evidence*, Melbourne, 24 October 2011, 10.

⁶⁵³ Dr Simon Livingstone, Principal, Marcus Oldham College, *Transcript of evidence*, Melbourne, 7 November 2011, 2.

⁶⁵⁴ Australian Qualifications Framework, *Australian universities*, <<http://www.aqf.edu.au/RegisterAccreditation/Accreditation/AustralianUniversities/tabid/169/Default.aspx>> viewed 2 August 2012.

⁶⁵⁵ Australian Qualifications Framework, *Self-accrediting higher education institutions*, <<http://www.aqf.edu.au/RegisterAccreditation/Accreditation/SelfaccreditingHigherEducationInstitutions/tabid/170/Default.aspx>> viewed 2 August 2012.

Standards Agency (TEQSA) as a higher education institution and each higher education qualification they offer must be accredited by TEQSA.⁶⁵⁶

A brief overview of the agricultural higher education courses offered by the Victorian providers is set out below. The Committee has identified those courses it considers can lead directly to a career within the agriculture sector, as defined in chapter one. There are a wide range of other courses that can potentially lead to a person pursuing a career in the agriculture sector, examples include veterinary science and natural resource management courses. These related courses have not been identified in this section as the focus is on the specific agricultural higher education courses offered in Victoria.

La Trobe University

La Trobe University offers a range of undergraduate agricultural-related single and double degree courses and postgraduate courses at its Melbourne campus in Bundoora (figure 20).

Figure 20: Agricultural courses offered at La Trobe University in 2012

Undergraduate
Bachelor of Agricultural Science
Bachelor of Agricultural Science / Bachelor of Business
Bachelor of Agricultural Science / Bachelor of International Development
Bachelor of Science (Agriculture major)
Bachelor of Animal and Veterinary Bioscience (Agriculture major)
Postgraduate
Graduate Diploma in Agricultural Science
Postgraduate Research degrees
Master of Agricultural Science
Master of Science
Doctor of Philosophy

Marcus Oldham College

Marcus Oldham College has a specific focus on delivering undergraduate and postgraduate courses in farm management and agribusiness administration (figure 21).

⁶⁵⁶ Australian Qualifications Framework, *Non self-accrediting higher education institutions*, <<http://www.aqf.edu.au/RegisterAccreditation/Accreditation/NonSelfaccreditingHigherEducationinstitutions/tabid/171/Default.aspx>> viewed 2 August 2012; Victorian Registration & Qualifications Authority, *Higher education: Transfer to higher education TEQSA*, <<http://www.vrqa.vic.gov.au/registration/highered/default.htm>> viewed 2 August 2012.

Figure 21: Agricultural courses offered at Marcus Oldham College in 2012

Undergraduate
Diploma of Agribusiness
Advanced Diploma of Farm Business Management
Associate Degree in Agribusiness
Bachelor of Business (Agribusiness)
Bachelor of Business (Farm Management)
Postgraduate
Graduate Certificate in Agribusiness
Graduate Diploma of Agribusiness

Northern Melbourne Institute of TAFE

NMIT offers specialist agricultural undergraduate degrees, in addition to its vocational training courses, at its Epping campus (figure 22). The Bachelor of Agriculture and Land Management was run for the first time in 2010.

The NMIT associate and bachelor degrees are vocationally orientated and are designed to build upon the knowledge and skills obtained in higher agricultural VET qualifications. Dr Damien Adcock, Head of Department, Agriculture and Land Management Higher Education at NMIT, explained the reason why NMIT moved into the tertiary area in agriculture:

The NMIT degree was developed specifically because they felt there was a niche, and we were only allowed to develop niche degrees originally for the fact that there was a group of potential agricultural graduates out there who wanted a mix of science as well as core practical abilities.⁶⁵⁷

Figure 22: Agricultural courses offered at the Northern Melbourne Institute of TAFE in 2012

Undergraduate
Associate Degree in Agriculture and Land Management
Bachelor of Agriculture and Land Management

The University of Melbourne

The University of Melbourne offers a range of agricultural-related undergraduate and postgraduate courses. Agricultural subjects are delivered at the University's Parkville campus and Dookie campus (figure 23). As discussed in chapter six, Dookie is a former agricultural college that is now a campus of The University of Melbourne.

⁶⁵⁷ Dr Damien Adcock, Head of Department, Agriculture and Land Management Higher Education, Northern Melbourne Institute of TAFE (NMIT), *Transcript of evidence*, Melbourne, 5 December 2011, 5.

At the undergraduate level, The University of Melbourne has introduced New Generation degrees as part of the Melbourne Model. These New Generation degrees promote a more generalist approach to undergraduate study. Students studying a New Generation Bachelor of Science have the option of majoring in agricultural science or animal science and management. The University still offers a distinct Bachelor of Agriculture.

Figure 23: Agricultural courses offered at The University of Melbourne in 2012

Undergraduate
Bachelor of Agriculture
Bachelor of Science (Agriculture)
Bachelor of Science (Animal Science and Management)
Postgraduate
Postgraduate Certificate in Climate Change for Primary Industries
Master of Agribusiness
Master of Agricultural Science
Master of Animal Science
Postgraduate research degrees
Master of Philosophy
Doctor of Philosophy

The University of Ballarat

The University of Ballarat does not currently offer agricultural higher education courses. However, the University told the Committee that it plans to introduce a number of applied agricultural degrees in the future.⁶⁵⁸

The University of Ballarat already offers a number of applied degrees in other fields. These applied degrees are designed to build on the diploma and advanced diploma qualifications offered by the University and other VET providers.⁶⁵⁹

⁶⁵⁸ University of Ballarat, *Submission 32*, 6. See also email from Dean, School of Food, Land and Service Industries, University of Ballarat, to Executive Officer, Victorian Parliament Education and Training Committee, 5 September 2012.

⁶⁵⁹ University of Ballarat, *Applied degrees*, <<http://www.ballarat.edu.au/schools/the-business-school/management/applied-degrees>> viewed 31 July 2012.

7.2 Enrolments in agricultural higher education courses

This section looks at the enrolments in agricultural higher education courses and discusses the impact of the low enrolments on both the providers and the agriculture sector.

7.2.1 Data on agricultural higher education

The next section provides an overview of agricultural higher education enrolments and completions. The Committee has tried to ensure that the data presented relates only to agricultural qualifications. However, it is difficult to obtain a clear picture of the number of enrolments and completions in agricultural higher education courses.

The field of education classification is used to report higher education data in Australia. It classifies courses according to their vocational intent or the primary subject matter of a course.⁶⁶⁰ Agriculture is grouped into the broad field of 'agriculture, environmental and related studies'.

Several reports and research papers have highlighted that increasing enrolments in environmental studies are masking the enrolment figures for agricultural courses.⁶⁶¹ The Office of the Chief Scientist's report, *Health of Australian science*, also concluded that it is impossible to accurately know how many students studied agriculture:

Commonwealth-collected higher education data are inadequate for determining strengths and vulnerabilities in the system. In particular, inconsistent and imprecise coding of courses makes analysis of enrolments and completions in narrow fields difficult. For example, it is impossible to know from higher education statistics how many students graduated with honours in mathematics or attempted and completed an agriculture degree.⁶⁶²

The recent Allen Consulting Group report, *Rebuilding the agricultural workforce*, which was commissioned by the Business/Higher Education Round Table, recommended that work be done to resolve the shortcomings with agricultural education data.⁶⁶³

The Committee considers it important that there is a clear picture of the level of agricultural enrolments and completions in higher education. Accurate data enables government to properly evaluate the effectiveness of any responses put in place to increase agricultural higher education enrolments and completions. Accordingly, the Committee recommends that the Victorian Minister for Higher Education and Skills raise the need to collect clear data on agricultural higher education enrolments and completions at ministerial council level.

⁶⁶⁰ Office of the Chief Scientist (Australia), *Health of Australian science* (2012), 63.

⁶⁶¹ The Allen Consulting Group, *Rebuilding the agricultural workforce*, report for Business/Higher Education Round Table (2012), 16; McKinna et al, *Performance issues impacting the development of the Victorian agrifood sector* (2010), 231. Available at <http://www.rdv.vic.gov.au/__data/assets/pdf_file/0004/67963/McKINNA-DBI-Agrifood-sector-report-5-NOVEMBER-2010.pdf> viewed 15 August 2012; Jim Pratley, 'Workforce planning in agriculture: Agricultural education and capacity building at the crossroads' (2008) 5(3) *Farm Policy Journal* 27, included in *Submission 97*, appendix C, 30.

⁶⁶² Office of the Chief Scientist, above n 660, 11.

⁶⁶³ The Allen Consulting Group, above n 661, 64.

Recommendation 37: Improving data collection on agricultural higher education

That the Minister for Higher Education and Skills advocate at ministerial council level for the collection of clear data on agricultural higher education enrolments and completions.

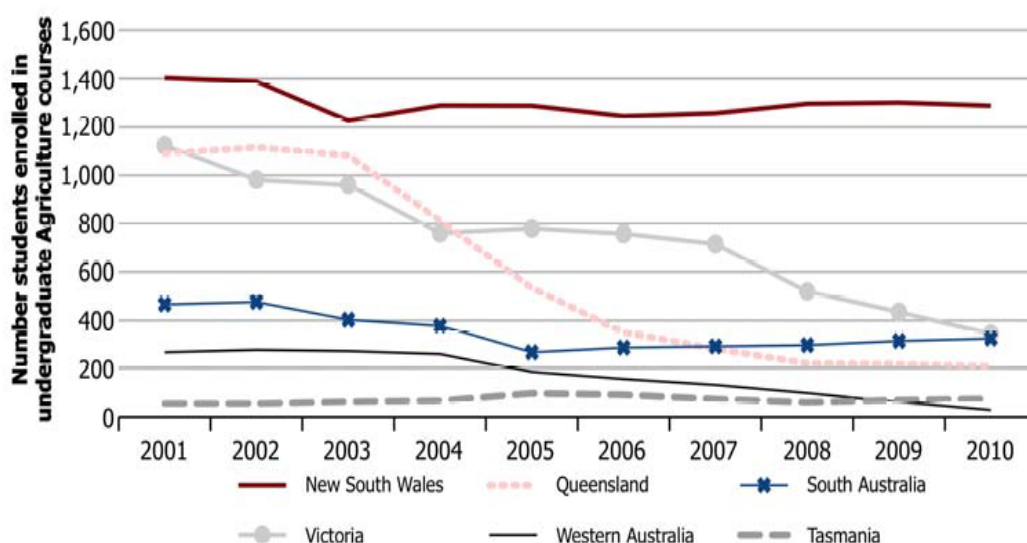
7.2.2 Enrolments and completions in agricultural higher education courses

This section provides an overview of enrolments and completions in agricultural undergraduate courses in Victoria and nationally. The key message from this data is that there have been decreasing enrolments in agricultural-related undergraduate courses at both the state and national level. This is leading to a relatively small cohort of agriculture graduates each year in Victoria and throughout Australia.

Enrolments

Figure 24 illustrates that there has been a significant decline in enrolments in undergraduate agriculture courses in Victoria between 2001 and 2010. This figure, taken from the Allen Consulting Group Report, also shows that the majority of states offering undergraduate agriculture courses have also experienced a decline in enrolments in agriculture.

Figure 24: Enrolments in undergraduate agriculture courses by state (2001–2010)⁶⁶⁴



This decline is consistent with the national trend in agricultural enrolments. The Office of the Chief Scientist's report, *Health of Australian science*, found that domestic undergraduate enrolments for students beginning in agriculture and environment had decreased by 4% between 2002 and 2010.⁶⁶⁵ However, the report noted that the grouping of agriculture with the environment masks a larger decline, with the teaching of

⁶⁶⁴ The Allen Consulting Group, above n 661, 17, citing 2011 Department of Education, Employment and Workplace Relations data.

⁶⁶⁵ Office of the Chief Scientist, above n 660, 8-9.

subjects in the agriculture discipline group to continuing undergraduates enrolled in agriculture and environment courses declining by 31% between 2002 and 2010.⁶⁶⁶

However, not all providers have been experiencing declining enrolments. Dr Livingstone of Marcus Oldham College told the Committee, 'We have been fortunate that probably for the last 10 years our enrolments have been very strong.'⁶⁶⁷ The College has also been highly successful in attracting students from across Australia, with approximately 70% of its student cohort coming from outside of Victoria.⁶⁶⁸

Completions

The Committee also received data from Victoria's agricultural higher education providers which helps to provide a picture of the number of agriculture graduates being produced in Victoria. This data is based on the estimates given by providers for different years and should be treated as an approximation only.

La Trobe University estimated that its five agricultural undergraduate courses have been attracting between 30 to 60 new students annually and this has led to between 12 and 30 graduates entering the workforce each year.⁶⁶⁹

The Melbourne School of Land and Environment (MSLE) at The University of Melbourne estimated that from 2007 to 2010 there was an average of 180 people graduating with bachelor degrees in agriculture each year.⁶⁷⁰

Dr Livingstone of Marcus Oldham College informed the Committee that the College has on average 26 students in each year group for each of its courses.⁶⁷¹ On this basis, there is a total of approximately 50 graduates from the College's two Bachelor of Business degrees (farm management and agribusiness) each year.

The Bachelor of Agriculture and Land Management course at NMIT was run for the first time in 2010 and the initial cohort of students will be graduating in 2012. NMIT told that Committee that it expects that between 12 to 15 students will complete the course in 2012.⁶⁷² NMIT noted that it will take some time to build a viable cohort of students.⁶⁷³

On the basis of these estimates, Victoria has produced approximately 270 graduates in agricultural-related degrees annually in recent years. Across Australia, research indicates that Australia's universities are producing approximately 700 graduates from agricultural-related degrees.⁶⁷⁴

⁶⁶⁶ *ibid.*, 9.

⁶⁶⁷ Dr Simon Livingstone, above n 653, 2.

⁶⁶⁸ *ibid.*, 2.

⁶⁶⁹ La Trobe University, *Submission 88*, 4.

⁶⁷⁰ Melbourne School of Land and Environment (MSLE), The University of Melbourne, *Submission 69*, 5.

⁶⁷¹ Dr Simon Livingstone, above n 653, 2.

⁶⁷² Email from Head of Program – Agriculture & Land Management, Faculty of Earth Sciences, Epping Campus, NMIT, to Executive Officer, Victorian Parliament Education and Training Committee, 5 September 2012.

⁶⁷³ Faculty of Earth Sciences, NMIT, *Submission 29*, 1.

⁶⁷⁴ Jim Pratley, 'Professional agriculture – A case of supply and demand', included in *Submission 97*, appendix A, 8.

7.2.3 The impact of declining enrolments in agricultural higher education courses

Stakeholders highlighted the declining enrolments in agricultural courses as the most pressing issue facing agricultural higher education in Australia. This section considers the impact of this issue on the higher education providers and the agriculture sector.

The impact of declining agriculture enrolments on higher education providers

Declining enrolments place significant resourcing pressures on agricultural higher education providers and can threaten course viability. Associate Professor John Webb, Head of Environmental Geoscience at La Trobe University explained, 'We get maybe 40 students a year coming into agriculture, and that is not enough to keep us running.'⁶⁷⁵

As outlined in chapter one, Australia has moved to a demand-driven system of funding for undergraduate Commonwealth-supported university places. The Committee was told that university departments and courses receive funding on the basis of the number of full-time students they attract. This places pressure on courses that attract small cohorts of students such as agriculture. Associate Professor Peter Sale from the Department of Agricultural Science at La Trobe University noted, 'this is coming from this problem that a university has: they just cannot cope with small class sizes anymore'.⁶⁷⁶

Compounding this issue, agricultural higher education courses are expensive to deliver as they involve a wide range of subjects requiring specialised laboratory classes and field trips.⁶⁷⁷ All the Victorian agricultural higher education providers also maintain agricultural training facilities or farms.

The financial pressures on higher education providers are resulting in the need to make savings within agriculture departments. La Trobe University submitted that the number of academic staff who teach the agricultural science course has declined from 25 in 1990 to eight in 2011, while the number of support staff has declined from 17 to five over the same period.⁶⁷⁸ La Trobe also noted that financial pressures are threatening the continuation of its teaching farm reserve at the Bundoora campus, a facility that is crucial to providing students with a quality agricultural education experience.⁶⁷⁹

Similarly, MSLE at The University of Melbourne submitted that it had needed to make significant sacrifices, including lower staff numbers and increased workloads, to ensure that the agricultural training at the University remains viable.⁶⁸⁰

Ultimately, low student numbers can lead to course closures. This was highlighted when the University of Western Sydney announced in 2012 that it was not offering its

⁶⁷⁵ Associate Professor John Webb, Head, Environmental Geoscience, La Trobe University, *Transcript of evidence*, Melbourne, 7 November 2011, 9.

⁶⁷⁶ Associate Professor Peter Sale, Department of Agricultural Science, La Trobe University, *Transcript of evidence*, Melbourne, 7 November 2011, 3.

⁶⁷⁷ La Trobe University, *Submission 88*, 5.

⁶⁷⁸ *ibid.*, 5.

⁶⁷⁹ *ibid.*, 5.

⁶⁸⁰ MSLE, *Submission 69*, 2.

agriculture course to first year students for the first time in more than a century due to low student demand.⁶⁸¹

Marcus Oldham College submitted that the increasing emphasis on commercialisation within the higher education sector has led to a decline in the number of universities across Australia offering agricultural courses:

the consequent need for their greater commercialization, had resulted in the decline of agricultural course provision. Compared to, say, business courses, agriculture programs cost more to run, attract lower enrolments, and do not attract any sizeable number of full fee paying overseas students.⁶⁸²

It was also noted that, as the demand for agricultural courses weakens, the Australian Tertiary Admission Rank (ATAR) for those degrees also tends to go down. The ATAR is an overall measure of a student's performance and is used by higher education institutions nation-wide to rank and select prospective students.⁶⁸³ La Trobe University submitted:

Whereas a high VCE-equivalent pass was required to enrol in Agricultural Science in the 1970s, this is not the case in 2011, as an ATAR rank score of <60 allowed entry into the course.⁶⁸⁴

The impact of a lower ATAR on students is discussed further in chapter eight.

The impact of declining agriculture enrolments on the agriculture sector

Declining agricultural higher education enrolments have the potential to impact on the supply of skilled labour to the agriculture sector, particularly in the agricultural services sector.

There are various means of measuring whether the current supply of agriculture graduates is meeting the agriculture sector's demand.

The Office of the Chief Scientist looked at the demand for agricultural science graduates in Australia by considering the percentage of bachelor's degree graduates seeking full-time employment that were in full-time employment within four months of completing their degree. The Office of the Chief Scientist found that between 2002 and 2010 the employment uptake of agriculture graduates varied between 69% and 82%. However, the uptake was typically less than that for bachelor's degree graduates generally.⁶⁸⁵

The Australian Government Department of Education, Employment and Workplace Relations (DEEWR) monitors the labour market for skilled occupations through conducting a survey of employers who have recently advertised vacancies to determine their success recruiting the skills they need. DEEWR submitted that while employers generally experience less difficulty filling entry and graduate agricultural scientist or

⁶⁸¹ Catherine Armitage, 'Fears for farming's future as students ignore agriculture,' *Sydney Morning Herald*, 13 February 2012. Available at <<http://www.smh.com.au/national/tertiary-education/fears-for-farmings-future-as-students-ignore-agriculture-20120212-1sztn.html>> viewed 27 August 2012.

⁶⁸² Marcus Oldham College, *Submission 19*, 4.

⁶⁸³ Universities Admissions Centre, *The Australian Tertiary Admissions Rank (ATAR)*, <<http://www.uac.edu.au/undergraduate/atar/>> viewed 3 May 2012.

⁶⁸⁴ La Trobe University, *Submission 88*, 5.

⁶⁸⁵ Office of the Chief Scientist, above n 660, 184.

consultant positions than roles requiring greater experience, a number of employers commented that there are more jobs available than graduates.⁶⁸⁶

Stakeholders from within the agriculture sector expressed concern that the current levels of agriculture graduates will be insufficient to meet the agriculture sector's demand for skilled workers. For example, AgriFood Skills Australia, the national industry skills council for the agrifood sector, submitted, 'Without intervention, there will be insufficient graduates from the vocational and higher education sectors to meet future industry skill and labour demand.'⁶⁸⁷

A number of stakeholders also cited the research undertaken by Professor Jim Pratley, Research Professor of Agriculture at Charles Sturt University, regarding the Australian job market for agriculture graduates.⁶⁸⁸ The most recent study by Professor Pratley estimates that there is a job market across Australia in agribusiness of about 1600 jobs per quarter and also estimates the demand by employers for graduates to fill those positions to be around 4500 graduates per year.⁶⁸⁹ The current rate of domestic bachelor's completions is significantly less than this demand.

The Committee also heard anecdotal evidence about the difficulty recruiting agriculture graduates, particularly in the field of agronomy. For example, La Trobe University submitted:

Anecdotal evidence for the shortage of graduates in 2011 comes from a recruiting specialist in NW Victoria who is seeking to locate crop agronomists for the smaller agribusiness companies in this cropping area in regional Victoria. The results were quite alarming as there were over 30 vacancies for agronomists across the region, and there were no applicants. This was occurring despite rising salaries and employment conditions for such appointments.⁶⁹⁰

Ms Hannah Pickles, who graduated with a Bachelor of Rural Business from The University of Melbourne in 2009, submitted that she had four jobs offers prior to completing her studies.⁶⁹¹

The Committee also spoke with Landmark Operations, an Australia-wide agribusiness company that offers a 12 month graduate program in the streams of agribusiness and agronomy. Landmark noted that last year it received over 50 applications for each of these streams for nine positions. However, Ms Julia Dwyer, Landmark's HR Business Partner, explained that, while these figures appeared positive, the company still experiences difficulty with its graduate recruitment:

when you drill down into those numbers, you often find that the qualifications are not quite there for some of the students. In those applications we will have had people who have done a diploma and we are looking particularly for an agronomy stream and an undergraduate degree ... We also find that the applicants are very much geographically in one spot, and we are a national business so there are parts of the country where we cannot get people to go at all and

⁶⁸⁶ Department of Education, Employment and Workplace Relations (Australia), *Submission 90*, 4.

⁶⁸⁷ AgriFood Skills Australia, *Submission 51*, 4.

⁶⁸⁸ MSLE, *Submission 69*, 5; Dr John Taylor, *Submission 79*, 11; Mr Arthur Blewitt, Chief Executive Officer, AgriFood Skills Australia, *Transcript of evidence*, Canberra, 20 March 2012, 9; Mr Brian Duggan, Manager, Workplace Relations and Legal Affairs, National Farmers' Federation, *Transcript of evidence*, Canberra, 20 March 2012, 3.

⁶⁸⁹ Jim Pratley, above n 674, 8.

⁶⁹⁰ La Trobe University, *Submission 88*, 4. See also Victorian Farmers Federation, *Submission 64*, 9; The State Agriculture Provider Network, *Submission 40*, 1.

⁶⁹¹ Ms Hannah Pickles, *Submission 15*.

other parts of the country where people want to stay in the hometown that they have been in ...⁶⁹²

The joint submission of the DIPDC and Dairy Australia stated that due to the unavailability of agriculture graduates, employers have opted to employ environmental science graduates and then invest significant resources to build their capability to be job ready.⁶⁹³

The impact of declining enrolments in agricultural higher education courses – The Committee’s view

The Committee is deeply concerned about the impact that low enrolments in agricultural higher education courses have on higher education providers and the agriculture sector.

It is vital that the agriculture sector is supported by professionals with the right skills, education and training. The current levels of graduates from agricultural-related degrees puts into question whether the future workforce needs of the agriculture sector will be met.

The Committee is also worried about the financial impact that low enrolments have on the agricultural departments within La Trobe University and The University of Melbourne. There is a risk of agricultural courses being discontinued if they fail to attract viable numbers of students.

Accordingly, the Committee believes it is imperative that we attract more students into agricultural higher education courses in Victoria. The Committee considers this issue further in chapter eight, and identifies a range of strategies for attracting more students into agricultural higher education courses.

⁶⁹² Ms Julia Dwyer, HR Business Partner, Landmark Operations, *Transcript of evidence*, Melbourne, 6 March 2012, 3.

⁶⁹³ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 43.

Chapter 8: Enhancing agricultural higher education

Key findings

- Agricultural higher education providers are concentrated in metropolitan areas. It is important to promote the participation of rural and regional students in agricultural higher education courses.
- It is necessary to broaden the appeal of agricultural higher education courses. New approaches to marketing and course design need to form part of the overall strategy to increase agricultural higher education enrolments.
- There is the potential to attract more students from the vocational education and training (VET) sector into agricultural courses in the higher education sector.
- The quality of agricultural higher education courses and teaching appear to be high. However, there is the potential to provide greater opportunities for work experience and industry placements for agricultural higher education students.
- Victoria is well-positioned to provide agricultural postgraduate research students with world-class training. However, there is a need to identify additional measures to attract more students into agricultural research.
- Although the academic workforce is ageing, there does not appear to be a current shortage of agricultural academics in Victoria.

Enhancing agricultural higher education

This chapter explores strategies for enhancing agricultural education at the higher education level in Victoria. It examines access to agricultural higher education; initiatives to increase student demand for agricultural higher education; postgraduate agricultural research; and the higher education sector's workforce.

8.1 Access to agricultural higher education

This section considers the challenges that students face in accessing agricultural higher education in Victoria.

8.1.1 Access to Commonwealth-supported places

The Committee heard that there is inequity in the application of the Commonwealth financial assistance schemes that help students to cover the costs of their study.

In Australia most domestic students studying a bachelor degree at a public university are enrolled in a Commonwealth-supported place.⁶⁹⁴ This is the case at both La Trobe University and The University of Melbourne. Students in a Commonwealth-supported place pay student contributions rather than tuition fees and repay their contribution using the loan program HECS-HELP. There is no loan fee or interest charged on a HECS-HELP loan, although the debt is indexed each year to reflect changes in the consumer price index.⁶⁹⁵

In contrast, approved private and vocational education and training (VET) providers generally offer FEE-HELP loans to eligible students undertaking higher education award courses.⁶⁹⁶ Marcus Oldham College, a private higher education provider based in Geelong, and the Northern Melbourne Institute of TAFE (NMIT) which delivers agricultural education from its Epping campus, offer FEE-HELP for their agricultural

⁶⁹⁴ Study Assist, *Commonwealth supported places*, <<http://studyassist.gov.au/sites/studyassist/helppayingmyfees/csps/pages/commonwealth-supported-places>> viewed 1 August 2012.

⁶⁹⁵ Study Assist, *HECS-HELP*, <<http://studyassist.gov.au/sites/studyassist/helppayingmyfees/hecs-help/pages/hecs-help-welcome>> viewed 1 August 2012.

⁶⁹⁶ Study Assist, *Providers that offer Commonwealth assistance*, <<http://studyassist.gov.au/sites/studyassist/mytertiarystudyoptions/providers-that-offer-commonwealth-assistance/pages/providers-that-offer-commonwealth-assistance>> viewed 2 August 2012; Northern Melbourne Institute of TAFE, *Assistance with tuition fees for NMIT degrees*, <http://www.nmit.edu.au/course_info/degrees/information/fee_help/> viewed 2 August 2012; Email from Head of Program – Agriculture & Land Management, Faculty of Earth Sciences, Epping Campus, Northern Melbourne Institute of TAFE (NMIT), to Executive Officer, Victorian Parliament Education and Training Committee, 5 September 2012.

bachelor degrees. FEE-HELP incurs a loan fee of 25% for undergraduate courses of study.⁶⁹⁷

Some stakeholders noted that the higher fees payable through FEE-HELP disadvantage students. For example, Ms Eliza White, who is studying the Bachelor of Agriculture and Land Management at NMIT, stated:

a possible disadvantage would be that because NMIT is a private learning facility and because it is a new course there are no Commonwealth-supported places, which can make it very expensive to study there. There is FEE-HELP as an option but it has higher interest rates than a Commonwealth-supported HECS debt. It is more expensive to study there than, say, La Trobe or Melbourne or somewhere like that — the long-term debt would be, yes.⁶⁹⁸

The Victorian TAFE Association, the peak body for public providers of TAFE, expressed concern that Commonwealth-supported places are not available for the agricultural higher education courses offered at NMIT.⁶⁹⁹ In 2011 Skills Australia, which was the independent statutory body formerly responsible for providing advice to the Australian Government on workforce skills needs, reviewed the future of the VET system and recommended that the Australian Government give access to Commonwealth-supported higher education places to VET providers who meet certain quality criteria for specialist degrees with a vocational emphasis.⁷⁰⁰

The Committee understands that the allocation of Commonwealth-supported higher education places is a matter for the Australian Government. The Committee believes that the additional FEE-HELP loan costs borne by students undertaking agricultural degrees at private or VET higher education providers could act as a disincentive to study. Accordingly, the Committee recommends that the Victorian Government advocate at the national level for all higher education providers offering agricultural degree courses to be eligible for Commonwealth-supported higher education places, given the skills shortages being experienced by the agriculture sector.

Recommendation 38: Extending Commonwealth-supported higher education places to higher education providers offering agricultural degree courses

That the Minister for Higher Education and Skills advocate at ministerial council level for higher education providers offering agricultural degree courses to be eligible for Commonwealth-supported higher education places.

8.1.2 Barriers to agricultural higher education for rural and regional students

This section examines the barriers that students in rural and regional Victoria face in accessing agricultural higher education.

⁶⁹⁷ Study Assist, *FEE-HELP – Is there a loan fee?*, <<http://studyassist.gov.au/sites/studyassist/help-paying-my-fees/fee-help/pages/fee-help-#IsThereALoanFee>> viewed 31 July 2012.

⁶⁹⁸ Ms Eliza White, Student, NMIT, *Transcript of evidence*, Melbourne, 6 March 2012, 7. See also Wellington Shire Council, *Submission 63*, 4-5; Mr Gavin Drew, *Transcript of evidence*, Ballarat, 28 November 2011, 2; Mr Dean Lombardozi, Student, NMIT, *Transcript of evidence*, Melbourne, 6 March 2012, 7.

⁶⁹⁹ Victorian TAFE Association, *Submission 78*, 3.

⁷⁰⁰ Skills Australia, *Skills for prosperity: A roadmap for vocational education and training* (2011), 17.

The availability of higher education courses in rural and regional Victoria

Victoria is well-placed in terms of its capacity to deliver agricultural education, with La Trobe University and The University of Melbourne offering a strong agricultural science focus, Marcus Oldham College focusing on the business aspects of farming, and NMIT offering vocationally-orientated degrees.

These providers are based in Melbourne, Geelong and Epping. This concentration of agricultural education provision in metropolitan areas led several stakeholders to highlight the need for equity of access to higher education for students based in rural and regional areas. For example, the Wellington Shire Council submitted that there are currently no agricultural higher education courses offered in the Gippsland region and recommended that a partnership be explored between VET and higher education providers to enable greater access for students in the region.⁷⁰¹

In 2009 this Committee conducted an inquiry into geographic differences in participation in higher education and found pronounced geographical differences in higher education participation across Victoria. The Committee made a number of recommendations to support the delivery of higher education in rural and regional areas as a way of increasing these participation rates.⁷⁰²

Encouragingly, the Committee heard about a number of existing and planned initiatives by higher education providers that are targeted at increasing access to agricultural higher education for Victorians living in rural and regional areas. These initiatives are briefly outlined below.

The University of Melbourne

The Victorian Government has established a \$20 million Regional Partnerships Facilitation Fund to encourage partnerships between universities and VET providers to improve opportunities for regional Victorians to undertake higher education closer to where they live. The University of Melbourne, in partnership with Goulburn Ovens Institute of TAFE (GOTAFE) and Wodonga TAFE, was awarded almost \$2 million under the Fund to enhance the delivery of agricultural education in the Hume region. This proposal is discussed further in section 8.2.5 below.

Currently the final year of the Bachelor of Agriculture is delivered at the Dookie campus.⁷⁰³ Bachelor's and master's degree students in agricultural science, animal science and wine also undertake subjects at Dookie during their courses.⁷⁰⁴ As discussed in chapter six, The University of Melbourne previously delivered the Bachelor of Agriculture in its entirety at the Dookie campus, but the delivery was moved to Parkville for years one and two of the degree due to low student enrolments.

The Melbourne School of Land and Environment (MSLE) at The University of Melbourne also highlighted that it puts a strong emphasis on delivering its postgraduate coursework programs flexibly in order to attract those working in the agriculture sector full-time. MSLE noted that that the Master of Agribusiness has been delivered primarily online

⁷⁰¹ Wellington Shire Council, *Submission 63*, 5. See also Mr Lloyd Bowditch, *Submission 70*, 3; Young Agribusiness Professionals (YAPs), Victorian Farmers Federation (VFF), *Submission 76*, 7.

⁷⁰² Education and Training Committee, Parliament of Victoria, *Inquiry into geographical differences in the rate in which Victorian students participate in higher education* (2009), xxxi-xxxii.

⁷⁰³ Melbourne School of Land and Environment (MSLE), The University of Melbourne, *Submission 69*, 3.

⁷⁰⁴ Greater Shepparton City Council, *Key to your success: Tertiary education in Greater Shepparton* (2012), 4.

since 1999 and approximately 50% of enrolled students live in regional Victoria or interstate.⁷⁰⁵

La Trobe University

La Trobe University currently offers the first year of its Bachelor of Agricultural Science at its Albury-Wodonga campus. Students must transfer to La Trobe's Bundoora campus after completing their first year of study. La Trobe submitted that this option assists students to make the transition to higher education:

This helps students by reducing the costs incurred in the relocation to Melbourne for one year. The regional campus also provides a very supportive environment in which regional students can make the critical transition to university studies.⁷⁰⁶

Associate Professor Peter Sale from the University's Department of Agricultural Science told the Committee that the number of students electing to undertake the first year of the Bachelor of Agricultural Science at Albury-Wodonga had been small over the years.⁷⁰⁷ However, he added that there had been some very good students who had entered the course through this pathway.

The University of Ballarat

As discussed in chapter seven, the University of Ballarat plans to introduce applied agricultural degrees. The University proposes to teach the agricultural applied degrees using an alliance with six regional TAFE institutes at locations in Bairnsdale, Morwell, Shepparton, Wodonga, Bendigo and Mildura to enable regional students to access higher education without relocating.⁷⁰⁸

The University of Ballarat also plans to develop an agricultural education precinct at Horsham by 2014. The initiative will comprise a 100 hectare agricultural training, extension and research farm, an agricultural education facility and an accommodation complex supporting 100 residential students.⁷⁰⁹ The University plans to deliver both VET and higher education agricultural courses at the facility. The University advised the Committee that it intends to make an application to the Australian Government for funding for the proposal.⁷¹⁰

Interstate higher education providers

There are also opportunities for Victorian students to study interstate by distance education. While distance education attracts students from all over Australia, including metropolitan areas, it is particularly beneficial for rural and regional students, allowing them to study agricultural higher education courses without needing to relocate.

Charles Sturt University in New South Wales submitted that it has seen increasing numbers of enrolments from students living in Victoria. In September 2011 there were 138 students from Victoria enrolled in undergraduate programs at the University and 23 in postgraduate programs.⁷¹¹ Charles Sturt is also working with GOTAFE to enable students from the Shepparton region to articulate into, and complete their agricultural

⁷⁰⁵ MSLE, *Submission 69*, 4.

⁷⁰⁶ La Trobe University, *Submission 88*, 7.

⁷⁰⁷ Associate Professor Peter Sale, Department of Agricultural Science, La Trobe University, *Transcript of evidence*, Melbourne, 7 November 2011, 7.

⁷⁰⁸ University of Ballarat, *Submission 32*, 6.

⁷⁰⁹ *ibid.*, 2.

⁷¹⁰ *ibid.*, 2.

⁷¹¹ Charles Sturt University, *Submission 38*, 1.

degree programs without needing to relocate from Victoria. This partnership is also discussed in section 8.2.5 below.

Enhancing opportunities for agricultural higher education in rural and regional Victoria – The Committee’s view

The Committee considers that it is important to promote the participation of rural and regional students in agricultural higher education courses. This can be done through local on-campus delivery, partnerships between higher education providers and regional VET providers or through distance education. Facilitating these opportunities reduces the barriers that rural and regional students face to study higher education, such as the costs of studying away from home, which is discussed below.

The Committee acknowledges that there are a number of excellent existing and planned initiatives that are providing opportunities for students living in rural and regional areas to study towards agricultural higher education courses and encourages the Victorian Government and higher education providers to continue to support these initiatives.

The cost of studying away from home

Despite an increasing focus on providing pathways into agricultural higher education in rural and regional Victoria, there are still students from rural and regional Victoria who need to relocate to undertake agricultural higher education courses.

A number of stakeholders highlighted that the costs associated with relocating and living away from home can act a barrier for rural and regional students pursuing tertiary studies. For example, Mr Dean Lombardozzi, who is studying the Bachelor of Agriculture and Land Management at NMIT, explained that relocation was a key challenge he faced:

I had to move away. I am quite happy in regional Victoria, but I obviously had to relocate, so then you have to find somewhere to live and you have to work to support yourself.⁷¹²

The difficulty meeting the cost of living also emerged as the strongest theme during the Committee’s 2009 inquiry into the participation of rural and regional Victorians in higher education.⁷¹³

Stakeholders identified that scholarships and bursaries can help to alleviate the costs incurred by rural and regional students. Professor Richard Roush, Dean of MSLE at The University of Melbourne, explained:

if you take as a premise that a larger proportion of our students come from rural and regional Victoria than from other degrees, they are all faced with huge costs in relocating to the city and finding accommodation ... There is a substantial cost right up-front. That is something about which we have been concerned and interested for some time — that is, if there is a way we can set up bursaries at the colleges on campus to help make it possible for students to come in for a much lower cost; and not just that, but to also involve them in a very supportive environment, so that they would get good pastoral care when they arrive.⁷¹⁴

Mr Peter McSweeney, Senior Lecturer, Agriculture and Food Systems at MSLE, also emphasised that scholarships should be targeted at rural and regional students:

⁷¹² Mr Dean Lombardozzi, above n 698, 5. See also Wellington Shire Council, *Submission 63*, 5; Ms Eliza White, above n 698, 5; Ms Anna Fry, Student, The University of Melbourne, *Transcript of evidence*, Melbourne, 6 March 2012, 8; Mr Gavin Drew, above n 698, 2; YAPs, *Submission 76*, 7.

⁷¹³ Education and Training Committee, above n 702, xx.

⁷¹⁴ Professor Richard Roush, Dean, MSLE, *Transcript of evidence*, Melbourne, 7 November 2011, 5.

I think financial incentives, whether they are scholarships, cadetships or bursaries, do make a difference; but they have to be carefully targeted and promoted to the groups that need them. At the moment, within agriculture, we know that there are fewer students coming from the country.⁷¹⁵

The role of agricultural scholarships is discussed further in section 8.2.3 below.

The Youth Allowance, a social security payment for eligible young people, is another potential means that young people studying full-time can obtain financial assistance. The submission by the Department of Education and Early Childhood Development (DEECD) highlighted that students from major regional centres are now subject to the same eligibility requirements for youth allowance as students from remote and rural areas. DEECD submitted that these changes to the eligibility requirements for the Youth Allowance should assist greater numbers of regional students to commence and continue their studies.⁷¹⁶

Young people can qualify for the Youth Allowance by being classified as independent through employment. Students from areas classified as inner regional, outer regional, remote and very remote can be assessed as independent, if since leaving secondary school, they have:

- earned at least 75% of Wage Level A of the National Training Wage Schedule included in a modern award, in an 18-month period, or
- worked part-time (at least 15 hours each week) for at least two years.⁷¹⁷

Some stakeholders were concerned that this test for independence acts as a barrier to rural and regional students pursuing higher education. Ms Sarah Parker, Chief Executive Officer of Murray Dairy, a regional development program set up by the dairy industry for the benefit of dairy farmers in the Murray region, explained:

Another barrier is the 18 months that they have to defer from university in order to get the Youth Allowance. When you look at deferral figures for universities, most students that defer do not come back, so that is another issue with retention and attraction.⁷¹⁸

Similarly, in its 2012 submission to the Senate Education, Employment and Workplace Relations References Committee, the Australian Council of Deans of Agriculture, an organisation made up of the Australian universities that offer agricultural degrees, called for the Australian Government to consider modifying or waiving the time for establishing student independence for students needing to relocate from rural areas.⁷¹⁹

The Committee acknowledges that all rural and regional students face additional costs when relocating for their higher education studies. While recognising that this is a matter for the Australian Government, the Committee believes that consideration should be

⁷¹⁵ Mr Peter McSweeney, Senior Lecturer, Agriculture and Food Systems, MSLE, *Transcript of evidence*, Melbourne, 7 November 2011, 5.

⁷¹⁶ Department of Education and Early Childhood Development (Victoria) (DEECD), *Submission 82*, 20.

⁷¹⁷ Department of Human Services (Australia), *Independence test for Youth Allowance*, <<http://www.humanservices.gov.au/customer/enablers/centrelink/youth-allowance/independence-test>> viewed 31 July 2012.

⁷¹⁸ Ms Sarah Parker, Chief Executive Officer, Murray Dairy, *Transcript of evidence*, Shepparton, 3 November 2011, 6. See also VFF, *Submission 64*, 9.

⁷¹⁹ Australian Council of Deans of Agriculture, *Submission 36*, submission to the Senate Education, Employment and Workplace Relations References Committee Inquiry into Higher Education and Skills Training to Support Agriculture and Agribusiness in Australia (2012), 6. Available at <http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Committees?url=eet_ctte/agribuisness/submissions.htm> viewed 16 October 2012.

given to modifying the time for establishing independence for the Youth Allowance to 12 months of full-time employment for students from rural and regional areas.

8.2 Attracting students to agricultural higher education

The key challenge facing agricultural higher education is how to increase student demand for agricultural courses. In chapter seven the Committee noted that low student demand is placing significant strain on the agricultural departments within the larger universities. Attracting more students into agricultural higher education courses is also important to meet the future workforce needs of the agriculture sector.

Chapter two considered the factors leading to low student demand in all the education sectors. Stakeholders highlighted the poor public image of agriculture; a lack of clear career pathways; the influence of careers advisers, teachers and parents; and the remuneration and working conditions in the sector as contributing factors.

The Committee also made a number of recommendations in chapter two aimed at raising student aspiration towards agricultural education and careers. The Committee believes that these recommendations, which include developing a marketing campaign to improve the image of the agriculture sector and improving agricultural careers resources, will assist in attracting more students to all educational sectors, including the higher education sector.

However, the Committee heard that additional measures specific to higher education are needed to increase student enrolments in this sector. This section focuses on these possible measures.

8.2.1 The marketing of agricultural higher education courses

The higher education market is a crowded one, and there are a plethora of courses, across a broad range of disciplines, that students can choose from. Accordingly, marketing plays an important role in bringing courses to the attention of potential students.

This section examines stakeholder views on the current marketing approaches used in Victoria and also considers a number of new approaches to marketing being implemented by agricultural education providers in Victoria, interstate and overseas to attract more students. It also explores how branding can be used to make degrees more attractive to potential students.

Stakeholder views on current marketing approaches

The Victorian Association of Agricultural and Horticultural Educators, the state professional association for school agricultural educators, submitted that Victorian universities have been poor at marketing their agricultural courses.⁷²⁰

The Committee received mixed feedback from students about their experience accessing information on Victorian agricultural higher education courses. For example,

⁷²⁰ Victorian Association of Agricultural and Horticultural Educators, *Submission 87*, 3.

Ella, a Year 11 student at Padua College, a Catholic secondary school in Mornington, told the Committee that she found it difficult to get detailed information:

I also went to *The Age* university open day, and at the Melbourne and La Trobe stalls no-one knew anything about it. I was asking about the course and they were sort of like, 'This is the page in the booklet'. I was like, 'I've seen that. I want to know about the course', and no-one had any idea about it at all.⁷²¹

Conversely, Tara, a former student at Padua College told the Committee how her interaction at a university open day helped her make a decision to pursue agricultural higher education studies:

Before the start of Year 12 I really had no idea what options I had to pursue after I finished ... but when I went up to the Melbourne Uni open day I spoke to a lady who was the head of the department, and she really opened my eyes to how many jobs there are. She was saying that at the end of every year there are 50 graduates and 100 or 150 jobs that people are looking for.⁷²²

The opportunity to speak with a staff member from the agriculture faculty also helped several of the NMIT agricultural degree students decide that they wanted to study at that institution. For example, Ms Nicole Sanderson, who is studying the Bachelor of Agriculture and Land Management at NMIT, stated:

I saw our course in the VTAC guide and went down to the open day, which was actually in Preston. There I spoke with Damien Adcock, who is our course organiser, and he pretty much sold the course to me.⁷²³

Dr John Taylor, an academic who has led the establishment of Rangelands Australia, a national agricultural education initiative that focuses on rangelands management, noted that much of today's higher education marketing takes a 'one size fits all' approach and is targeted at Generation Y. He stated that this can turn off older students.⁷²⁴

Successful marketing initiatives

Higher education providers take different approaches to marketing their agricultural courses. The Committee received evidence about several strategies that appear to be working successfully or have the potential to attract a broader cohort of students.

A number of agricultural higher education providers travel extensively to promote their courses. Dr Simon Livingstone, Principal of Marcus Oldham College, told the Committee that marketing across Australia is an important part of the College's focus:

about 6% of our gross operating budget goes to marketing, so even from the Principal right through it is fairly hands-on. I will go to Sheepvention; I will be on the stand there for three days. I will go to Tasmania, and I will go to Queensland for Beef Week ... We have got a full-time marketing officer ... We might have somebody in Western Australia, Queensland and Victoria doing field days, so that is quite comprehensive. We visit a lot of schools throughout Australia.⁷²⁵

⁷²¹ Ella, Year 11 student, Padua College, *Transcript of evidence*, Mornington, 13 February 2012, 8.

⁷²² Tara, Former Year 12 student, Padua College and currently deferred student, Bachelor of Agriculture, The University of Melbourne, *Transcript of evidence*, Mornington, 13 February 2012, 5-6.

⁷²³ Ms Nicole Sanderson, Student, NMIT, *Transcript of evidence*, Melbourne, 6 March 2012, 2. See also Ms Eliza White, above n 698, 2-3; Mr Dean Lombardozi, above n 698, 3.

⁷²⁴ Dr John Taylor, *Submission 79*, 15.

⁷²⁵ Dr Simon Livingstone, Principal, Marcus Oldham College, *Transcript of evidence*, Melbourne, 7 November 2011, 3.

Mr Derek Sands, who is studying a Bachelor of Business (Agribusiness), told the Committee that his decision to study at Marcus Oldham College was influenced by conversations he had with a representative of the College in his home state of Tasmania:

In Tasmania Marcus Oldham has a pretty good reputation so when I decided to stop working and study I sought out the Marcus Oldham site at the field days when they came to Tassie; I went to those and talked to them.⁷²⁶

The Committee also spoke with Ms Amy Cosby, who works as a Marketing and Events Coordinator at the University of New England (UNE) and is also studying an agricultural-related PhD at the University. UNE is based in Armidale, New South Wales and offers a range of agricultural undergraduate and postgraduate courses. Ms Cosby told the Committee that in her role as Marketing and Events Coordinator she travels extensively to schools, including in Victoria, and uses practical sessions to engage school students:

I find that if I go in and talk to schools about how good UNE is and come to university, you lose them within five minutes. So what I do is I run a prac, so for an hour and a half we do some sort of prac that I do at university, and then in the last part we talk about careers and scholarships and courses ... They really do enjoy it because it's not just someone lecturing at them ...⁷²⁷

The Committee heard that there is also the potential to use alumni networks to attract students to study agriculture in Victoria. Dr Livingstone of Marcus Oldham College spoke about the importance and rewards of cultivating a strong alumni as a form of marketing:

We have very strong alumni — very strong, 2500 — who we look after; it makes a hell of a difference ... We have always tried to keep the alumni engaged ... We invest quite a bit in that, because alumni will find potential students to come to Marcus Oldham. They will see young people in their district and say, 'Have you thought about going to Marcus Oldham?'. They are up-to-date with what is happening at the college because they get the newsletter, they know the developments are there, they know the new courses are there. That will be paid back over time.⁷²⁸

The perennial popularity of animal science and veterinary science courses suggests that working with animals holds a strong appeal for many potential students. The University of Melbourne informed the Committee it plans to market its Bachelor of Agriculture to students with an interest in pursuing veterinary science. The University has recently moved to offering its veterinary science program as a postgraduate entry course and MSLE submitted that it believes promoting the Bachelor of Agriculture as a pathway into this program will lead to an increased uptake of agricultural studies.⁷²⁹

This approach has been successful in attracting students to study agriculture at Massey University in New Zealand. Students wishing to study veterinary science at the University must undertake a semester of pre-entry study. Each year about 300 students complete the pre-entry study semester and apply for one of the 100 places in the Bachelor of Veterinary Science. Professor Robert Anderson, Pro-Vice Chancellor, Sciences at Massey University, informed the Committee:

⁷²⁶ Mr Derek Sands, Student, Marcus Oldham College, *Transcript of evidence*, Melbourne, 6 March 2012, 3.

⁷²⁷ Ms Amy Cosby, Marketing and Events Coordinator and PhD student in precision agriculture, University of New England, *Transcript of evidence*, Melbourne, 5 December 2011, 5.

⁷²⁸ Dr Simon Livingstone, above n 725, 3.

⁷²⁹ MSLE, *Submission 69*, 3.

Amongst those who don't achieve selection, a quarter (50) transfer to an agricultural-related major in the Bachelor of Science degree (agricultural science and animal science, in particular) and one-tenth (20) enrol in the Bachelor of AgriScience degree. Approximately two thirds of these students give up any further thought of re-trying to enter the Veterinary Science degree, preferring instead to remain in an agricultural-related degree.⁷³⁰

The Primary Industry Centre for Science Education (PICSE), which was discussed in detail in chapters three and four, is another potential marketing mechanism for higher education providers offering primary industries courses. PICSE works in partnership with interested higher education providers, who meet half the costs of the program.⁷³¹ These higher education providers are then able to choose the local high schools that are targeted by the program. Accordingly, partner universities of PICSE stand to benefit from the program's engagement with bright young science students.

The branding of agricultural courses

As discussed in chapter two, there are a range of negative perceptions that exist around agriculture and agricultural careers. Some stakeholders contended that agricultural courses need to be rebranded to capture the interest of a broader cohort of students and avoid these negative connotations.

Dr Taylor, who has extensive experience designing and delivering agricultural higher education courses, stated that the words used to describe a department or course are important for positioning in the market and helping students identify a course that suits their interests.⁷³²

Mr Nicholas Hansen, who is studying a Bachelor of Agricultural Science at La Trobe University, explained that he believes agriculture is about the interaction between the environment and people, and emphasising this interaction could be a means of rebranding agriculture. When asked how he thought agricultural courses should be rebranded, Mr Hansen commented:

More in line with Melbourne Uni's Bachelor of Environments, that kind of idea. It is the interaction of people and the environment. It is not farming; it is where we interact with the environment mostly, where we do our damage and where we can do our good work.⁷³³

Mr Casper Roxburgh, who is studying the Bachelor of Agricultural Science/Bachelor of International Development at La Trobe University, also suggested that more needs to be done to promote the aspects of agriculture, such as food security and environmental sustainability, which could appeal to those students seeking to make a practical and positive contribution to society:

I would definitely be considering emphasising aspects of agriculture that are less known — that is, things such as the ability to effect positive change in relation to environmental management through agriculture. Theoretically, especially given the job market in agriculture, environmental sciences, biological sciences, zoology, these kinds of degrees should be struggling to get enrolments compared to agriculture. It is a far easier way to get into a career where you can have an effect, so you want to be targeting those students who are in humanities classes and,

⁷³⁰ Email from Deputy Vice-Chancellor, Massey University, to Executive Officer, Victorian Parliament Education and Training Committee, 28 August 2012.

⁷³¹ Associate Professor David Russell, National Director, Primary Industry Centre for Science Education, *Transcript of evidence*, Melbourne, 6 March 2012, 4.

⁷³² Dr John Taylor, *Submission 79*, 11.

⁷³³ Mr Nicholas Hansen, Student, La Trobe University, *Transcript of evidence*, Melbourne, 6 March 2012, 11.

being socially-minded, want to do something with their life that matters, something where they feel they are making a change.⁷³⁴

The Allen Consulting Group's 2012 report, *Rebuilding the agricultural workforce*, prepared for the Business/Higher Education Round Table, highlighted that both UNE and the University of Western Australia had attempted to rebrand their courses by introducing a bachelor of animal science degree, which has proved popular with students.⁷³⁵ However, the report went on to state that rebranding was unlikely to lead to a significant increase in agricultural enrolments and that it would be less effective if all universities try to rebrand.⁷³⁶

Interestingly, the Committee heard that it is not just the label of agriculture that can deter prospective students. Dr Taylor noted that Rangelands Australia, which offers postgraduate programs through the University of Queensland, found that participation by the mature-age demographic is influenced by the name of the program provider:

in the early marketing of our national education initiative we were rather dismayed to learn that potential customers inferred that in coming from a 'university' in 'Queensland' meant that the program/courses would be little 'real world' relevance and of even less relevance to interstate students, only Queenslanders! For this reason, we have operated more under our Centre [Rangelands Australia] name than institutional name [University of Queensland] for much longer than was ever intended.⁷³⁷

The marketing of agricultural higher education courses – The Committee's view

The Committee considers that, in the competitive higher education market, it is critical that agricultural higher education providers promote agricultural courses using a range of methods to attract students.

The Committee acknowledges that the Victorian higher education providers have devoted considerable effort and resources to marketing their agricultural courses. The Committee welcomes the work that providers are doing to attend career expos throughout Victoria and engage with students. The Committee encourages higher education providers to look at further opportunities to market their courses. Possible initiatives could include making greater use of alumni or attending schools with successful agricultural education programs.

The Committee also notes that food security is emerging as one of the most pressing issues facing the world and agriculture needs to become more productive, sustainable and energy efficient to meet this challenge.⁷³⁸ The Committee believes there is a potential to rebrand agricultural higher education courses to attract those students interested in making a social or environmental difference. The Committee notes that the environmental, food security and agribusiness aspects of course design could be marketed to potential students. The Committee therefore suggests that higher education providers give further consideration to how they brand and market their agricultural courses.

⁷³⁴ Mr Casper Roxburgh, Student, La Trobe University, *Transcript of evidence*, Melbourne, 6 March 2012, 10-11.

⁷³⁵ The Allen Consulting Group, *Rebuilding the agricultural workforce*, report for Business/Higher Education Round Table (2012), 42.

⁷³⁶ *ibid.*, 43.

⁷³⁷ Dr John Taylor, *Submission 79*, 15.

⁷³⁸ The University of Melbourne, *Dookie 21 – The Dookie of the future*, <<http://www.dookie.unimelb.edu.au/dookie21/>> viewed 19 August 2012.

The Committee acknowledges that rebranding alone is unlikely to lead to significant changes in agricultural higher education enrolments. However, the Committee believes it could potentially form an important part of the overall strategy to increase enrolments.

Recommendation 39: Improving the marketing of agricultural higher education courses

That the Victorian providers of agricultural higher education explore new opportunities to market or rebrand their agricultural courses.

8.2.2 The design of agricultural higher education courses

Universities can introduce new courses or course combinations in response to student demand, workforce needs or to cater to emerging areas. This section outlines stakeholder views on agricultural course design and examines the changes to agricultural courses that have occurred or are planned in Victoria which could help to attract more students into agricultural education and training. A case study on Massey University in New Zealand is also included to highlight an institution that has been successful in this area (see case study eight).

Stakeholder views on current course design

The Committee received limited evidence on how the current design of agricultural higher education courses could be improved so as to hold a greater appeal to potential students.

The Committee spoke with a small number of students studying at Victorian institutions offering agricultural bachelor degrees. These students made a number of suggestions about how the content of their current courses could be improved, including:

- a greater emphasis on global agricultural problems and trends⁷³⁹
- a greater focus on environmental and sustainable agricultural practices and concepts⁷⁴⁰
- the opportunity to choose more agricultural electives earlier on in the course.⁷⁴¹

The Committee was told that ensuring the course content and structure meets the needs of industry is also important in trying to attract existing workers within the agriculture sector into agricultural higher education. Dr Taylor explained how Rangelands Australia had taken a fresh approach to course development in order to better meet the needs of stakeholders. The Rangelands management postgraduate programs were developed according to the priorities expressed in 24 focus groups and involving over 450 stakeholders.⁷⁴²

⁷³⁹ Mr Nicholas Hansen, above n 733, 6.

⁷⁴⁰ Ms Anna Fry, above n 712, 7; Mr Casper Roxburgh, above n 734, 6.

⁷⁴¹ Ms Mattie Crouch, Student, Marcus Oldham College, *Transcript of evidence*, Melbourne, 6 March 2012, 6.

⁷⁴² The University of Queensland, 'Master, graduate diploma, graduate certificate in rangeland management', included in *Submission 79*, appendix D, 3.

Case study 8: Massey University – ‘Building a smarter agriculture’⁷⁴³

Massey University in New Zealand has its origins in an agricultural college established in 1928. The college aimed to educate ‘farmers’ sons’, offering a one year farming diploma. Massey became a full university in 1964 and now offers programs in a diverse range of areas including business, creative arts, education, humanities, social science and science. Massey University is based in Palmerston North and operates across three campuses, as well as providing distance education.

Agriculture-related degrees at Massey University have evolved to meet the changing needs of both students and New Zealand’s agriculture sector. Prior to 1994 the University offered separate undergraduate degrees in agriculture, agricultural science, agricultural economics, horticulture and horticultural science. All of these programs were highly structured and science-based. Throughout the 1980s student enrolments in these courses fell dramatically.



The Education and Training Committee with Professor Robert Anderson, Pro-Vice Chancellor, Sciences at Massey University.

⁷⁴³ Robert Anderson, ‘Building a smarter agriculture – A New Zealand perspective’ (Paper presented at the Australian Institute of Agricultural Science National Conference, Canberra, 29 April 1991), included in supplementary evidence provided by Massey University, 1 May 2012. See also Massey University, *Haere mai. Welcome to Massey University, New Zealand’s defining university*, <<http://www.massey.ac.nz/massey/home.cfm>> viewed 21 August 2012; Supplementary evidence provided by Massey University, 1 May 2012: Massey University, *Students enrolled in qualifications across the agriculture and related areas at Massey University from 2009–2012*; Robert Anderson, ‘Science, technology, and education – The challenge to education’ (1995) 8(2) *Agricultural Science* 37; Massey University, *Graduates will build a sustainable future* (Media release, 22 August 2008); Massey University, *Agriculture/horticulture education overview*.

Since 1994 Massey University has taken a wider approach to agriculture, introducing broad three-year degrees to replace the numerous specialised agriculture degrees. In 1994 the University introduced a Bachelor of Applied Science which enabled students to major in agriculture. In 2008 the University introduced two new multidisciplinary degrees to replace the Bachelor of Applied Science as the main vehicle for studying agriculture: the Bachelor of AgriCommerce and the Bachelor of AgriScience. These programs give students greater choice about the subjects they study. Students are also encouraged to undertake non-agriculture-specific subjects such as management and communications. Students at Massey may also choose to study agricultural subjects or to major in agriculture as part of other degrees.

The changes to degree structures have resulted in strong student demand for agriculture-related programs. Enrolments in the Bachelor of AgriCommerce have increased from 52 in 2009 to 146 in 2012, while enrolments in the Bachelor of AgriScience with a major in agriculture have increased from 77 to 165 across the same period.

Agriculture students are required to undertake work placements as part of their degrees and also benefit from Massey's close relationships with agricultural research institutes.

Massey University also offers a range of postgraduate courses related to agriculture, as well as diplomas aimed at those already working in the agriculture sector.

New approaches to course design

Both La Trobe University and The University of Melbourne have introduced new approaches to their agricultural course design that have the potential to attract a broader cohort of students into agricultural education. These approaches are outlined below.

The University of Melbourne

The New Generation degrees offered by The University of Melbourne as part of the Melbourne Model offer a different approach to undergraduate education.

Students who enrol in a New Generation degree can choose from a wide range of breadth subjects from outside their core program, and the University submitted that the subject, Food for a Healthy Planet which covers sustainable food production, is a popular choice with students.⁷⁴⁴ Professor Roush from MSLE explained:

Food for a Healthy Planet brings in students from a whole range of degrees and gives them exposure to agriculture. It was not our intention initially, but the demand from students is such that we have put on a second-year and now a third-year elective, and that was because the students said, 'We want more of this'. In terms of reaching a broader range of students with an agricultural message, whether they come to us to do a masters or not, it has been spectacularly successful.⁷⁴⁵

Students who enrol in a New Generation science degree can choose to major in agriculture. It is too early to predict what impact the New Generation degree will have on enrolments in this major. There is the risk that not having the visibility of a separate agricultural science degree could mean that agriculture becomes lost amongst the range

⁷⁴⁴ MSLE, *Submission 69*, 3.

⁷⁴⁵ Professor Richard Roush, above n 714, 4.

of other majors on offer. Professor Roush noted that initially the move to the New Generation degrees led to some confusion about what courses were offered:

In relation to the broader question of what does the Melbourne Model or New Generation degrees do to agricultural enrolments, there actually has probably been a decline if we start to look at the second and third-year subjects. I think one of the things about the model that was not anticipated by us, as first adopters, was that losing named degrees was an advertising plus that we gave up. At the time this was happening, I had friends at Charles Sturt University who would say things like, 'We hear that Melbourne is not teaching agriculture anymore'. I would say, 'That's not true. We have got a major in agricultural science, a bachelor of science'. But because we did not have named degrees, it was easy to fall off the radar.⁷⁴⁶

However, there is hope that the model may attract more science students into pursuing agriculture as a career. Mr McSweeney, also from MSLE, explained that the degrees offer the potential to attract science graduates who may not have chosen a specialised agriculture degree out of school:

one of the advantages for us in gaining exposure for agriculture is that our taught load within the New Generation degrees, in particular in science, is growing. We are up around 200 equivalent full-time taught load into the New Generation degrees. That is getting access to people we may not necessarily have touched in terms of the broad agriculture and related curriculum.⁷⁴⁷

La Trobe University

La Trobe University is the only university in Australia to offer the Bachelor of Agricultural Science/Bachelor of International Development double degree. La Trobe submitted that this course attracts high performing students.⁷⁴⁸ The Committee spoke to Mr Roxburgh, who is undertaking this course. He explained that he had very little exposure to agriculture while growing up in Melbourne and never would have considered undertaking an agricultural course if it had not been for this particular course:

But essentially it came down to the fact that La Trobe was the only university in the country that was offering this degree. I would not have studied agriculture on its own. It was only because it was paired with international development that I initially started it. Over the course of studying, that feeling has changed. But certainly that clinched it.⁷⁴⁹

La Trobe also plans to change its Bachelor of Agricultural Science from a four year degree into a three year degree. La Trobe submitted that this will provide students with more options:

students can choose to finish their studies with a 3-year Agricultural Science degree, or with a 4-year Agricultural Science/Business or Agricultural Science/International Development double degree. Alternatively, they can elect to undertake intensive research training to obtain an Honours degree in the discipline ...⁷⁵⁰

⁷⁴⁶ *ibid.*, 3-4.

⁷⁴⁷ Mr Peter McSweeney, above n 715, 4. See also Department of Forest and Ecosystem Science, School of Land and Environment, The University of Melbourne, *Submission 86*, 2.

⁷⁴⁸ La Trobe University, *Submission 88*, 2.

⁷⁴⁹ Mr Casper Roxburgh, above n 734, 3.

⁷⁵⁰ La Trobe University, *Submission 88*, 7.

The design of agricultural higher education courses – The Committee’s view

The Massey University experience demonstrates that new approaches to course design can have a role in increasing student enrolments in agricultural higher education. It is too early to tell whether the changes to course design by La Trobe University and The University of Melbourne will be successful in attracting more students into agricultural education. However, the Committee believes these have the potential to be successful if accompanied by the appropriate marketing strategies.

The Committee also considers that it is important that higher education providers are responsive to the needs of both students and the agriculture sector in their course design and delivery. The issue of student and agriculture sector satisfaction with currently available agricultural higher education is discussed below in section 8.3 and the Committee encourages higher education providers to consult with students and the agriculture sector on a regular basis to ensure that the needs of both groups are being met.

Recommendation 40: Improving the design of agricultural higher education courses

That the Victorian providers of agricultural higher education consider using new approaches to course design to attract more students into agricultural higher education courses in line with growing industry demand.

8.2.3 Scholarships

Scholarships provide an important means of assisting students participate in higher education. As discussed in section 8.1.2, they were identified as particularly valuable to assist students from rural and regional Victoria to study agricultural higher education away from home.

La Trobe University submitted that scholarships may also be part of the answer to attracting more students into agriculture, provided they form part of a broader suite of initiatives:

In the past, attempts have been made to provide scholarships and/or cadetships to financially assist undergraduate students and attract them to agricultural education. However, these have been limited in number and have only offered financial rewards to a small number of students. They have not resulted in a widespread increase in interest in agricultural education. As recommended above, we contend that such awards would be more effective if they were part of a larger package of actions to promote agricultural education to students and parents.⁷⁵¹

Similarly, Ms Amy Cosby submitted that the agriculture sector needs to invest in scholarships to attract future employees:

The agricultural industry relies on agricultural graduates and therefore need to invest in these students. Companies could offer scholarships or cadetships to students to secure future employees and also provide paid work experience for students. All these opportunities would encourage students to consider a career in agriculture and may also make it possible for students to move away from home to undertake tertiary training.⁷⁵²

⁷⁵¹ *ibid.*, 12.

⁷⁵² Ms Amy Cosby, *Submission 93*, 2.

There are a range of scholarships and bursaries available to students seeking to pursue agricultural undergraduate studies with Victorian agricultural higher education providers. There are also a number of scholarships for undergraduate students of agriculture offered by external organisations and government bodies. Examples of current external scholarship programs include:

- Rural Finance has an undergraduate scholarship program that offers payments of up to \$6000 per annum to six Victorian students completing an undergraduate degree course who show a career commitment to agriculture.⁷⁵³
- The Australian Council of Agricultural Societies and Coca-Cola Amatil offer up to 35 scholarships of \$2000 for Australian students studying in an agriculture-related field at university or TAFE.⁷⁵⁴
- The Rural Industries Research and Development Corporation has the Horizon scholarship program that offers undergraduate students studying a degree related to agriculture a bursary of \$5000 per annum for the duration of their degree. In 2012 eight scholarships were awarded Australia-wide.⁷⁵⁵ The program also provides students with annual industry work placements and mentoring.⁷⁵⁶

Some of the available scholarships include a work experience component. Ms Cosby, who received a scholarship supported by the Australian Wool Education Trust to study agriculture at UNE, told the Committee about the work experience component of the scholarship, 'You have to do four weeks of work experience in the Australian sheep and wool industry to keep your scholarship. You're assigned a mentor as well so it's all about creating networks.'⁷⁵⁷

Ms Michelle Egan, who received the same scholarship as Ms Cosby and is studying a Bachelor of Rural Science at UNE, explained the importance of the scholarship to her, 'if I didn't have that scholarship I probably wouldn't be at UNE because the support it provides is really important money-wise but also with the experience in the industry'.⁷⁵⁸

The Committee notes that scholarships offer an important means of support for students undertaking tertiary studies. The Committee acknowledges that there are a range of existing agricultural scholarships funded through the generosity of benefactors, the agriculture sector and government. The Committee encourages these sponsors to continue their support of agricultural scholarships.

The Committee believes there is enormous benefit in scholarship programs providing students with opportunities to undertake work experience or mentoring. This has benefits for both students, by exposing them to a potential career in the sector, and the sector itself, by enhancing the work readiness of graduates. Accordingly, the Committee

⁷⁵³ Rural Finance, *Community – Rural Finance scholarships*, <<http://www.ruralfinance.com.au/pages/Default.aspx?PageID=26&id=1>> viewed 12 August 2012.

⁷⁵⁴ Australian Council of Agricultural Societies, *Australian agriculture scholarship*, <<http://www.acas.asn.au/index.htm>> viewed 12 August 2012.

⁷⁵⁵ Rural Industries Research and Development Corporation, *The Horizon Scholarship – Horizon Scholarship 2012 participants*, <<http://www.rirdc.gov.au/programs/national-rural-issues/the-horizon-scholarship/horizon-scholarship-2012-participants.cfm>> viewed 22 August 2012.

⁷⁵⁶ Rural Industries Research and Development Corporation, *The Horizon Scholarship – A scholarship for those passionate about agriculture*, <http://www.rirdc.gov.au/RIRDC/programs/national-rural-issues/the-horizon-scholarship/the-horizon-scholarship_home.cfm> viewed 12 August 2012.

⁷⁵⁷ Ms Amy Cosby, above n 727, 4.

⁷⁵⁸ Ms Michelle Egan, Student, Bachelor of Rural Science, University of New England, *Transcript of evidence*, Melbourne, 5 December 2011, 4.

encourages the agriculture sector to include work experience or mentoring components in the scholarships they offer.

8.2.4 Offering fee relief for agricultural higher education

Some stakeholders suggested offering students studying agricultural undergraduate courses with fee relief as an incentive to attract more students into these courses.

The Australian Council of Deans of Agriculture has advocated making agriculture an area of national priority and reducing the contributions that students in Commonwealth-supported places pay in an effort to attract more students into agricultural courses.⁷⁵⁹ Up until November 2011 the Australian Government had a policy to reduce student contributions in areas of national priority. However, this discount was removed on the basis that it had not been effective in substantially increasing the number of students undertaking the priority courses at university.⁷⁶⁰

Professor Roush of MSLE told the Committee that he believed a HECS-HELP reduction would be effective in attracting students to agriculture courses:

They [students] are pretty savvy about this and are looking at what the long-term implications are for the costs of their course, and I think for a lot of them it would be influential. I think one thing that could happen, and again it is a federal matter, is the deans of agriculture believe — collectively we are still very much convinced — that HECS-HELP ought to be extended to agriculture as it was to science and math.⁷⁶¹

La Trobe University removed the HECS fees for the first year of its Bachelor of Agricultural Science in 2007 in an effort to encourage more enrolments. This resulted in a spike in enrolments for that year, however a large number of those students transferred into other courses in the subsequent year.⁷⁶² La Trobe University suggested that an alternative approach would be to encourage employers in the agriculture sector to offer graduates HECS relief upon employment.⁷⁶³

The Committee notes that the decision by the Australian Government to cease its policy of reducing student contributions in areas of national priority raises questions as to whether such a policy would be effective if it were to be applied to agricultural undergraduate courses.

The experience of La Trobe University suggests that, in addition to cost, students' decisions about courses are motivated by their interests and long-term career aims. Accordingly, the Committee believes that the key priority should be to inspire students to pursue a career in agriculture, as discussed in chapter two.

At the same time, the Committee acknowledges that it is important that cost is not a barrier for students undertaking higher education. The Committee's findings with respect to changing the eligibility criteria for Youth Allowance and enabling private and VET higher education providers offering agricultural degree courses to be eligible for Commonwealth-supported places, are aimed at keeping agricultural higher education accessible.

⁷⁵⁹ Australian Council of Deans of Agriculture, above n 719, 6.

⁷⁶⁰ Chris Evans, Minister for Tertiary Education, Skills, Jobs and Workplace Relations (Australia), *Band 2 student contribution reinstated for maths and science* (Media release, 29 November 2011).

⁷⁶¹ Professor Richard Roush, above n 714, 5.

⁷⁶² La Trobe University, *Submission 88*, 10-11.

⁷⁶³ *ibid.*, 12.

8.2.5 Promoting pathways from VET to higher education

As noted in chapter five, participation in agricultural training in the VET sector has been increasing in Victoria. The Committee heard there is significant potential to capitalise on this participation by encouraging graduates from the VET sector to articulate into higher education courses.

Current pathways from VET to higher education

Students who have completed a vocational qualification may be eligible to obtain recognition, referred to as credit transfer, of their prior qualification. Credit transfer enables students to gain credit for subjects or competencies they completed at the same or another institution or training provider.⁷⁶⁴

Higher education providers are responsible for determining their own policies and procedures for managing applications for credit transfer and articulation.⁷⁶⁵ There can be either formal or informal arrangements in place between vocational education providers and higher education providers.

Formal relationships involve VET providers and higher education providers establishing a process for exchanging information about their respective qualifications. This makes the process of applying for credit transfer more straightforward for students.⁷⁶⁶

The Committee received evidence about a number of examples of VET and higher education providers working together to establish these formal pathways for agricultural education.

Charles Sturt University and GOTAFE are working together to enable GOTAFE students to progress from certificate III through to a degree in agriculture or agribusiness while remaining in their local area for the duration of the program. This will be achieved by offering flexible completion options for working students, study support and delivering residential schools at GOTAFE's Wangaratta campus.⁷⁶⁷

As discussed earlier in this chapter, The University of Melbourne has formed a partnership with GOTAFE and the Wodonga TAFE to increase access to higher education for students in the Hume region. In 2013 The University of Melbourne plans to launch a Diploma in General Studies that can be used as credit toward a degree at the University. The diploma is a sampler of the Melbourne bachelor degrees and will provide students with the opportunity to study science, commerce, environments or agriculture.⁷⁶⁸

La Trobe University submitted that it is currently developing pathways with VET providers in two areas:

⁷⁶⁴ National Centre for Vocational Education Research, *VET glossary – Full record*, <http://www.ncver.edu.au/resources/glossary/glossary_full_record.html?query=BROWSE&entry=Credit+transfer> viewed 5 September 2012.

⁷⁶⁵ National Centre for Vocational Education Research, *A guide to credit transfer* (2010), 1. Available at <<http://www.ncver.edu.au/publications/2248.html>> viewed 27 August 2012.

⁷⁶⁶ *ibid.*, 1.

⁷⁶⁷ Charles Sturt University, *Submission 38*, 2.

⁷⁶⁸ The University of Melbourne, *Diploma in General Studies*, <<http://www.dookie.unimelb.edu.au/generalstudies/>> viewed 12 September 2012.

- Students who hold a Diploma in Veterinary Nursing from the Box Hill Institute of TAFE will receive significant credit towards the Bachelor in Animal and Veterinary Biosciences.
- Discussions are taking place with the Sunraysia Institute of TAFE in northwest Victoria to enable students holding a Diploma in Agronomy to gain significant credit towards the Bachelor of Agricultural Science.⁷⁶⁹

Where there is no formal relationship between a VET provider and a higher education provider, students will generally apply to the higher education provider requesting recognition of qualifications or subjects.⁷⁷⁰ Dr Livingstone of Marcus Oldham College told the Committee that it often uses these informal arrangements to provide eligible students with credit towards their prospective course:

Often it is not formal, but if somebody has a diploma in agriculture, there is articulation into our associate degree. We have talked to a number of VET providers about that articulation process. Without it being too formal, it is quite available, so if somebody applies to us with a diploma in agriculture, we will look at that application, interview them as well and there is a fair chance they will be able to go into a second or third year, depending on how that goes.⁷⁷¹

Dual sector institutions, such as NMIT, provide streamlined pathways for students to continue onto a higher education qualification. For example, students who have a Certificate IV in Agriculture or the Diploma of Agriculture at NMIT obtain significant credit towards the Associate Degree of Agriculture and Land Management. Students undertaking the Associate Degree only need to undertake a further year of study to obtain the Bachelor of Agriculture and Land Management.⁷⁷²

Barriers to moving from VET to higher education

Charles Sturt University submitted that there are few students progressing from agricultural VET qualifications to undergraduate degrees. The University identified the likely reasons for this as:

- low student aspiration
- a lack of local opportunities to study at the higher education level
- the limited flexibility of higher education courses for working students.⁷⁷³

Dr Livingstone of Marcus Oldham College also noted that students need encouragement and support to participate in education and progress through the different levels of education. He stated:

A lot of students — and I see it at Marcus — do not know their full potential until they start with education. Some people ... They start with, say, a certificate III and say, 'This isn't too bad; I didn't like school, but I'm going pretty well', and then with a bit of encouragement, a mentor along the way, some good results and working on farm they apply to Marcus and do the diploma. They say, 'I'm not too sure how I'll go', but they do well in the diploma, so they do the

⁷⁶⁹ La Trobe University, *Submission 88*, 7.

⁷⁷⁰ National Centre for Vocational Education Research, above n 765, 1.

⁷⁷¹ Dr Simon Livingstone, above n 725, 5.

⁷⁷² Northern Melbourne Institute of TAFE, *Articulate the right course for you – Agriculture*, <http://www.nmit.edu.au/course_info/articulation/Index2.aspx?course=nmit_bachelor_agriculture> viewed 14 August 2012.

⁷⁷³ Charles Sturt University, *Submission 38*, 2.

second year, and by the end of it they have a bachelor degree and all this practical experience — but they need some encouragement along the way.⁷⁷⁴

Several stakeholders noted that there are challenges in developing articulation pathways between VET providers and universities due to the differing teaching and learning environments of the respective sectors. VET is practical, hands-on and industry-focused in nature. In contrast, the higher education sector has a focus on equipping students with knowledge they can apply in a broad range of contexts.⁷⁷⁵ For example, La Trobe University noted that there are ‘different academic requirements between the more ‘hands-on’ applied curricula in the TAFE system, compared with requirements for deeper scientific understanding in university curricula’.⁷⁷⁶

Similarly, GOTAFE stated that there is a tension for VET providers in trying to determine how much emphasis is given to equipping students for further learning as opposed to employment. GOTAFE submitted:

There is a gap between the Units of Competence (or subjects) studied at a TAFE Institute and the subjects that would be undertaken at University, particularly in terms of science and mathematics. TAFE Institutes and other RTOs could deliver programs stronger in mathematics and science to better prepare students for University studies, however this would either reduce the hours available for delivery of applied and practical learning for students who might not want to articulate into University, or increase the hours delivered to students (with no additional remuneration from government funding for the increased delivery).⁷⁷⁷

Improving pathways from VET to higher education – The Committee’s view

Improved educational pathways between the VET sector and the higher education sector are important to increase the participation of students in higher education. The Committee is encouraged by the level of collaboration that is already occurring between agricultural education and training providers in the VET and higher education sectors.

While noting that it is important that the VET sector maintains its industry focus and practical nature, the Committee encourages the two sectors to continue to work together to increase the opportunities for VET students to access higher education. This is particularly important in light of growing enrolments in agricultural VET courses. The Committee also believes that VET students should be encouraged and supported by their employers and the agriculture sector to pursue higher education opportunities where relevant.

Recommendation 41: Improving pathways from VET to higher education

That VET and higher education providers continue to work together to improve pathways between agricultural VET and higher education courses.

⁷⁷⁴ Dr Simon Livingstone, above n 725, 7.

⁷⁷⁵ David Curtis, *Student transfer: At a glance* (2009) National Centre for Vocational Education Research, 2.

⁷⁷⁶ La Trobe University, *Submission 88*, 7.

⁷⁷⁷ Goulburn Ovens Institute of TAFE, *Submission 91*, 7.

8.2.6 Promoting alternative pathways into a career in agriculture

There are a significant number of students and graduates from general disciplines, such as science, business and natural resource management, who could potentially help the agriculture sector meet its future workforce needs. This section looks at possible ways to attract these students into a career in agriculture.

Incorporating agriculture into relevant higher education courses

The Birchip Cropping Group, an agricultural research organisation led by farmers in the Wimmera Mallee region, submitted that agricultural units could be incorporated into a wider range of existing degrees to broaden the career options of students. Some examples suggested by the Birchip Cropping Group include:

- combining agricultural science with communication could lead to careers in research, development and extension or agricultural journalism
- combining agriculture with mathematics and geology could lead to a career using global positioning systems technology within the agricultural or environmental management sectors
- combining agriculture with information and communications technology (ICT) could lead to a career in agricultural modelling, simulation tools and decision support tools.⁷⁷⁸

The Committee considers that there is potential to offer students undertaking traditional disciplines such as science, ICT and mathematics the opportunity to study agricultural subjects. This is already occurring to some extent at The University of Melbourne, as discussed in section 8.2.2 above. The Committee encourages other higher education providers to also consider opportunities to incorporate agriculture into relevant higher education courses.

Attracting students into postgraduate agricultural courses

The Committee heard that there is also the potential to attract students with relevant undergraduate degrees into postgraduate agricultural courses.

Mr Arthur Blewitt, Chief Executive Officer of AgriFood Skills Australia, the national industry skills council for the agrifood sector, spoke about the need to look outside the traditional agriculture discipline to take advantage of the skills of students from relevant disciplines:

What they are doing is a lot of contemporary degrees, biodiversity, natural resource management. There is something like about 6000 students enrolled in 20 degrees at any one time, often who end up in agriculture. An example I will give you is we were at the University of New England in Armidale recently ... and Professor David Lamb was doing some work on satellite technology, factoring and tracking animals, and also tracking their nutrition through what they eat, how they move and all that. He is a physicist trained in physics and he has four PhD physics students working with him. They are effectively doing agricultural science.⁷⁷⁹

⁷⁷⁸ Birchip Cropping Group, *Submission 67*, 3. See also Greater Shepparton City Council, *Submission 30*, 2.

⁷⁷⁹ Mr Arthur Blewitt, Chief Executive Officer, AgriFood Skills Australia, *Transcript of evidence*, Canberra, 20 March 2012, 8.

As noted in chapter seven, the dairy industry told the Committee that employers are employing environmental science graduates where there are no agriculture graduates available. However, the Dairy Industry People Development Council (DIPDC) and Dairy Australia, which made a joint submission on behalf of the Victorian dairy industry, submitted that feedback from the dairy service sector indicates there is little in the way of postgraduate courses tailored to the needs of the dairy farming service sector to train these professionals.⁷⁸⁰

La Trobe University currently offers postgraduate training in the form of a one year postgraduate diploma in agricultural science that enables a science student without a background in agriculture to develop the necessary expertise to work in the agriculture sector. Representatives from La Trobe University told the Committee that currently this course is not attracting science graduates as it is full-fee paying.⁷⁸¹ Associate Professor Sale from the University suggested that providing a financial inducement to science students would help attract more students.⁷⁸²

The Committee believes that there is significant potential for the agriculture sector to capitalise on the large number of graduates from general disciplines that are relevant to agriculture. The Committee notes that incentives such as scholarships to pursue postgraduate studies in agriculture will be important to attract these students. The Committee notes that it may also be necessary for the agriculture sector and higher education providers to examine whether the postgraduate offerings are sufficient to meet the needs of training these graduates.

The Committee also considers that it would be worthwhile for industry associations within the agriculture sector to market their careers to undergraduate students studying relevant general disciplines such as science and natural resource management as a means of attracting these students into further study or a career in agriculture.

Recommendation 42: Marketing agricultural careers to undergraduate students from relevant disciplines

That the industry associations within the agriculture sector work collaboratively to market careers in agriculture to undergraduate students from relevant disciplines such as science and natural resource management.

8.3 Ensuring agricultural higher education meets the needs of students and the agriculture sector

This section examines the satisfaction of both students and the agriculture sector with current agricultural higher education courses

⁷⁸⁰ Joint submission of Dairy Industry People Development Council (DIPDC) and Dairy Australia, *Submission 89*, 43.

⁷⁸¹ Associate Professor Peter Sale, above n 707, 7.

⁷⁸² *ibid.*, 7.

8.3.1 Is agricultural higher education meeting the needs of students?

In this section the Committee considers student satisfaction with agricultural higher education and the extent to which higher education providers are currently supporting students in areas of special need.

Student satisfaction

The good universities guide to universities and higher education providers 2012 provides an indication of the educational experience for graduates in different fields of study. Agriculture rates highly on a national basis in terms of the educational experience for students: graduates rated their courses for both overall satisfaction and teacher quality higher than graduates in similar fields in 80% of other universities.⁷⁸³

The higher education students that the Committee heard from during the Inquiry spoke enthusiastically about their experience studying agriculture at their respective institutions. For example, Mr Sands, a Marcus Oldham College student, stated that he enjoyed the student interaction and study tours during his agribusiness degree:

there are small class sizes and really good interaction in classrooms between students and the lecturer. We are taught the theory but it is certainly very applied ... We have study tours for the first two years. We went to China in the first year and New Zealand last year, and you can see firsthand opportunities for Australian exporters and production systems over there ...⁷⁸⁴

Ms Anna Fry, who is studying a Bachelor of Agriculture at The University of Melbourne, identified her experience at Dookie and her lecturers as highlights:

Something I do like about the course is that we have those week-long intensive block subjects up at Dookie and you get to utilise that area and what is available ... I also think our lecturers are fantastic. We are really lucky to have the amount of knowledge about the different areas and aspects of the agriculture industry.⁷⁸⁵

Ms Sanderson, a NMIT student, highlighted the small classes and practical experience within the Bachelor of Agriculture and Land Management as a positive aspect of the course:

I think a big positive for me is definitely the hands-on experience, especially when we did the first and second year. Also, because we are a relatively new course our class size is quite small — I think there are 12 or 13 of us who are now in third year — so we have a really good relationship with all our lecturers and we are more than welcome to ask them questions all the time and our lectures are more just like tutes.⁷⁸⁶

Mr Hansen, a La Trobe University student, noted that his course had prepared him well to pursue a scientific career in agriculture, 'I think the course sets you up really well to go into a lab. I have done an internship with CSIRO, and there was no problem doing that'.⁷⁸⁷

⁷⁸³ Hobsons, *The good universities guide to universities and higher education providers 2012* (2011), 59, 561.

⁷⁸⁴ Mr Derek Sands, above n 726, 6.

⁷⁸⁵ Ms Anna Fry, above n 712, 7.

⁷⁸⁶ Ms Nicole Sanderson, above n 723, 7.

⁷⁸⁷ Mr Nicholas Hansen, above n 733, 8.

Supporting students with science literacy

The Bachelor of Agriculture at The University of Melbourne and the Bachelor of Agricultural Science at La Trobe University have a strong science content in their first year (see figure 25).

Figure 25: First year subjects for selected degrees at La Trobe University and The University of Melbourne in 2012

La Trobe University Bachelor of Agricultural Science ⁷⁸⁸	The University of Melbourne Bachelor of Agriculture ⁷⁸⁹
Basic chemistry or general principles of chemistry	Fundamentals of chemistry
Statistics for life sciences	Biology of cells and organisms
Genetics, human biology and evolution	Natural environments
Introduction to animal and agricultural science	Land, water and food economy
Organisation and function of cells and organisms	Data and decisions
Plant science	Introduction to climate change
Processes that shape the earth	Genetics and the evolution of life
First year level elective	Food for a healthy planet

The State Agriculture Provider Network, which represents a diversity of registered training organisations delivering agricultural VET in Victoria, submitted that there is anecdotal evidence that this emphasis on the generic sciences in the first year of agricultural degrees leads to students dropping out:

Agricultural degree students participate in generic science courses before specialising in more agriculture focused subjects in second year. Whilst the decision making behind this change is understood, there is anecdotal evidence to suggest a significant number of potential graduates are lost from agriculture because of the heavy science based content of the course in first year.⁷⁹⁰

Some of the university students who spoke to the Committee explained that the first year science content was a challenge. For example, Mr Roxburgh, a current student at La Trobe University, told the Committee:

the first-year basic science classes were very difficult to get through so when you are just doing straight physics, chemistry and biology with all the other science students; that is very tough.⁷⁹¹

La Trobe University and The University of Melbourne also acknowledged that students were struggling with the science content in the first year. As discussed in chapter seven, La Trobe University attributed this difficulty to the lower Australian Tertiary Admissions

⁷⁸⁸ La Trobe University, *University handbook 2012 – Bachelor of Agricultural Science*, <<http://www.latrobe.edu.au/handbook/2012/undergraduate/science-tech/single-degrees/svas.htm>> viewed 1 August 2012.

⁷⁸⁹ The University of Melbourne, *Handbook – 315PD Bachelor of Agriculture*, <<https://handbook.unimelb.edu.au/view/2012/315PD>> viewed 1 August 2012.

⁷⁹⁰ The State Agriculture Provider Network, *Submission 40*, 1.

⁷⁹¹ Mr Casper Roxburgh, above n 734, 6. See also Mr Alistair Knight, Student, The University of Melbourne, *Transcript of evidence*, Melbourne, 6 March 2012, 6.

Rank (ATAR) for agricultural higher education courses. Associate Professor Sale from La Trobe University stated:

As demand goes down, the ATAR tends to go down. We get some very good students; there is no doubt about it. But we also get students who are at the weaker end academically, who have limited science. That means they tend to struggle. This is a science degree, so we have high attrition rates.⁷⁹²

Associate Professor Sale highlighted that there is support available to students to help them in subjects that they are struggling with:

What we find is that of all the discipline areas these students have trouble with if they do not have a science background it is the chemistries. They can cope with the biology — in fact, many do biology rather than chemistry. We find that chemistry is the gap, so we just have to run specialised tutorials right through the year. We get very good teachers in there to help them, to explain, to just give them an understanding of the concepts; that is just ongoing.⁷⁹³

Mr McSweeney from MSLE also explained that The University of Melbourne has put in place measures to support students through the first year of science subjects:

We are quite conscious of the fact that within the Bachelor of Agriculture you have got a broader type of curriculum and within the science major the students have to deal with the first-year rigours of getting through science ... What we are spending a lot of time on is developing academic skills support. We have a range of programs in place including individual tutorials designed to support students at various stages of their life cycle through the tertiary system. That is certainly an area of risk we are aware of, and we spend quite a bit of time in discussion on it.⁷⁹⁴

The Committee welcomes the measures put in place by both La Trobe University and The University of Melbourne to assist students who may be experiencing difficulty with the science content of the first year of their agricultural course. The Committee encourages these universities to continue providing this support to first year agricultural students.

8.3.2 Is agricultural higher education meeting the needs of the agriculture sector?

Overall, industry stakeholders appeared satisfied with the agricultural higher education courses offered in Victoria. As previously stated, the key concern was the availability of graduates from higher education courses. However, some stakeholders did question the extent to which graduates need to gain more practical experience during their courses. Opportunities for students to obtain practical experience both through their courses, and through employment are explored below.

Gaining practical experience as part of course requirements

Some stakeholders expressed the view that Victoria's higher education courses are heavily theory-based and that graduates lack practical and technical skills. For example, Mr Don Lawson, Director of the Australian Beef Industry Foundation, an organisation that provides beef industry career information, stated:

⁷⁹² Associate Professor Peter Sale, above n 707, 2. See also La Trobe University, *Submission 88*, 5.

⁷⁹³ Associate Professor Peter Sale, above n 707, 3.

⁷⁹⁴ Mr Peter McSweeney, above n 715, 7.

I want to raise it as an issue that it [industry experience] should become part of the curriculum in agriculture. You do medicine, you've got to go and work in a hospital; if you do law you've got to go and work in a law firm. These kids come out of agricultural science, and as one of them said to me, 'If I didn't come off a dairy farm and I'm giving the Minister advice, I wouldn't know how a cow was milked'.⁷⁹⁵

The Grains Industry Training Network, which carries out a training broker role for the Victorian grains industry, submitted that there is a gap in the high level technical skills of agronomists and consultants coming from university in areas such as spray application, grain storage and global positioning systems technology.⁷⁹⁶

Similarly, DIPDC and Dairy Australia submitted that graduates need specialist dairy training to meet the industry's needs:

The industry's experience is that graduates with generic qualifications in agriculture and related disciplines need substantial specialist training to meet the demands of an increasing[ly] complex and technical dairy industry.⁷⁹⁷

Some of the students the Committee spoke to also expressed an interest in gaining more practical experience during their courses. For example, Mr Alistair Knight, who is studying a Bachelor of Science majoring in agriculture at The University of Melbourne, explained:

I think there is obviously not enough practical work because it is an inner city institution. They try to do a lot of field trips and that sort of stuff. In third year we went out to Dookie about three or four times on a bus for the day and there are a few day stopovers in the holidays as well that they do. But, yes, that is obviously a disadvantage that you do not get that hands-on experience ...⁷⁹⁸

Similarly, Ms Fry, also a University of Melbourne student, noted that practical experience can be particularly important for students who have not grown up on a farm:

I am not from a farming background. I know that most of the people in my course are, and they know a lot more about the practical side of things. I think it [practical experience] would be really helpful for things like crop management and in other subjects we have done ... It would be good to know if you are not from a farming background.⁷⁹⁹

Each of Victoria's agricultural higher education providers have processes in place to expose students to the practical side of the agriculture sector.

Marcus Oldham College has a pre-entry requirement that students have a minimum of 12 months full-time farming experience after completing Year 12. In addition, the College requires students to undertake industry placements. Dr Livingstone, the College's Principal, explained:

They all have to work before they come to us, and in all the courses there are industry placement periods. In the farm management course it is one year ... The second year is the practical year, during which they go and work somewhere around Australia. They work with that farm manager — do some academic work, case studies and business plans with them.⁸⁰⁰

⁷⁹⁵ Mr Don Lawson, Director, Australian Beef Industry Foundation, *Transcript of evidence*, Melbourne, 5 December 2011, 4. See also VFF, *Submission 64*, 11; Australian Beef Industry Foundation, *Submission 96*, 1; Ms Hannah Pickles, *Submission 15*.

⁷⁹⁶ Grains Industry Training Network, *Submission 83*, 4.

⁷⁹⁷ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 43.

⁷⁹⁸ Mr Alistair Knight, above n 791, 6.

⁷⁹⁹ Ms Anna Fry, above n 712, 7.

⁸⁰⁰ Dr Simon Livingstone, above n 725, 4.

La Trobe University requires students enrolled in its agricultural science degree to undertake twelve weeks of approved industry experience during vacations.⁸⁰¹ Mr Roxburgh, a La Trobe University student, stated that this experience had been important in helping him gain a practical understanding of farming, given that he was not from a farming background:

at La Trobe, as part of our requirement to graduate we have to do three separate cadetships on farms ... You end up doing many months of work experience before you graduate. I have done this, and it was very significant in making me feel more comfortable and more aware of what it is like actually being on a farm, being on a tractor and planting et cetera.⁸⁰²

The University of Melbourne provides students in the Bachelor of Agriculture with exposure to the practical side of agriculture by delivering selected first and second year subjects, and all of its third year subjects at its Dookie campus. Students can also complete an internship in the agriculture sector as a subject and this consists of an 80 to 100 hour work placement and classes to help students develop their employability skills and attributes.⁸⁰³ MSLE at the University submitted that it has a high and growing demand for industry internships or placements, but that it lacks the resources to appoint a staff member to manage these relationships and match students and industry more effectively.⁸⁰⁴

NMIT designed the Bachelor of Agriculture and Land Management course to have a greater mix of agricultural science and core practical components.⁸⁰⁵ Students are required to undertake an industry placement as part of the degree and they also gain practical experience at NMIT's commercial farming property at Yan Yean.⁸⁰⁶ Ms Kate Henne, who is studying the Bachelor of Agriculture and Land Management at NMIT, praised the practical focus of the course:

You can sit there in your lecture and you learn, for example, about soil and then we can go out to the Yan Yean farm and get in a soil pit ... we can go out, get into a tractor, dig out a soil pit, get in there and get our hands dirty. It is a fantastic way of learning; it is hands-on.⁸⁰⁷

Gaining practical experience through employment

Some stakeholders told the Committee that employers' requirements for practical experience and technical expertise cannot be satisfied by undergraduate courses alone. Rather, they emphasised the importance of exposing students and graduates to further training, work experience and on-the-job development.

Mr Nathan Scott, a graduate of The University of Melbourne, highlighted that he and his student peers gained experience through working in the agriculture sector while at university:

we actually did hands-on work. Not that that was ever going to get you to a level where you could walk in and be at a particular level hands-on — that is, if you had not done it in the past. From my point of view, I did it through getting work outside of uni. That is how everyone in my

⁸⁰¹ La Trobe University, above n 788.

⁸⁰² Mr Casper Roxburgh, above n 734, 8.

⁸⁰³ Email from Dean, MSLE, to Executive Officer, Victorian Parliament Education and Training Committee, 12 September 2012.

⁸⁰⁴ MSLE, *Submission 69*, 11.

⁸⁰⁵ Dr Damien Adcock, Head of Department, Agriculture and Land Management Higher Education, NMIT, *Transcript of evidence*, Melbourne, 5 December 2011, 5.

⁸⁰⁶ *ibid.*, 4; Mr Phil Tripp, Head, Department of Agriculture and Animal Science, NMIT, *Transcript of evidence*, Melbourne, 5 December 2011, 4.

⁸⁰⁷ Ms Kate Henne, Student, NMIT, *Transcript of evidence*, Melbourne, 6 March 2012, 7.

year did it ... we all worked outside of uni hours to get the on-farm experience, as well as having a structured work experience component of the course.⁸⁰⁸

Mr Anthony Chapman, Seed and Field Services Manager at The Wimmera Grain Company, which specialises in the export of grain, stated that due to the shortage of agronomists in Australia, junior agronomists just out of university are now expected to be able to give advice to farmers. He noted that in the American and Canadian systems, there is a greater emphasis on agronomists gaining experience before carrying out a consulting role on farms. He observed 'we are sending kids straight out there and saying, "Right, this has to be done perfectly, and don't wreck my crop." It is hard for them to know everything.'⁸⁰⁹ Similarly, Ms Parker of Murray Dairy noted students coming out of university need mentoring and development opportunities to develop their skills.⁸¹⁰

Ms Julia Dwyer, HR Business Partner at Landmark Operations, an Australia-wide agribusiness company, noted that part of the graduate program at Landmark is about developing the confidence of graduates:

We do find that students who come out of ag. science degrees are very technically good, but then implementing that, dealing with the farmers and being able to be confident in their recommendations is an area in which they need a little bit of experience, so that is why we have the graduate program. They are put into branches where we have strong agronomy staff who can mentor them and train them on the job.⁸¹¹

Landmark Operations has also developed a student internship program for agricultural students from Charles Sturt University. As part of the internship, students work at Landmark Operations for one year. Ms Dwyer noted that this had been successful in improving the skills of those interns who enter the graduate program later on:

We have found that to be very successful because they have an extra year of practical experience rather than just the technical experience, and the farmers who deal with them are much happier to deal with them because they have some more experience. Our biggest issue is that farmers do not want someone who is learning to be offering advice on their crops, because this is their livelihood. They want people with experience.⁸¹²

Elders, a global rural services business that employs agriculture graduates, has been running a Diploma of Agronomy qualification for its agronomy staff to address a gap in their practical knowledge. Ms Leanne Brus-Bentley, Elder's Organisational Capability Manager, explained:

The driver for us around the diploma program has been that often a university graduate will come to us with all the, shall we say, theoretical knowledge but not a lot of experience in practical applications. So we worked with a couple of organisations to build a diploma program that allows them to actually, if you like, get their hands dirty and get in and get some practical theory application of some of the knowledge they have.⁸¹³

⁸⁰⁸ Mr Nathan Scott, Group Coordinator, Better Beef Network and Consultant, Mike Stephens and Associates, *Transcript of evidence*, Ballarat, 28 November 2011, 4.

⁸⁰⁹ Mr Anthony Chapman, Seeds and Field Services Manager, The Wimmera Grain Company, *Transcript of evidence*, Horsham, 29 November 2011, 5.

⁸¹⁰ Ms Sarah Parker, above n 718, 4.

⁸¹¹ Ms Julia Dwyer, HR Business Partner, Landmark Operations, *Transcript of evidence*, Melbourne, 6 March 2012, 2.

⁸¹² *ibid.*, 3.

⁸¹³ Ms Leanne Brus-Bentley, Organisational Capability Manager, Elders, *Transcript of evidence*, Melbourne, 6 March 2012, 4.

Practical experience for agricultural higher education students – The Committee’s view

The Committee acknowledges it is important that students gain practical experience in the agriculture sector during the course of their degree. This helps to ensure that graduates are meeting the needs of the agriculture sector. The Committee notes that the Victorian agricultural higher education providers have all incorporated work experience or industry placements into their courses.

The Committee believes that the agriculture sector must also play a role if it wants graduates with more practical experience. Accordingly, the Committee encourages the agriculture sector to provide greater opportunities for work experience and industry placements for students. The Committee also encourages the agriculture sector and higher education providers to look at the internship program developed by Landmark Operations and Charles Sturt University as a potential model.

The Committee believes that workplaces should also support new graduates to develop their confidence, practical skills and technical expertise in a given field. The Committee encourages the agriculture sector to put in place processes to develop new graduates to gain these skills and experience. This could take the form of mentoring, a graduate program or identifying additional training needs.

8.4 Postgraduate agricultural research

Agricultural research is a vital means by which the agriculture sector increases productivity and sustainability. Postgraduate programs are crucial for supporting this research and building the future agricultural research workforce.

This section provides an overview of postgraduate agricultural research opportunities in Victoria. It also examines the future of postgraduate research, in particular the need to attract more students into this area.

8.4.1 Postgraduate research opportunities and facilities in Victoria

Postgraduate agricultural research programs are offered at The University of Melbourne and La Trobe University. However, people from a wider range of disciplines and institutions can undertake postgraduate research that is relevant to the agriculture sector. In its 2012 report into agricultural higher education, the Senate Education, Employment and Workplace Relations References Committee noted, ‘Agricultural research is increasingly multidisciplinary and requires the collaboration of chemists, physicists, computer scientists, mathematicians and engineers among others.’⁸¹⁴

There are funding opportunities available for PhD programs and in some cases masters by research programs through higher education providers, government and research organisations.

⁸¹⁴ The Senate Education, Employment and Workplace Relations References Committee, *Higher education and skills training to support agriculture and agribusiness in Australia* (2012), 41-42, citing Murdoch University.

The Department of Primary Industries (DPI) has a strong agricultural research focus and provides postgraduate research opportunities. DPI informed the Committee that it had 86 students undertaking PhDs in 2011.⁸¹⁵

The agriculture sector also offers a number of postgraduate research opportunities. For example, Meat and Livestock Australia (MLA), a producer-owned company providing marketing and research programs for the cattle, sheep and goat industries, has a scientist training portfolio which offers postgraduate scholarships for higher degrees by research, as well as postdoctoral fellowships.⁸¹⁶

The dairy industry told the Committee that it has established strategic research partnerships with both La Trobe University and The University of Melbourne and funded postgraduate research programs to meet its need for dairy research.⁸¹⁷

There are also two new projects occurring in Victoria that will benefit agricultural postgraduate research students. These projects are outlined briefly below.

La Trobe University – AgriBio Centre

La Trobe University is home to the AgriBio Centre, a major new research facility for agricultural biosciences research. The AgriBio Centre is a joint initiative between La Trobe and the Victorian Government, through DPI.

The facility, which opened at the Bundoora campus in 2012, has enabled 300 scientists from DPI to co-locate with La Trobe staff to undertake research to support Victorian agriculture.⁸¹⁸ Agricultural research students at La Trobe will also have the opportunity to train at the centre.

The University of Melbourne – Dookie 21

The University of Melbourne plans to redevelop the Dookie campus into a world-class centre of excellence for the research and development of systems and technologies that result in efficient and climate resilient farming.⁸¹⁹

The proposal, referred to as Dookie 21, aims to bring together researchers across the disciplines of engineering, economics and agricultural and environmental sciences and involves redeveloping the campus with modern infrastructure and equipment. To date, \$5 million has been invested to redevelop the Dookie farms by mid-2014.⁸²⁰

This proposal to redevelop the campus with modern infrastructure and equipment is likely to be welcomed by stakeholders to the Inquiry, who were concerned about the state of the facilities at the former agricultural college (see chapter six).

8.4.2 Attracting students to postgraduate research

There was a strong recognition by stakeholders about the importance of fostering research in the higher education sector. For example, DEECD submitted:

⁸¹⁵ Mr Ron Harris, Executive Director, Farm Services Victoria, Department of Primary Industries (Victoria), *Transcript of evidence*, Melbourne, 24 October 2011, 2.

⁸¹⁶ Meat and Livestock Australia, *Submission 13*, 1.

⁸¹⁷ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 45.

⁸¹⁸ La Trobe University, *Submission 88*, 6-7.

⁸¹⁹ MSLE, *Submission 69*, 11.

⁸²⁰ The University of Melbourne, above n 738.

agricultural sector businesses are also heavily reliant on Victoria's strong leadership in research and development undertaken by universities and other dedicated agencies. It is vitally important that these institutions continue to produce high quality students and researchers to ensure greater productivity and sustainability so that the sector remains competitive in a global economy.⁸²¹

However, there was also widespread concern about looming skills shortages within the agricultural research workforce. In a recent report on the state of Australian science, the Office of the Chief Scientist highlighted that shortages are to be expected as a corollary of the decline in agricultural undergraduate students:

undergraduate students represent the supply 'pipeline' to the professional, higher degree research and research sector workforces, and student numbers in Agriculture are in serious decline.⁸²²

PICSE submitted that 'the scientific agricultural workforce is similarly ageing, with the lack of replacements creating a skills deficit that suggests demand for rural sector researchers could outstrip supply over the next 10 years'.⁸²³

Encouragingly, the Committee was told that some industries within the agriculture sector have strategies in place to manage the forecast skills shortages. Dr Terry Longhurst, Manager of Strategic Science, Livestock Production Innovation at MLA, noted that the livestock industry is aware of the need to put in place measures to attract the future research workforce:

There are concerns within MLA and within the researchers who work in those CRCs [cooperative research centres] about how they are going to attract young people into research, and we are actively talking with them and are working through the process of developing some strategy to ensure that we do have a good supply of young researchers going into postgraduate research relevant to the livestock sector.⁸²⁴

The joint submission of DIPDC and Dairy Australia also stated that processes have been developed by the dairy industry to manage emerging demands and potential shortfalls for research scientists.⁸²⁵

Some stakeholders questioned the attractiveness of a PhD for agriculture graduates in light of the wealth of career opportunities currently available for graduates in the agriculture sector. Associate Professor Sale of La Trobe University noted, 'The top students in their final year have jobs by the middle of first semester with Landmark, Elders and organisations like that. They are doing very well, so they are not being attracted to research of late.'⁸²⁶ Similarly, his colleague, Associate Professor John Webb, who is the Head of Environmental Geoscience at La Trobe, observed that once graduates are out in the workforce, they do not tend to come back to study a PhD as it is not financially attractive.⁸²⁷

⁸²¹ DEECD, *Submission 82*, 20. See also Victorian Association of Forest Industries, *Submission 59*, 4; Dr Terry Longhurst, Manager, Strategic Science, Livestock Production Innovation, Meat and Livestock Australia, *Transcript of evidence*, Canberra, 20 March 2012, 2; Mr Brian Duggan, Manager, Workplace Relations and Legal Affairs, National Farmers' Federation, *Transcript of evidence*, Canberra, 20 March 2012, 6.

⁸²² Office of the Chief Scientist (Australia), *Health of Australian science* (2012), 9.

⁸²³ Primary Industry Centre for Science Education, School of Agricultural Science, University of Tasmania, *Submission 71*, i. See also Tasmanian Institute of Agricultural Research, *Submission 36*, i; AgriFood Skills Australia, *Submission 51*, 5; Mr Brian Duggan, above n 821, 6.

⁸²⁴ Dr Terry Longhurst, above n 821, 5.

⁸²⁵ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 45.

⁸²⁶ Associate Professor Peter Sale, above n 707, 7.

⁸²⁷ Associate Professor John Webb, Head, Environmental Geoscience, La Trobe University, *Transcript of evidence*, Melbourne, 7 November 2011, 7.

Increasing the appeal of a career in research was highlighted as one way of offsetting the decline. La Trobe University recommended offering more targeted PhD scholarships in the broad area of agricultural science to enhance postgraduate training in the sector.⁸²⁸

Case study 9: Cooperative research centres prepare 'industry-ready' graduates

The Cooperative Research Centres (CRC) program is an Australian Government initiative that consists of partnerships between publicly funded researchers and end-users. CRCs are set up with the aim of addressing major research challenges that require medium to long-term collaborative efforts.

There are currently 11 CRCs operating in the field of agriculture, forestry and fishing. These include CRCs for the dairy, poultry, pork and beef industries.

According to the Cooperative Research Centres Committee, which advises the Australian Minister for Tertiary Education, Skills, Science and Research on matters related to CRCs:

Education and training is a central component of the CRC program. It is compulsory for each CRC to have an end-user focused education and training program which includes, but is not limited to, a PhD program ... [T]he CRC program provides a very effective mechanism to ensure that postgraduate students ... understand the drivers of, and challenges faced by, business and firms operating in the sector that is served by their particular CRC. This comes about, largely through a mechanism of joint industry and academic supervision of research students ...

Graduates with CRC exposure are industry-ready and have both the theoretical and practical experience necessary to tackle real world problems and contribute to Australia's highly skilled workforce.⁸²⁹

A 2012 study found that CRCs have significant economic, environmental and social benefits. The study estimated a total of \$14.45 billion of direct economic impacts from the CRC program between 1991 and 2017, with agriculture being the industry sector experiencing the greatest economic benefits.⁸³⁰ Economic benefits accrue from innovations such as cost saving technologies and efficiency gains.

The study also highlighted that the 'experience of researchers and staff working with industry in the CRC program provides education and training that produces graduates that are attractive to industry'.⁸³¹

8.4.3 The future of postgraduate research – The Committee's view

The Committee believes it is vital to the productivity and success of the Victorian agriculture sector that there are a sufficient number of talented students entering postgraduate agricultural research programs. The Committee considers that Victoria is well positioned to provide graduates with first-class training, particularly given the new

⁸²⁸ La Trobe University, *Submission 88*, 8.

⁸²⁹ Cooperative Research Centres Committee, *Submission 54*, 1-2.

⁸³⁰ The Allen Consulting Group, *The economic, social and environmental impacts of the cooperative research centres program* (2012), 23. Available at <https://www.crc.gov.au/HTMLDocuments/Documents/PDF/CRC%20Program%20impact%20study_FINAL.pdf> viewed 28 August 2012.

⁸³¹ *ibid.*, 69.

AgriBio Centre at La Trobe University and The University of Melbourne's plans to redevelop Dookie campus into a centre of agricultural research excellence.

However, given the limited numbers of students currently emerging from agricultural undergraduate programs, the Committee is concerned about Victoria's ability to meet the future demand for agricultural researchers.

In this report the Committee has focused strongly on making recommendations aimed at attracting more students into undergraduate agricultural higher education courses. The Committee hopes that having a larger cohort of students studying agriculture will lead to more persons entering postgraduate research as well.

The Committee also recommends that the Victorian Government work with higher education providers and the agriculture sector to identify additional measures, such as more attractive scholarships, to ensure that Victoria can meet the demand for agricultural research skills in the interim.

Recommendation 43: Attracting students into agricultural research

The Victorian Government, higher education providers and the agriculture sector work together to identify measures to attract students into agricultural research.

8.5 The agricultural higher education workforce

Higher education providers depend on a strong workforce to deliver quality teaching and research outcomes. This section provides a brief overview of the quality of teaching within the agricultural higher education workforce. It also considers whether the number of agricultural higher education staff within Victoria is sufficient to meet demand.

8.5.1 Quality of teaching

The Committee received limited evidence on the quality of teaching within Victoria's agricultural higher education providers. However, the evidence it did receive indicates that the quality is strong.

As noted in section 8.3.1 above, agriculture graduates across Australia rate the teacher quality within their courses highly.⁸³² Several of the higher education providers also expressed confidence in the quality of their teaching. For example, MSLE at The University of Melbourne submitted:

In terms of higher education, we believe that the quality of the staff is very good. MSLE scores in teaching and course experience feedback, as benchmarked within the University community more broadly, are strong. Our teaching is well led by our active research at the cutting edge of key issues.⁸³³

Similarly, Dr Livingstone from Marcus Oldham College stated that it has 'a really good team at the moment' with respect to its lecturers.⁸³⁴ La Trobe University submitted that its course satisfaction ratings have been amongst the highest for agricultural-based

⁸³² Hobsons, above n 783, 59.

⁸³³ MSLE, *Submission 69*, 12.

⁸³⁴ Dr Simon Livingstone, above n 725, 6.

courses across Australia and staff members have won various awards including a national award for teaching excellence.⁸³⁵

8.5.2 The impact of the ageing workforce

The ageing of the academic workforce is a feature across the higher education sector, including in agriculture departments. For example, La Trobe University submitted:

An ageing workforce is a feature of academic staffing in the Department of Agricultural Sciences at La Trobe University, as in other workplaces. The retirement profiles are that 50% of teaching staff will be retiring in 2-5 years; 37% retiring in 10-15 years; and only 12% retiring after more than 20 years.⁸³⁶

Representatives from both La Trobe and MSLE told the Committee that they were confident about the ability of their universities to attract high quality staff to fill appointments as necessary. For example, MSLE submitted:

The ageing workforce per se has not been an issue for us. We can recruit outstanding new staff members; the issue is that because student numbers are low, we have limited financial resources to make new appointments.⁸³⁷

Dr Livingstone of Marcus Oldham College indicated that attracting staff can pose a challenge:

We compete against business, so if you are a bank manager in a rural bank and you are thinking about coming to Marcus Oldham as a lecturer in accounting ... then our salaries have to compete against the business sector. The other issue is trying to get well-qualified academics to come to the college. We are not a university, although we offer university-type programs, so we are caught in between the business community and what we pay there and also by trying to attract good academics.⁸³⁸

The evidence received by the Committee does not suggest that there is a major shortage of staff to teach agricultural courses and undertake research at the higher education level in Victoria. However, the Committee notes that, in its 2012 report on agricultural higher education, the Senate Education, Employment and Workplace Relations References Committee found that Australian universities are facing a skills shortage of adequate staff to teach agricultural courses and undertake research.⁸³⁹

Accordingly, while it does not appear that agricultural academic staffing is an issue at present for Victorian higher education providers, providers would be wise to have succession plans in place for staffing given the shortage being experienced nationally.

⁸³⁵ La Trobe University, *Submission 88*, 2.

⁸³⁶ *ibid.*, 9.

⁸³⁷ MSLE, *Submission 69*, 12. See also *ibid.*, 9.

⁸³⁸ Dr Simon Livingstone, above n 725, 6.

⁸³⁹ The Senate Education, Employment and Workplace Relations References Committee, above n 814, 40.

Chapter 9: Non-formal education and training for the agriculture sector

Key findings

- Non-formal education and training is the preferred method of education and training for the existing agricultural workforce. Its popularity stems from the short and relevant nature of the training.
- There are a range of sources of non-formal education and training, including government; industry bodies; the private sector; education and training providers; and farming systems groups and networks. Increasingly, new technologies are also providing an important source of information and learning for the agriculture sector.
- Traditionally the government was responsible for delivering a significant amount of agricultural extension to the agriculture sector. However, there has been a shift towards fee-for-service extension from private providers across Australia.
- Non-formal education and training can provide pathways into formal education and training for individuals working in the agriculture sector.
- Non-formal education and training and agricultural extension is used to communicate advancements in research and development to the agriculture sector. There is room to improve how research and development is communicated to both the agriculture sector and education and training providers.

Non-formal education and training for the agriculture sector

The previous chapters of this report have centred on the agricultural education and training provided in the formal sphere by schools, vocational education and training (VET) providers and higher education providers. However, a significant amount of agricultural education takes place outside the formal arena. This chapter provides an overview of non-formal education and training and considers how to improve the delivery of this form of education to the agriculture sector.

9.1 An overview of non-formal education and training for the agriculture sector

This section introduces non-formal education and training, considering its role and key sources.

9.1.1 What is non-formal education and training?

There is no agreed definition of non-formal education and training. In this report the Committee uses the term 'non-formal education and training' broadly to refer to all forms of education and training that fall outside the formal accredited training system. Examples include non-accredited short courses, conferences, field days and farmer-directed groups.

A large part of non-formal education and training is also commonly referred to as agricultural extension. This term is used throughout the chapter, particularly where non-formal education and training has a focus on trying to encourage the adoption of research and technology or farming practice changes.

9.1.2 The role of non-formal education and training for the agriculture sector

Non-formal education and training has traditionally played an important role in improving agricultural practices and driving productivity in the agriculture sector. The Wimmera Catchment Management Authority, which is responsible for water and land management in the Wimmera region, told the Committee that continuous learning remains critical to the success of the agriculture sector:

Being a farmer in the 21st century is about lifelong learning and it is critical that the sector provides opportunities for farmers to increase their knowledge, build capacity and as a result drive innovation.⁸⁴⁰

Non-formal education and training and agricultural extension helps the agriculture sector find out about the latest developments in research, technology and agricultural practices. Primary Skills Victoria, the former industry training advisory body to the Victorian Government for the primary industries sector, noted that this transfer of knowledge has contributed to the success of the Victorian agriculture sector in recent times:

The often used phrase 'punching above their weight' aptly describes Victoria's farming sector though this achievement has been made through substantial investment by all levels of government into research and development and transfer of this knowledge to the farm.⁸⁴¹

Two leading academics in the field of farmer learning explained that non-formal education and training is just as important to the agriculture sector as formal education and training. Associate Professor Ruth Nettle, an academic who specialises in rural workforce and training matters, told the Committee:

A lot of our researchers have shown that actually the network of people, the role of extension in improving information sharing and knowledge about policy and things like that that occur in a social environment, is just as important and equivalent to people preferring formal qualifications or formal training.⁸⁴²

Similarly, Professor Sue Kilpatrick, an expert in the economics of education, submitted that farmer-directed groups and agricultural organisations are able to deliver content that is similar to formal courses and provide many of the features which make education and training effective for adult learners.⁸⁴³

9.1.3 Participation in non-formal education and training

It is difficult to gain precise information on the agriculture sector's participation in non-formal education and training because this data is not captured in official statistics. In addition, the absence of an agreed definition means that it is not always clear what activities constitute non-formal education and training.

However, the available evidence suggests that non-formal education and training is the preferred method of education and training for the existing agricultural workforce. For example, a study published by the Rural Industries Research and Development Corporation, a statutory authority that focuses on research and development for Australian rural industries, analysed a range of surveys about farmer preferences for learning and found 'clear and consistent evidence' that farmers tend to prefer non-formal education and training activities to formal education and training activities.⁸⁴⁴ The study noted that farmers showed a preference towards activities such as workshops, short courses, demonstration sites and field days.⁸⁴⁵

Associate Professor Nettle also explained that the agriculture sector has a preference for non-formal education and training:

⁸⁴⁰ Wimmera Catchment Management Authority, *Submission 55*, 2.

⁸⁴¹ Primary Skills Victoria, *Submission 84*, 7.

⁸⁴² Associate Professor Ruth Nettle, *Transcript of evidence*, Melbourne, 6 March 2012, 4.

⁸⁴³ Professor Sue Kilpatrick, *Submission 2*, 2.

⁸⁴⁴ Heather Aslin, Terry Giesecke and Nicole Mazur, *Which farmers participate when?* (2006) Rural Industries Research and Development Corporation, 56.

⁸⁴⁵ *ibid.*, 56.

We do know that there is a preference around informal learning and there is high participation, which is really important to understand — high and higher participation in informal opportunities, whether that is discussion groups, field days or the way information is shared.⁸⁴⁶

9.1.4 Why the agriculture sector prefers non-formal education and training

Professor Kilpatrick submitted that non-formal education and training is popular with the agriculture sector for a range of reasons, including:

- it is a fast and practical response to new learning needs
- the qualifications of the trainers mean it has industry credibility
- it has a low financial and time commitment
- it has a commercial orientation.⁸⁴⁷

Other participants in this Inquiry identified the low time commitment and the responsiveness of non-formal education and training as key reasons for the sector's preference for this type of training. For example, Mr Ron Paynter, member of the Warragul Branch of the Victorian Farmers Federation, the state's peak body for farmers, told the Committee that time is a major constraint on farmers:

Farmers are time poor. Often they will have critical things happening on farms, so taking themselves out of the farming situation for a prolonged period of time is just not a viable option for them.⁸⁴⁸

Mr Gordon Griffin, Education and Training Adviser at Rural Skills Australia, an organisation that has a strong focus on promoting rural apprenticeships and traineeships, stated that non-formal education and training is often more useful to the agriculture sector than formal education because it responds quickly to industry needs:

Often the informal stuff is about what they need. It is the new technologies, it is the new plant varieties, it is the new stuff they need to do there and then, or it is the compliance stuff they need to address there and then. Because the VET system takes so long to get that into place, the informal stuff will always win hands down, because it is a now situation; they need to do it.⁸⁴⁹

Similarly, Associate Professor Nettle explained that farmers are often able to quickly realise the financial benefits to their farming operations after participating in non-formal education and training:

I think there is evidence where industries and training partners together have really tried to ensure that the skill acquisition fits completely into need and it is applied straightaway ... particularly, for instance, around milk quality. Immediately after a one or two-day course ... they bring that back straight onto the farm and improve milk quality straightaway and bring almost a direct bottom line benefit onto the farm.⁸⁵⁰

⁸⁴⁶ Associate Professor Ruth Nettle, above n 842, 4.

⁸⁴⁷ Professor Sue Kilpatrick, *Submission 2*, 4.

⁸⁴⁸ Mr Ron Paynter, Branch member, Warragul Branch, Victorian Farmers Federation (VFF), *Transcript of evidence*, Ellinbank, 14 February 2012, 5.

⁸⁴⁹ Mr Gordon Griffin, Education and Training Adviser, Rural Skills Australia, *Transcript of evidence*, Shepparton, 3 November 2011, 4-5.

⁸⁵⁰ Associate Professor Ruth Nettle, above n 842, 4.

9.1.5 Sources of non-formal education and training

The agriculture sector obtains non-formal education and training from a range of sources, including government, industry bodies, the private sector, the not-for-profit sector, education and training providers, farming systems groups and farmer networks. Increasingly, new technologies are also providing an important source of information and learning for the agriculture sector. This section explores these providers and sources of non-formal education and training in more detail.

The Australian Government

There have been two major Australian Government programs that have supported non-formal education and training for the Australian agriculture sector over the past decade.

The most recent program, FarmReady ceased on 30 June 2012, having run for four years. FarmReady was designed to provide primary producers with training opportunities to assist them to adapt and respond to the impact of climate change. The program provided grants to individual primary producers of up to \$1500 per year to attend approved training courses, with funding also available to cover travel, accommodation and child care expenses.⁸⁵¹

To be approved under FarmReady, training courses needed to refer to specified learning areas. These ranged from 'understanding the implications of climate variability and climate change, through to improving risk, planning and business management, and integration of new techniques including high-level technical skills for sustainable production'.⁸⁵²

An evaluation of the program by the Australian Bureau of Agricultural and Resource Economics showed that FarmReady had been successful in encouraging the agriculture sector to participate in training and make positive changes to their farming practices.⁸⁵³

Prior to FarmReady, the Australian Government ran FarmBis. FarmBis provided grants to primary producers to attend training aimed at improving their business and natural resource management skills.⁸⁵⁴ The program ceased in 2008.

The evidence to the Committee suggested that FarmReady and FarmBis were well regarded by the agriculture sector. For example, the joint submission from the Organic Agriculture Association and the Australian Landscape Trust supported the continuation of the FarmReady program, stating, 'We view FarmReady as an excellent method of encouraging informal education for farmers and wish it to continue.'⁸⁵⁵ The Victorian Farmers Federation also noted that a real advantage of the program was that it funded

⁸⁵¹ Department of Agriculture, Fisheries and Forestry (Australia), *FarmReady*, <<http://www.daff.gov.au/climatechange/australias-farming-future/farmready>> viewed 3 September 2012.

⁸⁵² Department of Agriculture, Fisheries and Forestry (Australia), submission to the Productivity Commission Barriers to Effective Climate Change Adaptation Inquiry (2012), 8. Available at <http://www.pc.gov.au/__data/assets/pdf_file/0018/114804/sub068.pdf> viewed 18 September 2012.

⁸⁵³ *ibid.*, 8.

⁸⁵⁴ NSW Farmers Association, *FarmBis* (2008). Available at <http://www.nswfarmers.org.au/__data/assets/pdf_file/0009/45738/FS_FarmBis_0208.pdf> viewed 3 September 2012.

⁸⁵⁵ Organic Agriculture Association and Australian Landscape Trust, *Submission 16*, 2. See also Sunraysia Institute of TAFE, *Submission 77*, 6; VFF, *Submission 64*, 9.

additional expenses, such as child care, that primary producers incur when attending training.⁸⁵⁶

The Victorian Government

The Department of Primary Industries (DPI) oversees Victoria's agriculture, fisheries, earth resources, energy and forestry industries. DPI undertakes research for the agriculture sector and coordinates extension activities to drive productivity in the sector.

Mr Ron Harris, Executive Director of Farm Services Victoria at DPI, told the Committee that there are at least 1000 DPI staff directly involved in research, development and extension activities for the primary industries sector and explained that these activities are a core component of DPI's role.⁸⁵⁷

DPI delivers information and advice to the agriculture sector using a range of methods, including:

- producing a range of industry-specific newsletters that contain information on the latest in agricultural research and development
- employing extension officers
- providing information on the DPI website
- coordinating farmer networks to facilitate information delivery and non-formal education and training.⁸⁵⁸

DPI also has a number of scientific facilities located throughout Victoria that are used to undertake research and development for the agriculture sector. The Committee visited one of these facilities, DPI Ellinbank, which is home to the National Centre for Dairy Research and Development. Although the primary focus of this facility is on research and development, the Committee was told that DPI holds activities for farmers at the facility to inform them about advances in research and development.⁸⁵⁹

Stakeholders spoke positively about the contribution that DPI makes to delivering extension services to the agriculture sector. For example, the Victorian TAFE Association, the peak body for public providers of TAFE, submitted:

Within the Victorian Government, the Department of Primary Industries has for some time taken a leadership role in education and training or extension activities and invested substantially in targeted education and training initiatives ...⁸⁶⁰

The Dairy Industry People Development Council (DIPDC) and Dairy Australia, which made a joint submission to the Inquiry on behalf of the Victorian dairy industry, praised the work of government extension officers operating across Australia:

⁸⁵⁶ Ms Meg Parkinson, Chair, Workplace Relations Committee, VFF, *Transcript of evidence*, Melbourne, 24 October 2011, 4.

⁸⁵⁷ Mr Ron Harris, Executive Director, Farm Services Victoria, Department of Primary Industries (Victoria) (DPI), *Transcript of evidence*, Melbourne, 24 October 2011, 7.

⁸⁵⁸ Department of Primary Industries (Victoria), *Services to farmers*, <<http://www.dpi.vic.gov.au/agriculture/about-agriculture/services>> viewed 14 September 2012.

⁸⁵⁹ Mr Lindsay Anderson, Branch member, Warragul Branch, VFF, *Transcript of evidence*, Ellinbank, 14 February 2012, 4.

⁸⁶⁰ Victorian TAFE Association, *Submission 78*, 18. See also Joint submission of Dairy Industry People Development Council (DIPDC) and Dairy Australia, *Submission 89*, 46; Mr Ron Paynter, above n 848, 4.

Extension officers in Departments of Primary Industries (DPIs) are key sources of contemporary specialist technical dairy farming knowledge and often provide critical input to the development of learning resources and the delivery of VET courses.⁸⁶¹

Several stakeholders, including DPI, noted that DPI officers working with local farmers through extension activities helps DPI staff find out about what is happening locally within the agriculture sector and informs the policy and practices within the Department.⁸⁶²

Industry bodies

Industry bodies play an important role in delivering non-formal education and training to the agriculture sector. Several examples of how industries have approached this role are outlined below.

Dairy Australia

Dairy Australia has set up eight regional development programs in the dairying regions across Australia and these programs are responsible for allocating the dairy levy which all dairy farmers pay to Dairy Australia, to the respective regions through research, development and extension. Ms Sarah Parker, Chief Executive Officer of Murray Dairy, the regional development program for the Murray region, illustrated her organisation's approach to learning through an example of recent training:

We recently ran two mastitis workshops in the north-east ... That consisted of a risk management practical session in the morning and a technical session with researchers in the afternoon. That is what we have found to be the best method of delivery. But you also go deeper. When we run something for farmers we also run something for service providers and extension advisers. We will actually have some research-type workshops that are technical based to support the delivery of what we are rolling out in a practical sense. We can have a workshop, but we need to reinforce that by ensuring that our service providers back it up with ongoing advice and extension capacity.⁸⁶³

Fruit Growers Victoria

Fruit Growers Victoria, the peak body for the pome fruits industry in Victoria, employs development officers to deliver information to its members. Mr Gary Godwill, Director of Fruit Growers Victoria, noted that the development officers have been successful in engaging with the industry:

Our development officers who operate through Fruit Growers Victoria are being very well accepted by the people in the industry — the orchardists. Their education of growers has been wonderful. They are wonderfully accepted, they are respected and they are doing a fantastic job.⁸⁶⁴

Meat and Livestock Australia

Meat and Livestock Australia (MLA), a producer-owned company providing marketing and research programs for the cattle, sheep and goat industries, has developed an

⁸⁶¹ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 46.

⁸⁶² Mr Ron Paynter, above n 848, 4; Associate Professor Ruth Nettle, above n 842, 3; Ms Kellyanne Semple, Program Manager, Agricultural Communities, DPI, *Transcript of evidence*, Melbourne, 24 October 2011, 8.

⁸⁶³ Ms Sarah Parker, Chief Executive Officer, Murray Dairy, *Transcript of evidence*, Shepparton, 3 November 2011, 3.

⁸⁶⁴ Mr Gary Godwill, Director, Fruit Growers Victoria, *Transcript of evidence*, Shepparton, 3 November 2011, 6.

extensive range of non-formal education and training activities for these industries, including:

- two extension programs that are delivered in Victoria in partnership with DPI and involve activities such as workshops, forums and field days
- the producer demonstration sites program that provides grants to producer groups and extension staff to allow them to demonstrate, develop and adopt MLA research findings and technologies or to seek research and development solutions to on-farm problems
- the EDGENetwork which provides practical learning opportunities to livestock producers through workshops, farm walks, demonstrations, group discussion and projects.⁸⁶⁵

The Vegetable Growers' Association of Victoria

The Vegetable Growers' Association of Victoria, a state-based organisation that represents vegetable growers, told the Committee that it employs field officers who are responsible for distributing the latest information to its members.⁸⁶⁶

Education and training providers

Many of the registered training organisations (RTOs) that offer agricultural VET qualifications in Victoria also offer short courses for the agriculture sector. The evidence to the Committee suggests that these short courses are usually mapped to units of competency in the relevant national training package.⁸⁶⁷ This provides the opportunity for the course participants to gain credit towards a relevant qualification.

There are also private training providers that offer non-formal agricultural education and training. For example, the Committee received a submission from Mr John Mason, Principal of ACS Distance Education, which offers non-accredited training in a range of areas including agriculture and horticulture. Mr Mason submitted that ACS's courses can quickly respond to changes, 'ACS has a system for determining needs, then developing and launching a course within 4 to 8 weeks of identifying that need. I believe this is part of our success.'⁸⁶⁸

Farming systems groups

Farming systems groups are groups controlled by the farmer members and they tend to focus on developing knowledge relevant to the group's local farming conditions. There are a number of examples of farming systems groups operating in Victoria.

⁸⁶⁵ Meat and Livestock Australia, *Submission 13*, 1.

⁸⁶⁶ Mr Tony Imeson, Executive Officer, Vegetable Growers' Association of Victoria, *Transcript of evidence*, Melbourne, 24 October 2011, 4.

⁸⁶⁷ Mr John Goldsmith, General Manager, Longerenong College, *Transcript of evidence*, Horsham, 29 November 2011, 5; Mr Bill Hamill, Chief Executive Officer, Rural Industries Skill Training, *Transcript of evidence*, Horsham, 29 November 2011, 6; Goulburn Ovens Institute of TAFE (GOTAFE), *Submission 91*, 11; Victorian TAFE Association, *Submission 78*, 3; Sue Kilpatrick and Pat Millar, *Aligning the extension and vocational, education and training sectors* (2006) Rural Industries Research and Development Corporation, 18.

⁸⁶⁸ Mr John Mason, Principal, ACS Distance Education, *Submission 9*, 4.

Birchip Cropping Group

The Birchip Cropping Group is an agricultural research and extension organisation led by farmers from the Wimmera and Mallee regions. The organisation has a strong extension program and uses a diverse range of methods to deliver information and training to its membership of over 400 farming businesses.⁸⁶⁹ Mr David Chamberlin, the Group's Chief Executive Officer, explained his organisation's philosophy about communicating information to the local agriculture sector:

The two key factors in delivering a message successfully are conveying the message in as many ways as necessary to suit different personalities and different decision-making processes. To a lesser extent it is dependent on the education level of your target audience. It is really more about personality style and learning. It is also about ensuring what I would say are typically narrow research results are put into the context of the whole farm system.⁸⁷⁰

DemoDAIRY

DemoDAIRY is a dairy demonstration farm in Terang that is owned by a cooperative of approximately 300 members.⁸⁷¹ The purpose of DemoDAIRY is to:

- adapt, research and demonstrate profitable management practices to Western Victorian farmers
- conduct industry educational extension activities in the Western district
- conduct local research and on-farm trials
- assist in the provision of agricultural education
- increase the community's understanding of the dairy industry.⁸⁷²

Ms Robyn Vale, Careers Coordinator at WestVic Dairy, the dairy regional development program for Western Victoria, noted that DemoDAIRY has a key role in supporting dairy education and extension in the region. She explained that demonstration farms like DemoDAIRY are designed to facilitate the delivery of agricultural extension:

If you try to do all the extension activities on private farms, what do you do if it rains? Where do people stand? If the presenter needs not just to be in the paddock but to be able to present an overhead, how do you do that in somebody's shed? Where do they sit? If you want to be able to present a whole range of research information to somebody and take them out, bring them back in, show them something to do with effluent management, but on the same day show them something completely different, then you are quite likely to be able to do that on a research and demonstration farm ...⁸⁷³

⁸⁶⁹ Mr David Chamberlin, Chief Executive Officer, Birchip Cropping Group, *Transcript of evidence*, Horsham, 29 November 2011, 3.

⁸⁷⁰ *ibid.*, 3.

⁸⁷¹ DemoDAIRY, *Vision and mission of DemoDAIRY: Modelling the future of dairy farming today*, <<http://www.demodairy.org.au/About/?Page=Vision>> viewed 3 September 2012.

⁸⁷² DemoDAIRY, *Annual report 2010–2011* (2011), 3. Available at <<http://www.demodairy.org.au/cms/uploads/pdf/annual%20report%2010-11.pdf>> viewed 3 September 2012.

⁸⁷³ Ms Robyn Vale, Careers Coordinator, WestVic Dairy, *Transcript of evidence*, Glenormiston, 30 November 2011, 7.

Ms Louise Sheba, Project Manager at DemoDAIRY, also emphasised that DemoDAIRY is used by schools, higher education providers and the community to undertake education and training activities that extend outside the dairy industry.⁸⁷⁴

Victorian No-Till Farmers' Association

The Victorian No-Till Farmers' Association is a state, farmer-based association that focuses on sharing knowledge and supporting farmers who use no-till systems, a farming practice that minimises soil disturbance. The organisation has over 500 members and provides ongoing learning to its members based on current theories, practice and technology regarding no-till farming.⁸⁷⁵

Farmer networks

The Committee heard that farmer networks are a popular way for farmers to engage in non-formal education and training.

BESTWOOL/BESTLAMB and BetterBeef

DPI runs the BESTWOOL/BESTLAMB network for wool and sheep producers and the BetterBeef network for beef producers in Victoria. These networks consist of small groups across Victoria that meet on a regular basis for facilitated discussions carried out by a coordinator. These networks help members to increase their skills and knowledge by providing them with access to industry research messages and best practice information. The networks also run or promote access to activities such as producer groups, regional field days, annual conferences, newsletters, phone seminars, coaching programs and accredited training programs.⁸⁷⁶

Mr Nathan Scott, a full-time consultant with an agricultural advisory firm and who has also acted as a coordinator for the networks, explained to the Committee that these networks are very flexible and the members can structure the topics covered to suit their needs. He added that the real benefit of the groups is that members learn from one another:

I think the biggest benefit is developing that comfort level so that they are willing to share and they know it is not going to leave the room. If they are having a bad experience on farm, they can try to work through the issue without having to worry about everyone talking about it afterwards. ... I think that is the big thing: they learn from each other as much as they do from the people we bring in.⁸⁷⁷

Mr Jim Armstrong, President of the Warragul Branch of Victorian Farmers Federation, also observed that most farmers like to learn from each other.⁸⁷⁸

Mr Harris of DPI explained to the Committee that an independent evaluation of the BESTWOOL/BESTLAMB network showed that the network was beneficial for members:

We have had independent evaluation done around BESTWOOL/BESTLAMB, and we have found 98% of participants have changed a practice on their farm as a result of the

⁸⁷⁴ Ms Louise Sheba, Project Manager, DemoDAIRY, *Transcript of evidence*, Glenormiston, 30 November 2011, 6.

⁸⁷⁵ Victorian No-Till Farmers' Association, *Submission 99*, 2-3.

⁸⁷⁶ Department of Primary Industries (Victoria), *Welcome to beef and sheep networks*, <<http://www.dpi.vic.gov.au/agriculture/beef-and-sheep/beef-and-sheep-networks>> viewed 5 September 2012.

⁸⁷⁷ Mr Nathan Scott, Group Coordinator, Better Beef Network and Consultant, Mike Stephens and Associates, *Transcript of evidence*, Ballarat, 28 November 2011, 2.

⁸⁷⁸ Mr Jim Armstrong, President, Warragul Branch, VFF, *Transcript of evidence*, Ellinbank, 14 February 2012, 4.

engagement. We also found 45% had significant improvements in the productivity of their farm. When we did some cost benefit analysis it came out at 10 to one in terms of the benefit cost ratio of some of that work, and that is reasonably typical of some of the network programs.⁸⁷⁹

Other networks

There are a range of other networks operating across Victoria that have a role in facilitating learning. Selected examples of these are outlined below.

The Victorian Farmers Federation is the state's peak body for farmers. While the Federation has a strong focus on lobbying on behalf of the state's farmers, it also communicates relevant information to the agriculture sector through a range of regular publications.⁸⁸⁰ The Federation also has 230 local branches across Victoria and these enable farmers to network and exchange information.⁸⁸¹

The Young Agribusiness Professionals is part of the Victorian Farmers Federation and represents farmers and agribusiness professionals aged between 18 and 35. It was established in 2007 and has a membership of approximately 300 young farmers, students and agribusiness professionals. The Young Agribusiness Professionals provides a forum for these members to meet, share knowledge and build networks.⁸⁸²

Victorian Young Farmers has been offering professional and social networking opportunities for young farmers and rural youth in this state for 65 years.⁸⁸³ It currently has approximately 200 members spread across seven clubs in Victoria.⁸⁸⁴ The Victorian Parliament's Rural and Regional Committee looked at the role of Victorian Young Farmers in detail in its report, *Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce*, and noted that the organisation encourages informal learning through social interaction.⁸⁸⁵

Murray Dairy has established a dairy business network, where groups of 8 to 12 farmers meet on a regular basis with a consultant. Ms Parker of Murray Dairy told the Committee that once farmers become involved in the networks, they are often motivated to continue on to undertake formal education and training.⁸⁸⁶

The private sector

Several stakeholders noted that farmers are increasingly looking to the private sector to obtain specialist advice and expertise. Consultants can assist farmers to stay up-to-date with developments in the agriculture sector and support them to decide what is best for their business. As the Sunraysia Institute of TAFE, which is based in Mildura, explained:

Growers see their agribusiness adviser as the specialist advisor who "sifts and summarises" the information and delivers it in language and terms more readily understood by the farmer

⁸⁷⁹ Mr Ron Harris, above n 857, 3.

⁸⁸⁰ Victorian Farmers Federation, *Weekly update*, <http://www.vff.org.au/media_centre/weekly_update.php> viewed 18 September 2012.

⁸⁸¹ VFF, *Submission 64*, 2.

⁸⁸² Young Agribusiness Professionals, VFF, *Mission/vision*, <<http://yaps.vff.org.au/index.php?page=mission-vision>> viewed 17 September 2012.

⁸⁸³ 99.9FM: The Voice of Ballarat, *Victorian young farmers past and present reunite in honour of 65 years*, <<http://www.voicefm.com.au/victorian-young-farmers-past-and-present-reunite-in-honour-of-65-years/5644/>> viewed 18 September 2012.

⁸⁸⁴ Rural and Regional Committee, Parliament of Victoria, *Inquiry into the capacity of the farming sector to attract and retain young farmers and respond to an ageing workforce* (2012), 272.

⁸⁸⁵ *ibid.*, 270.

⁸⁸⁶ Ms Sarah Parker, above n 863, 3.

given the complex scientific nature of the information. What follows is the adoption of new technologies, farming systems and practice change. In effect the agribusiness consultant is a facilitator in the adaptation of modern farming practices through informal means often through conversation in the paddock or shed or around the kitchen table.⁸⁸⁷

Similarly, the joint submission of DIPDC and Dairy Australia explained that dairy farmers can draw on a wide range of sources and advice from the private sector, such as farm input suppliers, private consultants and dairy manufacturing field service officers, to learn how to make improvements to their business.⁸⁸⁸

Professor Kilpatrick submitted that experts are in a good position to promote suitable training activities to farmers at times when they are contemplating changing their activities and are likely to see the relevance in training.⁸⁸⁹

Mr Mike Stephens, Managing Director of Mike Stephens and Associates, a farm consultancy firm, explained that his business aims to provide farmers with the capacity to address the problems that arise in the course of farm management:

We are going to say, 'What is the problem? How can you learn to solve that problem? This is what you have got to do. Get that fixed. Hopefully you will not come back to us next year with the same problem. Hopefully we will still be able to play a role in your business, but we do not want to be fixing the same problem for you every year. We want you to be able to do that'. That is very effective.⁸⁹⁰

Companies that produce agricultural products also have a role in providing advice and training to the agriculture sector about their products. For example, Mr Rod Hall, Membership Services Coordinator of the Vegetable Growers' Association of Victoria, stated that commercial companies play a role in keeping vegetable growers up-to-date with developments in the industry:

The commercial operations in industry are very active with sales representatives. A day like today in the Werribee area there could be six to eight reps in the area from seedling companies, carton companies, seed companies, chemical companies, machinery companies, active in making appointments and seeing people. The bigger providers of commercial products have very well informed staff usually, tertiary trained staff, who have very adequate in-house training to keep them up to date.⁸⁹¹

The not-for-profit sector

The not-for-profit sector also delivers non-formal education and training to the agriculture sector.

The Australian Rural Leadership Foundation

The Australian Rural Leadership Foundation is a not-for-profit company established in 1992 to train rural Australians in leadership. Each year, the Foundation runs the Australian Rural Leadership Program, a 17 month course that is delivered in six

⁸⁸⁷ Sunraysia Institute of TAFE, *Submission 77*, 6.

⁸⁸⁸ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 47.

⁸⁸⁹ Professor Sue Kilpatrick, *Submission 2*, 2.

⁸⁹⁰ Mr Mike Stephens, Managing Director, Mike Stephens and Associates, *Transcript of evidence*, Ballarat, 28 November 2011, 4-5.

⁸⁹¹ Mr Rod Hall, Membership Services Coordinator, Vegetable Growers' Association of Victoria, *Transcript of evidence*, Melbourne, 24 October 2011, 4-5.

sessions for up to 35 people.⁸⁹² Selection to the Program is competitive and participation is funded through scholarships.

Dr Lesley Fitzpatrick, Chief Executive of the Australian Rural Leadership Foundation, spoke to the Committee about the benefits of the Program:

It is particularly useful in helping people deal with the very complex issues facing rural Australia where cross-sectoral approaches are required where people have to take on board a range of viewpoints and potential outcomes, and collaborate together to find solutions. Some of those really complex issues like land use, like the Murray Darling Basin, like drought policy, where there are no simple answers.⁸⁹³

While the Program traditionally delivered non-formal education and training, it has recently become more formalised: in 2012 the Foundation established a relationship with James Cook University that grants people who complete the Program a Graduate Certificate of Australian Rural Leadership.⁸⁹⁴

Nuffield Australia Farming Scholars

Nuffield Australia Farming Scholars has been investing in the learning and professional development of Australian farmers since the 1950s.⁸⁹⁵ This not-for-profit foundation awards scholarships on an annual basis to farmers between the ages of 28 to 40 years of age, with 21 scholarships being awarded nationally in 2012.⁸⁹⁶ Scholarship recipients complete a study tour overseas to consider farming practices in New Zealand, Asia, the Americas and Europe. The aim of the scholarship program is to increase the practical farming knowledge, management skills and techniques of young farmers.⁸⁹⁷

Technology

There are a range of tools and technologies that can assist farmers to better manage their farms and share information with each other. For example, Mr Hall of the Vegetable Growers' Association of Victoria noted that new technologies such as smart phones, tablets and web-based applications were being explored by the vegetable industry:

week by week, people are talking more and more about iPhone and iPad forms of communication as a mechanism for conveying information and staying in touch better. The horticultural industry network ran a conference along these lines, looking at the opportunities for this. There is a rapid development of apps for horticulture coming along. It is exponential, the interest, the reality, and I think that could work.⁸⁹⁸

Mr John Wilson, General Manager of Fruit Growers Victoria, highlighted that technology is being used by the fruit growing industry to manage information that helps producers increase their productivity:

What I am really saying is we grow less wood and more fruit, but that requires skills, training and science, and you have to manage information to know exactly what is going on at a micro

⁸⁹² Australian Rural Leadership Foundation, *About us*, <<http://www.rural-leaders.com.au/about-us>> viewed 24 September 2012.

⁸⁹³ Dr Lesley Fitzpatrick, Chief Executive, Australian Rural Leadership Foundation, *Transcript of evidence*, Canberra, 20 March 2012, 2.

⁸⁹⁴ *ibid.*, 7.

⁸⁹⁵ Nuffield Australia Farming Scholars, *The Harry Perkins Public Fund*, <<http://nuffield.com.au/funding/>> viewed 24 September 2012.

⁸⁹⁶ Nuffield Australia Farming Scholars, *Nuffield Australian scholarship winners*, <<http://nuffield.com.au/scholarship-winners/>> viewed 21 September 2012.

⁸⁹⁷ Nuffield Australia Farming Scholars, *Submission 5*, 1.

⁸⁹⁸ Mr Rod Hall, above n 891, 6.

basis within orchards. That entire new regime has to be taught, and as technology tumbles the use of iPads and apps is an area we are moving right into now. Fruit Growers Victoria is developing an app for transfer of on-farm information direct to computer bases.⁸⁹⁹

Mr Peter Schwarz, a member of the Southern Advisory Panel of the Grains Research and Development Corporation (GRDC), which invests in research and development for the grains industry, told the Committee that the GRDC had developed a smart phone application to assist grain producers to accurately identify weeds:

and we are just about to produce the first iPhone app for weeds identification in the world. That is being extended further. There is interactive behaviour with that. There are companies that are now involved with us that allow you to take a photograph with your iPad of that weed; that data gets sent, and it will send back what it is.⁹⁰⁰

9.2 Enhancing non-formal education and training for the agriculture sector

This section considers a number of issues related to the delivery of non-formal education and training, namely the interaction between public and private agricultural extension, pathways from non-formal education and training into VET, communication between extension professionals and the agriculture sector and, finally, communicating research findings and development opportunities to the agriculture sector.

9.2.1 The interaction between public and private agricultural extension

Traditionally, agricultural extension was funded and delivered by state-based agricultural departments. However, since the late 1980s, there has been a reduction in these services by government and a shift towards fee-for-service extension from private providers.⁹⁰¹

An analysis of Australia's agricultural extension policy by researchers from the University of Western Australia identified that government agencies are withdrawing from areas that are seen to be adequately serviced or have the potential to be serviced by the private sector and focusing more on addressing areas of public good.⁹⁰² This analysis is consistent with DPI's evidence to the Committee, with Mr Harris, explaining that DPI invests in public good activities, and will seek co-investment from the agriculture sector where there is a clear benefit to the sector:

We [DPI] do attract industry co-investment where clearly there is industry good, and we see an important role of government where it is public good activities. Climate change is one example, or whether it be issues where an individual cannot capture that benefit. It is absolutely critical.⁹⁰³

⁸⁹⁹ Mr John Wilson, General Manager, Fruit Growers Victoria, *Transcript of evidence*, Shepparton, 3 November 2011, 3.

⁹⁰⁰ Mr Peter Schwarz, Member, Southern Advisory Panel, Grains Research and Development Corporation, *Transcript of evidence*, Shepparton, 3 November 2011, 3.

⁹⁰¹ Sue Kilpatrick and Pat Millar, above n 867, 4.

⁹⁰² Sally Marsh and David Pannell, 'Agriculture extension policy in Australia: The good, the bad and the misguided' (2000) 44(4) *The Australian Journal of Agricultural and Resource Economics* 605, 609.

⁹⁰³ Mr Ron Harris, above n 857, 7.

The Sunraysia Institute of TAFE was concerned that the withdrawal of DPI from certain aspects of agricultural extension had weakened the availability of agricultural extension in some parts of Victoria:

as R&D [research and development] has now become largely the domain of private companies or those part-funded by grower levies, extension is occurring more and more via consultancies and those with commercial interest. With the withdrawal of government from R&D sites such as Mallee Research Station Walpeup and CSIRO Merbein the focus of learning and extension has diminished in some regions.⁹⁰⁴

Two stakeholders also felt that DPI should increase its role in delivering extension to the agriculture sector. For example, the Wellington Shire Council submitted that DPI field officers should be visiting farms on a regular basis to provide information and one-to-one extension.⁹⁰⁵

Mr Stephens, an agricultural consultant, told the Committee that agricultural extension should be delivered by the best available experts and highlighted that there have been a number of successful partnerships between the public and private sectors to deliver agricultural extension in Victoria.⁹⁰⁶ Associate Professor Nettle also noted that developing effective extension partnerships between the public and private sectors is important for the future.⁹⁰⁷

The Committee believes it is important that DPI retains its strong capacity to deliver research, development and extension to the agriculture sector. However, the Committee acknowledges that DPI must use its resources in the most efficient and effective manner. Accordingly, the Committee considers that it would be worthwhile for DPI to further explore how it can best collaborate with the private sector to deliver agricultural extension to the Victorian agriculture sector.

9.2.2 Pathways from non-formal education and training to vocational education and training

A number of stakeholders discussed the potential of non-formal education and training to provide a pathway into VET for the agricultural workforce.

The joint submission of DIPDC and Dairy Australia noted that the relationship between non-formal education and training, agricultural extension and the VET sector is complementary but complex. The submission stated that the dairy industry sees the need for a strong relationship between extension and accredited training, however it also indicated that there are challenges in creating this relationship due to the different roles, funding and organisational priorities of the two sectors.⁹⁰⁸

When asked how to improve alignment between the non-formal education and training and the VET sectors, Professor Kilpatrick responded by saying that it is necessary to ask the threshold question of whether it is desirable to seek greater alignment, but concluded that she believed that pathways are important:

I suppose the first question you want to ask is, 'Do you want to?' or 'Do they have different purposes?'. But having said that, in all my work I found pathways between different sorts of

⁹⁰⁴ Sunraysia Institute of TAFE, *Submission 77*, 1.

⁹⁰⁵ Wellington Shire Council, *Submission 63*, 8.

⁹⁰⁶ Mr Mike Stephens, above n 890, 5.

⁹⁰⁷ Associate Professor Ruth Nettle, above n 842, 3.

⁹⁰⁸ Joint submission of DIPDC and Dairy Australia, *Submission 89*, 45-46.

training are really important. If you finish one course, you should have some idea of where that might take you either now or in a couple of years' time when you want to go on.⁹⁰⁹

Several stakeholders noted that there is potential for short courses to align to the VET sector. This can be done by mapping courses to competencies with the relevant training package. For example, Ms Parker explained how Murray Dairy aligns the training it provides:

We offer opportunities for what we call partial recognition of prior learning or partial competency towards units at the NCDEA [National Centre for Dairy Education Australia]. So when I am developing, for example, the lameness days or an irrigation workshop we have a meeting with an extension officer or an education officer at the NCDEA or DPI and we look at what competencies we are covering in our practical workshop. The farmers are actually getting partial recognition towards a unit without ever realising it. All of this is about our working together before we deliver.⁹¹⁰

As discussed earlier in this chapter, the evidence to the Committee suggests that many of the agricultural short courses offered by RTOs in Victoria are already mapped to units of competency in the relevant national training package.

Even where courses are not mapped to competencies, they can still offer a potential pathway into VET. As discussed in chapter five, training providers in the VET sector offer recognition of prior learning (RPL) to students as a means of recognising the skills and knowledge that they obtain through their previous study, work and life experiences. Accordingly, non-formal education and training may be able to be used by students to help demonstrate RPL.

Professor Kilpatrick's submission noted that non-formal education and training is valued by the agriculture sector for its short, sharp and relevant nature and it is important to preserve these characteristics if trying to align this training with the VET sector.⁹¹¹

The Committee believes that non-formal education and training has the potential to provide a pathway for individuals working in the agriculture sector into formal education and training. However, the Committee acknowledges it is important that non-formal education and training retains the features that make it popular with the agriculture sector. It appears that many Victorian RTOs are already aligning their agricultural short courses with relevant VET qualifications, and the Committee encourages these providers to continue to do so.

9.2.3 The communication skills of extension professionals

Some stakeholders argued there is a need to improve the communications skills of persons who provide agricultural extension. For example, Mr Chamberlin of the Birchip Cropping Group explained that many people who deliver agricultural extension are not trained in communication techniques:

Simple learning about adult learning methods is tremendously helpful when you are trying to get people to understand your message and perhaps adopt something that you have

⁹⁰⁹ Professor Sue Kilpatrick, *Transcript of evidence*, Glenormiston, 30 November 2011, 4.

⁹¹⁰ Ms Sarah Parker, above n 863, 3. See also Skills Australia, *Submission 41*, 3; Joint submission of DIPDC and Dairy Australia, *Submission 89*, 45-46; Rural Skills Australia, *Submission 80*, 4.

⁹¹¹ Professor Sue Kilpatrick, *Submission 2*, 4.

mentioned. I think that the biggest gap or chance to improve is with the people delivering the message rather than those receiving it.⁹¹²

Both Professor Kilpatrick and Associate Professor Nettle noted that work needs to be done to improve the communication skills of extension professionals.⁹¹³ Associate Professor Nettle also stated that there needs to be greater training and capacity building available to extension professionals to assist them to develop their skills.⁹¹⁴

Ms Parker told the Committee that Murray Dairy has put in place mentoring and development programs to help young extension practitioners build their skills and confidence in communicating and providing advice to farmers:

With our focus farms, each of our experienced consultants who run the focus farms has a mentee who works alongside them, so we have got four young people we are developing. Two of them are DPI extension staff that have just started. One of them is a milk supply officer with Murray Goulburn, and the other one is a Landmark agronomist in the north-east. We would like to run more of those focus farms and bring more through, because you do need one-to-one mentoring and peer support. They all have got their degrees, but they actually need to develop extension skills and facilitation skills that are not exactly taught at university.⁹¹⁵

The Committee also notes that the Ag Institute Australia, the peak industry body for agricultural and natural resource management professionals, offers an accreditation course for agricultural professionals and one of the five core competency units in the course is communication.⁹¹⁶

The Committee believes that it is important that persons responsible for agricultural extension have highly developed communication skills and the Committee encourages agricultural professionals who are working with clients to consider undertaking the accreditation course offered by the Ag Institute Australia or participating in relevant professional development activities.

9.2.4 Communicating research and development to the agriculture sector

Research and development is a key driver of productivity for the agriculture sector. Agricultural research is carried out by government, universities, the agriculture sector, as well as research and development corporations.

Non-formal education and training and agricultural extension is typically the means by which advancements in research and development are communicated to the agriculture sector. Ms Parker of Murray Dairy explained the process:

the research eventually becomes what we call extension or education. Something that might be five years in development in, for example, a bioscience centre at La Trobe University, which is partially funded by DPI and Dairy Australia, eventually becomes an extension or an education-related activity when we are encouraging farmers to adopt it and utilise it. There is importance right across the spectrum, and it is where we actually have the opportunity in the future to make the most productivity gains.⁹¹⁷

⁹¹² Mr David Chamberlin, above n 869, 5.

⁹¹³ Associate Professor Ruth Nettle, above n 842, 5; Professor Sue Kilpatrick, *Submission 2*, 2.

⁹¹⁴ Associate Professor Ruth Nettle, above n 842, 5.

⁹¹⁵ Ms Sarah Parker, above n 863, 4.

⁹¹⁶ Ag Institute Australia, *AgCredited: Advice you can trust* (n.d.). Available at <<http://www.aginstitute.com.au/agcredited.html>> viewed 18 September 2012.

⁹¹⁷ Ms Sarah Parker, above n 863, 2.

The Committee was told that it can take a significant amount of time before research can be embedded into education and training or extension for the agriculture sector. However, Mr Shane Hellwege, Group Manager, Industry, People and Capability at Dairy Australia, told the Committee that Dairy Australia is trying to reduce these timeframes:

what we are trying to do is reduce the amount of time between the research happening and being embedded in education. Typically it can take up to 12 years for new research to actually get to market and be effective. We are trying to drastically reduce that amount of time and so increase our productivity, because we are, I guess, embedding that knowledge as quickly as we can.⁹¹⁸

Two stakeholders also noted it is important that research findings are translated effectively into a form that the agriculture sector and education and training providers find useful. The Sunraysia Institute of TAFE explained, 'R&D extension must be linked via extension in a language that is conducive to farmers learning style yet maintains scientific rigour.'⁹¹⁹

Goulburn Ovens Institute of TAFE told the Committee it is concerned that research findings are not always being effectively communicated to the agriculture sector and education and training providers:

there appears to be a disconnect between research and development findings in agricultural industries and the implementation of relevant findings into educational practice. Not only is there a significant delay, but it appears that some of the fundamentals required for enterprises and learners to effectively implement research driven industry improvements are not being communicated.⁹²⁰

The analysis of agricultural extension policy in Australia by University of Western Australia researchers also raised concerns about the weakening of the links between research and extension in Australia, due to factors such as inadequate communication between private sector extension services and public sector research institutions and reduced contact between researchers and producers.⁹²¹

Mr Harris of DPI told the Committee that DPI has a division that focuses on ensuring that its research is translated into a form that can be applied by Victorian farmers:

We also have a division called Farm Services of Victoria which is about working with farmers and applying that research in a whole farming system, and adapting some of that research to suit individual needs. We see that as an absolutely essential role.⁹²²

The Committee considers it is important that agricultural research is communicated to the agriculture sector and education and training providers in a form that can be easily understood and applied. The Committee acknowledges that DPI has a strong focus on this and encourages the Department, as well as other research and development organisations, to continue to work to ensure that research and development findings are effectively communicated to the agriculture sector and agricultural education and training providers.

⁹¹⁸ Mr Shane Hellwege, Group Manager, Industry, People and Capability, Dairy Australia, *Transcript of evidence*, Melbourne, 6 March 2012, 7.

⁹¹⁹ Sunraysia Institute of TAFE, *Submission 77*, 4.

⁹²⁰ GOTAFE, *Submission 91*, 11.

⁹²¹ Sally Marsh and David Pannell, above n 902, 623.

⁹²² Mr Ron Harris, above n 857, 7.

Chapter 10: Working together to achieve a world-class agriculture sector

Key findings

- The agriculture sector is made up of a diverse range of industries. This diversity has led to different approaches to agricultural education and training and promotion between industries.
- Greater collaboration within the agriculture sector is needed to ensure the sector can play a leadership role in the implementation of the recommendations set out in this report.
- There is a lack of coordination between the agriculture sector, the education and training sector and the government with respect to agricultural education and training. There would be benefit in establishing a Victorian agricultural education and training council to improve collaboration between these stakeholders.
- Significant attention is being devoted to the low student demand for agricultural education and training and skills shortages within the agriculture sector throughout Australia. It is important that stakeholders work together at the national level to address these issues.

Working together to achieve a world-class agriculture sector

This chapter concludes the report by examining how stakeholders can work together at the state and national levels to implement the Committee's findings and recommendations and build a best practice agricultural education and training system.

10.1 Promoting collaborative relationships

In this report the Committee sets out its vision for a system of agricultural education and training that supports a world-class agriculture sector into the future. Achieving this vision will require the Victorian Government, the agriculture sector and the education and training sector to work together. This section explores the role of these stakeholders in more detail.

10.1.1 Encouraging a more cohesive agriculture sector

The agriculture sector is represented by a number of industry associations at the national, state and regional level. The evidence to the Committee suggests that there is considerable disjuncture between these different bodies. For example, Mr Ian Joseph, Chair of the Agribusiness Council of Australia, which represents Australian agribusiness, stated:

we are fragmented. There are four thousand-odd industry associations around the country ... We need to get people starting to talk together with one voice, and without that we will never get anywhere.⁹²³

As discussed in chapter two, this fragmentation means that some parts of the sector have a stronger focus on education and training than others. It also makes it harder for young people to gain a clear picture of the career pathways and opportunities available within the agriculture sector and leads to resources being dispersed across many activities to promote agricultural education and training, rather than invested in whole-of-sector initiatives.

The agriculture sector has a leadership role to play in implementing a number of the recommendations in this report. In the Committee's view, in order for the sector to provide this leadership, a more cohesive approach is required. A unified approach is particularly important for the initiatives designed to attract more people into agricultural

⁹²³ Mr Ian Joseph, Chair, Agribusiness Council of Australia, *Transcript of evidence*, Canberra, 20 March 2012, 6. See also Mr Joe Piper, Chief Executive Officer, South West Institute of TAFE, *Transcript of evidence*, Glenormiston, 30 November 2011, 2; Mr Phil Brown, Executive Officer, Country Education Project, *Transcript of evidence*, Melbourne, 6 March 2012, 3; Associate Professor John Webb, Head, Environmental Geoscience, La Trobe University, *Transcript of evidence*, Melbourne, 7 November 2011, 5.

careers and education and training and to promote learning about food and fibre production in the school curriculum. Accordingly, the Committee calls on the agriculture sector to consider how it can improve collaboration within the sector on agricultural education and training and also careers awareness initiatives.

10.1.2 Building strong relationships between the agriculture sector, the education and training sector and government

The evidence presented to the Committee suggests that there is a need for greater coordination between the agriculture sector, the education and training sector and government with respect to agricultural education and training. As Mr Brian Duggan, Manager, Workplace Relations and Legal Affairs at the National Farmers' Federation, the peak national body representing farmers, explained:

Although government, industry, education institutions and career service providers are responding to labour and skills shortages in agriculture, at national, state and regional levels the approaches are somewhat fragmented and uncoordinated.⁹²⁴

During its New Zealand study tour the Committee observed that there is significant cooperation between key stakeholders to promote agricultural careers and agricultural education and training in that country. For example, the Primary Industry Capability Alliance was launched in New Zealand in 2012 and provides information on the agricultural education and training opportunities available within the school, vocational education and training (VET), higher education and non-formal education and training sectors on its website. The Alliance is a partnership between both industry and education and training stakeholders:

- The industry partners are DairyNZ, which represents dairy farmers; Beef+Lamb New Zealand, which promotes beef and lamb; New Zealand Young Farmers, which is a social network for rural youth; and Federated Farmers of New Zealand, which is the country's leading independent rural advocacy organisation.
- The education and training sector partners are AgITO, which delivers agricultural VET; and Massey University and Lincoln University, which both deliver agricultural higher education.⁹²⁵

The Victorian Farmers Federation, the state's peak body for farmers, proposed the creation of a skilling agricultural council in Victoria to improve communication between the various stakeholders.⁹²⁶ This proposal was based on a recommendation by a 2010 review into post-secondary agricultural education in Western Australia. The review, which was prepared for the Western Australian Government, found that greater coordination was needed between the agriculture sector, education and training providers and the government to ensure adequate skills development for the agriculture sector.⁹²⁷ It recommended the establishment of a council made up of representatives of

⁹²⁴ Mr Brian Duggan, Manager, Workplace Relations and Legal Affairs, National Farmers' Federation, *Transcript of evidence*, Canberra, 20 March 2012, 2. See also Mr Fred Vanderslik, Manager, Industrial and Primary Skills, East Gippsland TAFE, *Submission 74*.

⁹²⁵ Primary Industry Capability Alliance, *Welcome to PICA*, <<http://www.pica.org.nz/>> viewed 17 September 2012.

⁹²⁶ Victorian Farmers Federation, *Submission 64*, 5.

⁹²⁷ Hendy Cowan, *Review of post-secondary agricultural education in Western Australia*, report for Hon. Elizabeth Constable MLA, Minister for Education and Minister for Tourism (Western Australia) (2010), 25.

the agriculture sector and education and training organisations, as well as the relevant Ministers.⁹²⁸

The Committee believes that all stakeholders involved in agricultural education and training must work together to achieve a high quality agricultural education training system in Victoria.

Greater cooperation promises a number of benefits. Firstly, it will ensure that scarce resources can be used more efficiently. Secondly, it will help communicate a cohesive message to students and the broader community about the benefits of pursuing a career in the agriculture sector. Finally, it will ensure that training better meets the needs of students and the agriculture sector.

To achieve this increased collaboration, the Committee recommends the establishment of a Victorian agricultural education council with representation from the agriculture sector, the education and training sector and the Victorian Government. The council's functions would include working with the Victorian Government to implement those recommendations of the report that would benefit from collaboration such as developing a careers awareness program for school students (recommendation two), the creation of the workforce development plan for the Victorian agriculture sector (recommendation six) and identifying measures to attract more students into agricultural research (recommendation 43).

The Committee recommends that the Victorian Government also provide initial seed funding to assist in the establishment of the council.

Recommendation 44: Establishing a Victorian agricultural education and training council

That the agriculture sector, the education and training sector and the Victorian Government establish a Victorian agricultural education and training council.

Recommendation 45: Funding to assist with the establishment of the Victorian agricultural education and training council

That the Victorian Government provide funding to assist in the establishment of the Victorian agricultural education and training council.

10.2 Promoting agricultural careers and education at the national level

Victoria is not alone in experiencing low student demand for agricultural education and training and skills shortages within the agriculture sector. Significant attention is currently being devoted to this issue throughout Australia by government, agricultural education and training providers and the agriculture sector.

The Committee considers that this renewed national focus represents an important opportunity to address the challenges facing agricultural education and training in Australia, particularly with respect to increasing student aspiration for agricultural careers.

⁹²⁸ *ibid.*, 26.

The Committee notes that there are two distinct approaches to reinvigorating agricultural education and training that have been proposed at the national level.

The Allen Consulting Group's January 2012 report, *Rebuilding the agricultural workforce*, prepared for the Business/Higher Education Round Table, called for the formation of a national agricultural education council. It proposed that the council would be responsible for taking forward the recommendations in the report, including the delivery of a marketing campaign to change the public perceptions of the primary industry sector.⁹²⁹

A different approach was proposed by the Senate Standing Committee on Education, Employment and Workplace Relations in its report, *Higher education and skills training to support agriculture and agribusiness in Australia*, which was released in June 2012. The Senate Committee recommended the development of a national peak industry representative body responsible for developing a strategy to address skills shortages, industry productivity and food security.⁹³⁰

At this stage it is unclear what structure will be put in place at the national level to build demand for agricultural education and training and address skills shortages in the sector. However, the Committee believes that the agriculture sector, the education and training sector and the Victorian Government, through the proposed Victorian agricultural education and training council, should work collaboratively with any national body set up to address issues related to agricultural education and training. The Committee also considers that the council should advocate for the national development of a marketing campaign, an agricultural careers awareness resource and clearly articulated career pathways (recommendations one, four and five).

10.3 Conclusion

The recommendations set out in this report provide a vision for achieving a high quality agricultural education and training system in Victoria. In particular, the Committee believes that implementation of these recommendations will ensure:

- the community values and understands the role of the agriculture sector
- young people aspire to careers in the agriculture sector
- education and training providers have the capacity, expertise and resources to deliver high quality agricultural education and training
- there is a strong demand for agricultural education and training in all sectors of the education and training system
- the agriculture sector has access to a workforce with the right skills, education and training
- the agriculture sector values and promotes education and training and has in place clear career pathways.

⁹²⁹ The Allen Consulting Group, *Rebuilding the agricultural workforce*, report for Business/Higher Education Round Table (2012), viii-ix.

⁹³⁰ The Senate Education, Employment and Workplace Relations References Committee (Australia), *Higher education and skills training to support agriculture and agribusiness in Australia* (2012), 52.

The Committee urges the Victorian Government to address the issues in this report in collaboration with the agriculture sector and the education and training sector. By creating a strong agricultural education and training system and attracting a new generation of young people into the agriculture sector, we will help to ensure the long term viability and sustainability of the agriculture sector in Victoria.

Adopted by the Education and Training Committee

Parliament House, East Melbourne

24 October 2012

Appendix A: List of submissions

	Individual or organisation	Date received
1	Mr Roger Moulton	1 August 2011
2	Professor Sue Kilpatrick	2 August 2011
3	Mr Max Chester, Max Chester Architects	4 August 2011
4	Mr John Scott	24 August 2011
5	Nuffield Australia Farming Scholars	24 August 2011
6	Farrer Memorial Agricultural High School	25 August 2011
7	NSW Association of Agriculture Teachers	26 August 2011
8	Barwon South Western Region, Department of Education and Early Childhood Development (Victoria)	1 September 2011
9	Mr John Mason, Principal, ACS Distance Education	1 September 2011
10	Department of Education (Western Australia)	1 September 2011
11	Charles Darwin University	2 September 2011
12	Dr Alan Ford, Agriculture and horticulture teacher, Ballarat and Queen's Anglican Grammar School	7 September 2011
13	Meat and Livestock Australia	9 September 2011
14	Mildura Development Corporation	12 September 2011
15	Ms Hannah Pickles	12 September 2011
16	Organic Agriculture Association and Australian Landscape Trust	14 September 2011
17	Australian Centre for Agricultural Health and Safety	14 September 2011
18	Australian College of Agriculture and Horticulture	14 September 2011
19	Marcus Oldham College	16 September 2011
20	Senator the Hon. Joe Ludwig, Minister for Agriculture, Fisheries and Forestry, Senator for Queensland	15 September 2011
21	Mr Jim Armstrong	18 September 2011
22	Warragul Branch, Victorian Farmers Federation	18 September 2011

23	Mr Bill Dullard	20 September 2011
24	Bass Coast Shire Council	21 September 2011
25	Ms Julie Aldous, Agribusiness Coordinator, Mansfield Secondary College	21 September 2011
26	Joint submission of Loddon Mallee Regional Office, Department of Education and Early Childhood Development (Victoria) Bendigo TAFE Bendigo Schools Trade Training Centre Goldfields Local Learning and Employment Network	22 September 2011
27	National Environment Centre, TAFE NSW Riverina Institute	22 September 2011
28	National Centre for Vocational Education Research	26 September 2011
29	Faculty of Earth Sciences, Northern Melbourne Institute of TAFE	26 September 2011
30	Greater Shepparton City Council	26 September 2011
31	Regional Development Australia Barwon South West Committee	27 September 2011
32	University of Ballarat	27 September 2011
33	United Dairyfarmers of Victoria	28 September 2011
34	Mr Graham Trimble, Agriculture teacher, North Central Cluster Centre—Charlton	28 September 2011
35	Mr Greg Laidlaw, Rural and Workforce Development Officer, Moira Shire Council	29 September 2011
36	Tasmanian Institute of Agricultural Research	29 September 2011
37	Department of Education and Children's Services (South Australia)	29 September 2011
38	Charles Sturt University	29 September 2011
39	Longerenong College	29 September 2011
40	The State Agriculture Provider Network	29 September 2011
41	Skills Australia	29 September 2011
42	Central Gippsland Institute of TAFE	29 September 2011
43	Country Women's Association of Victoria	29 September 2011

44	Wimmera Development Association	29 September 2011
45	Mansfield Shire Council	29 September 2011
46	Dr Elizabeth Constable MLA, Minister for Education (Western Australia)	29 September 2011
47	South Gippsland Bass Coast Local Learning and Employment Network	29 September 2011
48	Ms Ann Fagan	30 September 2011
48A	Supplementary submission	4 November 2011
49	Vegetable Growers' Association of Victoria	30 September 2011
50	Community College Gippsland	30 September 2011
51	AgriFood Skills Australia	30 September 2011
52	Confidential submission	30 September 2011
53	G21–Geelong Region Alliance, Education and Training Pillar	30 September 2011
54	Cooperative Research Centres Committee	30 September 2011
55	Wimmera Catchment Management Authority	30 September 2011
56	Mr Robert Elletson	30 September 2011
57	G21 Agribusiness Forum	30 September 2011
58	Corangamite Shire	30 September 2011
59	Victorian Association of Forest Industries	30 September 2011
60	National Centre for Farmer Health	30 September 2011
61	Mr Bruce Anderson	30 September 2011
62	Primary Industries Education Foundation	30 September 2011
63	Wellington Shire Council	30 September 2011
63A	Wellington Shire Youth Council	30 September 2011
64	Victorian Farmers Federation	30 September 2011
65	Gippsland East Local Learning and Employment Network	30 September 2011
66	The Australian Veterinary Association (Victorian Division)	30 September 2011
67	Birchip Cropping Group	30 September 2011

68	Confidential submission	30 September 2011
69	Melbourne School of Land and Environment, The University of Melbourne	30 September 2011
69A	Supplementary submission	20 January 2012
70	Mr Lloyd Bowditch	3 October 2011
71	Primary Industry Centre for Science Education, School of Agricultural Science, University of Tasmania	29 September 2011
72	Joint submission of Victorian Curriculum and Assessment Authority Office of Government School Education, Department of Education and Early Childhood Development (Victoria) Office of Policy, Research and Innovation, Department of Education and Early Childhood Development (Victoria)	3 October 2011
73	Department of Employment, Economic Development and Innovation (Queensland)	3 October 2011
74	Mr Fred Vanderslik, Manager, Industrial and Primary Skills, East Gippsland TAFE	4 October 2011
75	Catholic Education Commission of Victoria	5 October 2011
76	Young Agribusiness Professionals, Victorian Farmers Federation	5 October 2011
77	Sunraysia Institute of TAFE	6 October 2011
78	Victorian TAFE Association	6 October 2011
79	Dr John Taylor	7 October 2011
80	Rural Skills Australia	7 October 2011
81	Rural Industries Skill Training	10 October 2011
82	Department of Education and Early Childhood Development (Victoria)	10 October 2011
83	Grains Industry Training Network	10 October 2011
84	Primary Skills Victoria	11 October 2011
85	Gateways for Sustainable Communities	14 October 2011
86	Department of Forest and Ecosystem Science, School of Land and Environment, The University of Melbourne	14 October 2011

87	Victorian Association of Agricultural and Horticultural Educators	14 October 2011
88	La Trobe University	17 October 2011
89	Joint submission of Dairy Industry People Development Council and Dairy Australia	24 October 2011
90	Department of Education, Employment and Workplace Relations (Australia)	27 October 2011
91	Goulburn Ovens Institute of TAFE	31 October 2011
92	Mr Ian B. Reid	3 November 2011
93	Ms Amy Cosby	14 November 2011
94	DemoDAIRY	30 November 2011
95	South West Local Learning and Employment Network	30 November 2011
96	Australian Beef Industry Foundation	1 December 2011
97	Australian Council of Deans of Agriculture	14 September 2011
98	Mr Anthony Thomas	9 December 2011
99	Victorian No-Till Farmers' Association	19 December 2011
100	Country Education Project	3 February 2012
101	Department of Primary Industries (New South Wales)	13 February 2012
102	Mr Stan Lewin, National Director, Australian and International Agricultural Exchange	3 April 2012

Appendix B: List of witnesses

Melbourne, 24 October 2011

Name	Position	Organisation
Mr John Spasevski	Director, Market Facilitation, Skills Victoria	Department of Education and Early Childhood Development (Victoria)
Ms Bronwen Heathfield	Acting General Manager, Youth Transitions, Office for Policy, Research and Innovation	Department of Education and Early Childhood Development (Victoria)
Ms Cathy Beesey	Group Manager, Student Learning, Office for Government School Education	Department of Education and Early Childhood Development (Victoria)
Mr Ron Harris	Executive Director, Farm Services Victoria	Department of Primary Industries (Victoria)
Ms Kellyanne Semple	Program Manager, Agricultural Communities	Department of Primary Industries (Victoria)
Councillor David Cotsell	Member, Education and Training Pillar, and Environment Pillar	G21–Geelong Region Alliance
Dr Wanda Korndorffer	Director, Innovation, The Gordon Institute of TAFE	G21–Geelong Region Alliance
Mr Tony Imeson	Executive Officer	Vegetable Growers' Association of Victoria
Mr Rod Hall	Membership Services Coordinator	Vegetable Growers' Association of Victoria
Mr John Firth	Chief Executive Officer	Victorian Curriculum and Assessment Authority
Ms Lorraine Tran	Curriculum Manager, Technologies	Victorian Curriculum and Assessment Authority
Ms Jennifer Fleischer	Project Manager	Victorian Curriculum and Assessment Authority

Ms Meg Parkinson	Chair, Workplace Relations Committee	Victorian Farmers Federation
Ms Patricia Murdock	Executive Manager, Workplace Relations	Victorian Farmers Federation

Pyramid Hill College, Pyramid Hill, 2 November 2011

Name	Position	Organisation
Hamish	Year 9 student	Pyramid Hill College
Jade	Year 9 student	Pyramid Hill College
Matthew	Year 9 student	Pyramid Hill College
Mia	Year 10 student	Boort District School
Ruby	Year 10 student	Boort District School
Mr Joe Mazarella	Principal	Pyramid Hill College
Ms Leanne Talbot	Teacher	Pyramid Hill College
Mr Malcolm Goldsworthy	Principal	Boort District School
Mr Tom Bleicher	Teacher	Boort District School
Ms Jerri Nelson	Executive Officer	North Central Local Learning and Employment Network
Mr Barry McKenzie	Workplace Learning Coordinator	North Central Local Learning and Employment Network
Ms Tricia Currie	Manager	Northern District Community Health Service
Ms Marlies Eicher		Saluté Oliva Pty Ltd
Mr Robert Moon	Owner	Mixed farming enterprise
Mr Paul Ford	Chief Executive Officer	Gardiner Foundation

Shepparton, 3 November 2011

Name	Position	Organisation
Mr John Wilson	General Manager	Fruit Growers Victoria
Mr Gary Godwill	Director	Fruit Growers Victoria
Mr Gordon Griffin	Education and Training Adviser	Rural Skills Australia
Ms Sarah Parker	Chief Executive Officer	Murray Dairy
Ms Ann Fagan	Consultant, agricultural and environmental education	
Mr Peter Schwarz	Member, Southern Advisory Panel	Grains Research and Development Corporation
Mr Paul Culpan	Chief Executive Officer	Goulburn Ovens Institute of TAFE
Mr Vaughan Patullo	Vocational Education and Training	Goulburn Ovens Institute of TAFE
Mr Peter Carkeek	Executive Manager	National Centre for Dairy Education Australia
Ms Geraldine Christou	Manager, Economic Development	Greater Shepparton City Council
Mr John Scott	Chair	Commercial Poultry Producers Association, Bendigo
Mr Ian Reid		
Mr Don McArthur		

Melbourne, 7 November 2011

Name	Position	Organisation
Ms Nita Schultz	Executive Officer, CEO Council	Victorian TAFE Association
Associate Professor Kath White	Dean, School of Food, Land and Service Industries	University of Ballarat

Ms Sylvia Vagg	Manager, Educational Development	National Centre for Dairy Education Australia
Mr Greg Hallihan	Executive Officer	Primary Skills Victoria
Mr Chris Bergemann	Industry Liaison Officer	Primary Skills Victoria
Mr Ram Gopal	General Manager	Australian College of Agriculture and Horticulture
Mr Andrew Cosby	President	Victorian Association of Agricultural and Horticultural Educators
	Agriculture and horticulture teacher	Elisabeth Murdoch College
Dr Alan Ford	Agriculture and horticulture teacher	Ballarat and Queen's Anglican Grammar School
Mrs Seleena Nichols	Agriculture and horticulture teacher	Padua College
Ms Gaye Whitehead	Agriculture and horticulture teacher	Catholic College Bendigo
Ms Nickie Berrisford	Executive Officer	Grains Industry Training Network
Mr Barry Batters	Chair	Grains Industry Training Network
Dr Simon Livingstone	Principal	Marcus Oldham College
Professor Richard Roush	Dean, Melbourne School of Land and Environment	The University of Melbourne
Mr Peter McSweeney	Senior Lecturer, Agriculture and Food Systems, Melbourne School of Land and Environment	The University of Melbourne
Associate Professor Peter Sale	Department of Agricultural Science	La Trobe University
Professor Caixian Tang	Department of Agricultural Science, Centre for AgriBioscience	La Trobe University
Associate Professor John Webb	Head, Environmental Geoscience	La Trobe University

Ballarat, 28 November 2011

Name	Position	Organisation
Professor David Battersby	Vice-Chancellor and President	University of Ballarat
Associate Professor Kath White	Dean, School of Food, Land and Service Industries	University of Ballarat
Mr Stephen Higgs	Headmaster	Ballarat and Queen's Anglican Grammar School
Dr Alan Ford	Agriculture and horticulture teacher	Ballarat and Queen's Anglican Grammar School
Mr Matthew Dickinson	Agriculture and horticulture teacher	Ballarat and Queen's Anglican Grammar School
	Farm Manager	
Jemma	Year 12 student	Ballarat and Queen's Anglican Grammar School
Mr Nathan Scott	Group Coordinator	Better Beef Network
	Consultant	Mike Stephens and Associates
Mr Mike Stephens	Managing Director	Mike Stephens and Associates
Mr David Fisker	Chair	Central Highlands Agribusiness Forum
Mr Patrick Murphy	Executive Officer	Central Highlands Agribusiness Forum
Mr Ray Davies	Manager, Economic Development	Shire of Pyrenees
	Board member	Central Highlands Agribusiness Forum
Professor Peter Vinden	School of Forestry	The University of Melbourne
	Board member	Central Highlands Agribusiness Forum

Mr Darren Templeton	Chief Executive Officer	SCAA Shearer Woolhandler Training
Mr Stuart Grigg	Principal Shearing Coach	SCAA Shearer Woolhandler Training

Mr Gavin Drew

Horsham, 29 November 2011

Name	Position	Organisation
Mr Graham Trimble	Agriculture teacher	North Central Cluster Centre—Charlton
Mr Bill Hamill	Chief Executive Officer	Rural Industries Skill Training
Mr John Goldsmith	General Manager	Longerenong College
Ms Donna Winfield	Development Officer	Longerenong College
Mr John Ackland	Chief Executive Officer	Skillinvest Group
Mr John Goldsmith	Chair	The State Agriculture Provider Network
Professor Susan Brumby	Director	National Centre for Farmer Health
Mr Anthony Chapman	Seeds and Field Services Manager	The Wimmera Grain Company
Mr David Chamberlin	Chief Executive Officer	Birchip Cropping Group
Mr David Brennan	Chief Executive Officer	Wimmera Catchment Management Authority
Ms Jo Bourke	Executive Director	Wimmera Development Association

Glenormiston, 30 November 2011

Name	Position	Organisation
Ms Louise Sheba	Project Manager	DemoDAIRY
Professor Sue Kilpatrick		
Mr John Dalton	Chair	WestVic Dairy
Ms Robyn Vale	Careers Coordinator	WestVic Dairy

Mr Mike Holland	Chair	South West Local Learning and Employment Network
Mr Lindsay Ferguson	Former board member	South West Local Learning and Employment Network
Mr Joe Piper	Chief Executive Officer	South West Institute of TAFE
Mr Wayne Krause	Board President	South West Institute of TAFE
Mr Rob Graham	Team Leader	South West Institute of TAFE
Mr Andrew Mason	Chief Executive Officer	Corangamite Shire Council
Ms Vicky French	Farmer and agronomist	

Melbourne, 5 December 2011

Name	Position	Organisation
Ms Ailsa Gibson	Administration and Policy Officer	Young Agribusiness Professionals, Victorian Farmers Federation
Mr Phil Tripp	Head, Department of Agriculture and Animal Science	Northern Melbourne Institute of TAFE
Mr Ross Cardile	Agriculture teacher	Northern Melbourne Institute of TAFE
Mr Gavin Drew	Lecturer in Agriculture	Northern Melbourne Institute of TAFE
Dr Damien Adcock	Head of Department, Agriculture and Land Management Higher Education	Northern Melbourne Institute of TAFE
Ms Amy Cosby	Marketing and Events Coordinator PhD student in precision agriculture	University of New England

Ms Michelle Egan	Student, Bachelor of Rural Science	University of New England
Mr Michael Pointer	Director	Australian Beef Industry Foundation
Mr Don Lawson	Director	Australian Beef Industry Foundation
Ms Lisa Marty	Chief Executive Officer	Victorian Association of Forest Industries
Ms Jillian Roscoe	Manager, Policy and Projects	Victorian Association of Forest Industries

Padua College, Mornington, 13 February 2012

Name	Position	Organisation
Mr Christopher Houlihan	Principal	Padua College
Mr Sam Cosentino	Deputy Principal, senior campus	Padua College
Mrs Seleena Nichols	Agriculture and horticulture teacher	Padua College
Ms Amelia Biggs	Junior agriculture and horticulture teacher	Padua College
Ms Meggin Morrison	VET/VCAL Coordinator	Padua College
Ben R	Year 12 student	Padua College
Ben W	Year 12 student	Padua College
Cassie	Year 12 student	Padua College
Ella	Year 11 student	Padua College
Zoe	Year 11 student	Padua College
Tara	Former Year 12 student and currently deferred student, Bachelor of Agriculture, The University of Melbourne	Padua College

Elisabeth Murdoch College, Langwarrin, 13 February 2012

Name	Position	Organisation
Mr Tim Harper	Principal	Elisabeth Murdoch College
Mr Ciro Ferra	Assistant Principal	Elisabeth Murdoch College
Mr Andrew Cosby	Agriculture and horticulture teacher	Elisabeth Murdoch College
Mr Charlie Clarke	Teacher	Woodleigh School
Kaylan	Year 10 student	Elisabeth Murdoch College
Kyle	Former student	Elisabeth Murdoch College
Matt	Year 11 student	Elisabeth Murdoch College
Megan	Year 10 student	Elisabeth Murdoch College
Kane	Former student	Elisabeth Murdoch College
Tanie	Year 12 student	Elisabeth Murdoch College
Ashlin	Year 10 student	Elisabeth Murdoch College
Bridget	Year 10 student	Elisabeth Murdoch College
Emily	Year 8 student	Elisabeth Murdoch College
Lachlan	Year 8 student	Elisabeth Murdoch College
Laura	Year 8 student	Elisabeth Murdoch College
Shelby	Year 8 student	Elisabeth Murdoch College
Sian	Year 8 student	Elisabeth Murdoch College

Ellinbank, 14 February 2012

Name	Position	Organisation
Mr Jim Armstrong	President	Warragul Branch, Victorian Farmers Federation
Mr Ron Paynter	Branch member	Warragul Branch, Victorian Farmers Federation
Mr Lindsay Anderson	Branch member	Warragul Branch, Victorian Farmers Federation
Mr Ian Carroll	Chief Finance and Accounting Officer	Central Gippsland Institute of TAFE
Mr James Farmer	Team Leader, Horticulture	Central Gippsland Institute of TAFE
Ms Wendy Major	Executive Officer	South Gippsland Bass Coast Local Learning and Employment Network
Mr Luke Prime	Board member	South Gippsland Bass Coast Local Learning and Employment Network
Mr Michael Schaefer	Executive Officer	AusChem Training (Vic)
Mr Graham Paynter	Farmer	
Mr Alan Broughton	Organic agriculture educator and researcher	Organic Agriculture Association and Australian Landscape Trust
Mr Ian Campbell	Acting Manager, Economic Development	Wellington Shire Council
Ms Aleisha Allen	Youth Councillor	Wellington Shire Council
Robert	Youth Councillor	Wellington Shire Council
Ms Pauline Glover	Youth Councillor	Wellington Shire Council
Mr Chris Senini		
Mr John Brereton	General Manager, Industry Development	Community College Gippsland
Mr Babis Lagos	Manager, Agriculture and Horticulture Studies	Community College Gippsland

Melbourne, 20 February 2012

Name	Position	Organisation
Rabbi David Samson	Founder and Dean	Atid School System
Mr Bezalel Gleiser	Director	Aliyah Department, Australia and New Zealand

Melbourne, 6 March 2012

Name	Position	Organisation
Mr Shane Hellwege	Group Manager, Industry, People and Capability	Dairy Australia
Mr Richard Habgood	Consultant	Dairy Industry People Development Council
Mr Rob MacGregor	Sessional teacher	Chisholm Institute of TAFE
Ms Ruth Trench- Thiedeman	General Manager, People and Performance	Landmark Operations
Ms Julia Dwyer	HR Business Partner	Landmark Operations
Associate Professor David Russell	National Director	Primary Industry Centre for Science Education
Ms Mattie Crouch	Student	Marcus Oldham College
Mr Derek Sands	Student	Marcus Oldham College
Ms Anna Fry	Student	The University of Melbourne
Mr Alistair Knight	Student	The University of Melbourne
Mr Casper Roxburgh	Student	La Trobe University
Mr Nicholas Hansen	Student	La Trobe University
Ms Bernadette Gigliotti	Executive Manager	Career Education Association of Victoria
Ms Leanne Brus-Bentley	Organisational Capability Manager	Elders
Mr Dean Lombardozzi	Student	Northern Melbourne Institute of TAFE

Ms Kate Henne	Student	Northern Melbourne Institute of TAFE
Ms Nicole Sanderson	Student	Northern Melbourne Institute of TAFE
Ms Eliza White	Student	Northern Melbourne Institute of TAFE
Associate Professor Ruth Nettle		
Mr Phil Brown	Executive Officer	Country Education Project

Collingwood College, Collingwood, 19 March 2012

Name	Position	Organisation
Ms Stephanie Alexander	Visionary Founder and Chair of Board	Stephanie Alexander Kitchen Garden Foundation
Ms Ange Barry	Chief Executive Officer	Stephanie Alexander Kitchen Garden Foundation
Ms Ainslie Vallance	Program Operations Manager	Stephanie Alexander Kitchen Garden Foundation
Ms Jacqui Lanarus	Learning and Support Delivery Manager	Stephanie Alexander Kitchen Garden Foundation

Canberra, 20 March 2012

Name	Position	Organisation
Mr Ben Stockwin	Executive Manager	Primary Industries Education Foundation
Dr Terry Longhurst	Manager, Strategic Science, Livestock Production Innovation	Meat and Livestock Australia
Mr Arthur Blewitt	Chief Executive Officer	AgriFood Skills Australia
Mr Robert Wilson	General Manager	AgriFood Skills Australia
Mr Ian Joseph	Chair	Agribusiness Council of Australia

Dr Lesley Fitzpatrick	Chief Executive	Australian Rural Leadership Foundation
Mr Karim Haddad	Program Manager	Australian Rural Leadership Foundation
Dr Jennifer Andrew	Manager of Network Engagement	Australian Rural Leadership Foundation
Mr Brian Duggan	Manager, Workplace Relations and Legal Affairs	National Farmers' Federation
Ms Lynn Redley	Manager, Curriculum	Australian Curriculum, Assessment and Reporting Authority

Appendix C: New Zealand investigations

Hamilton, 15 May 2012

Name	Position	Organisation
Mr Mark Paine	Strategy and Investment Leader, People and Business	DairyNZ
Mr Geoff Taylor	Development Team Leader, People and Business	DairyNZ
Ms Diane Young	Senior Communications Advisor	DairyNZ
Mr Bill Barwood	Industry Education Facilitator	DairyNZ
Mr Matt Newman	Economist	DairyNZ
Mr John Troutbeck	Manager, Dairy Training	DairyNZ
Ms Jo Sheridan	Central Island Regional North Manager	DairyNZ
Dr Eric Hillerton	Chief Scientist	DairyNZ
Mr Kevin Bryant	Chief Executive Officer	AgITO

Palmerston North, 16 May 2012

Name	Position	Organisation
Hon. Steve Maharey	Vice-Chancellor	Massey University
Professor Robert Anderson	Pro-Vice Chancellor, Sciences	Massey University
Mr Stuart Morris	Assistant Vice-Chancellor and Registrar	Massey University
Mr Mark Jeffries	Manager, AgriFood Strategy	Massey University
Professor Nicola Shadbolt	Farm Business Management	Massey University
Lydia	Student	Massey University

Calvin	Student	Massey University
Hannah	Student	Massey University
Cameron	Student	Massey University

Wellington, 16 May 2012

Name	Position	Organisation
Dr Scott Champion	Chief Executive Officer	Beef+Lamb New Zealand
Ms Sarah Deans	People and Capability Advisor	Beef+Lamb New Zealand
Mr Paul Olsen	Board Chairman	New Zealand Young Farmers
Mr Richard Fitzgerald	Chief Executive Officer	New Zealand Young Farmers

Wellington, 17 May 2012

Name	Position	Organisation
Mr Stephen Macaulay	General Manager	AgMardt
Mr Paul Stocks	Deputy Director General, Policy	Ministry for Primary Industries
Mr Richard Lynch	Principal Analyst, Strategy	Ministry for Primary Industries
Mr Howard Staveley	Senior Analyst, International Policy	Ministry for Primary Industries
Mr Steve Benson	Senior Advisor, International Engagement Team	Ministry of Education
Mr Nigel Evans	Senior Advisor, Secondary Outcomes, Curriculum Teaching and Learning-Design, Schooling Team	Ministry of Education

Appendix D: List of site visits, meetings and events attended

Organisation	Event	Date
Country Education Project	Rural Learning Summit	12 August 2011
Pyramid Hill P–10 College	Site visit	2 November 2011
Dookie Campus, School of Land and Environment, The University of Melbourne	Site visit	3 November 2011
Longerenong College	Site visit	29 November 2011
DemoDairy	Site visit	30 November 2011
Glenorminston College	Site visit	30 November 2011
Victorian Association of Agricultural and Horticultural Educators	20 th Annual Victorian Association of Agricultural and Horticultural Educators Conference	1–2 December 2011
State Agriculture Provider Network	Meeting	9 December 2011
Padua College	Site visit	13 February 2012
Elisabeth Murdoch College	Site visit	13 February 2012
Department of Primary Industries Ellinbank Centre farm	Site visit	14 February 2012
Collingwood College	Site visit	19 March 2012
Senate Education, Employment and Workplace Relations Committee	Meeting	19 March 2012
Massey University, dairy farm	Site visit	16 May 2012
Victorian Agribusiness Council	2012 Victorian Agribusiness Summit	20–21 September 2012

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