
SUBMISSION

**REVIEW OF AUSTRALIAN
HIGHER EDUCATION**

**NATIONAL FARMERS'
FEDERATION**

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Executive Summary

- **Agriculture boasts one of the highest productivity rates of any industry and a strong commitment to higher education and R&D is essential for this to continue.**
- **A major challenge will be attracting people into an agriculture-related career and academic discipline to replace the present number of baby-boomers nearing retirement.**
- **Ensuring that training delivery and education opportunities are available and provided equitably for farmers and rural Australia so that it may gain high-level skills.**
- **Industry engagement and strategic direction alignment with higher education providers and course delivery are seen as crucial components of any education system.**
- **Greater alignment with international collaborative efforts is required to ensure Australia is not ‘shut-out’ from research and development opportunities.**
- **Continued supply and retention of skilled people in rural Australia.**
- **A focus on delivering regional sustainability to communities through professional and community qualifications in areas such as education and health services.**
- **Acknowledgement that intervention at early education stages is required to achieve significant outcomes at later life stages for engagement in higher education.**
- **Targeted programs and support services are essential for rural Australians to engage equitably in higher education.**
- **Support through transport policies to overcome inadequate public transport options and poorly maintained regional roads**
- **Higher education is important to farming as it continues to lead research, development and innovation and grow the productivity of agriculture thus sustaining food and fibre security for Australia and the world.**

1. INTRODUCTION

The National Farmers' Federation ("the NFF") is the peak farming lobby group representing producers of all major commodities in relation to issues affecting more than one State or commodity. The NFF's membership comprises State farm and commodity organisations with individual farmer members.

Australian farming has many success stories that can be attributed to an educated and innovative workforce and supportive ancillary industries.

Indeed, looking forward to farming's future, the importance of continual innovation is crucial to not just the viability of farmers, but in the ability for farming to continue to feed and clothe the world as it adapts to climate variability.

Australian farming is overwhelmingly export-oriented. A massive 98% of Australia's wool and cotton is exported. Two-thirds of our beef and three-quarters of our wheat heads overseas. Some 80% of our sugar and over half of our dairy production is destined for world consumer markets.

This drive to be globally competitive without hiding behind the cover of protective barriers has driven average productivity growth of 3.8% during the past two decades and delivered an industry that effectively competes within one of the global market's most distorted sectors.

This is demonstrated by the fact that today, two-thirds of every hectare of agricultural produce that Australia generates is exported and access to international markets is more crucial than ever.

Productivity gains have enabled the majority of Australian farmers to be internationally competitive and achieve their goal of self-reliance, while delivering the highest-quality food and fibre anywhere in the world.

And despite the fact that since 1997-98, Australian farmers' terms of trade have decreased by almost 10%, farmers have dealt with this by improving productivity.

There is, however, increasing evidence that these productivity growth rates are starting to flatten. Some of this can be attributed to the existing drought and to the delay in access to GM technology.

For Australian farming to continue to meet its future challenges, an educated and highly skilled workforce will be essential.

1.1 LABOUR

A major factor to farming innovation success story has been the skills, knowledge and expertise of people either working the land or involved in an associated capacity.

A guaranteed labour force that is appropriately skilled is crucial to the future success of farming.

In September 2005, the NFF released its Labour Shortage Action Plan in response to increasingly severe labour shortages in the agricultural sector. The Plan aimed to bring about a better understanding of employment in the industry and consequently, the nature and extent of labour shortages. Based on this, it outlined key measures in a multi-faceted labour sourcing strategy. Importantly, it also identified areas in which the research and development of ideas were needed to more effectively formulate ways in which to resolve regional and rural labour shortages.

In March 2008 the NFF released its second Labour Shortage Action Plan (Attachment A) to review the state of employment in the industry and the efficacy of the measures proposed, as well as to identify further issues, solutions and their implementation.

It focused heavily on education and training as being a way to drive many initiatives to alleviate labour and skill shortages prevalent across all facets of farming and related industries.

In tandem with this, efforts to streamline and improve access to skilled migrants have continued to allow the sourcing of tradespeople, managers, professionals and paraprofessionals for farm occupations.

A number of initiatives have also sought to change misconceptions that farming does not demand skilled or professional occupations when in fact they are crucial to the industry – consider commodity traders, farm managers, veterinary surgeons, ecologists, climate change scientists and horticulturalists, to name a few.

In 2005, it was estimated that as farm output reapproaches pre-drought levels, around 50,000 additional employees would be needed in the farming sector. A concerning finding in the 2008 NFF Labour Shortage Action Plan was that at the beginning of 2008, the estimate has grown to the need for around 100,000 additional employees. Bearing in mind that the current agricultural workforce represents 3.5 per cent of all employed persons in Australia, the significance of needing one third that number again assumes contextual importance. The extent of the increased demand for labour within agriculture is in the order of numbers equal to over one per cent of Australia's total workforce.

Agricultural labour shortages are pervasive by region, subsector and occupation. When considering the range of occupations that have been affected, the crisis is certainly better framed as both a labour and skills shortage.

Attachment B provides a detailed statistical report showing the methodology behind the 100,000 labour shortage figure.

Many farming regions, with generally strong preconditions, are placed for remarkable growth in the next few years, yet the inability to find reliable labour stands to impact on labour-intensive production such as horticulture, which has not become mechanized. Unemployment levels at record lows mean that even this pool of potential labour is far from sufficient to address the shortfall.

1.2 FARM FACTS

Through developing new technologies, seizing environmentally-sustainable farm practices, and improving efficiencies and competitiveness modern farming is essential to Australia's economic, environmental and social wellbeing, and a vital source for Australia's food security and, increasingly, mounting world food needs.

Farming is a mainstay of Australian ingenuity, adaptability and enterprise.

- Australian farms and their closely related sectors generate \$103 billion-a-year in production - underpinning 12% of GDP (based on modelling by Econtech for the Australian Farm Institute, Australia's Farm Dependent Economy Report, 2005.)
- Over the last 30 recorded years (1974-75 to 2003-04), Australian farms have consistently achieved average multifactor productivity growth of 2.8%-a-year - no other industry, with the sole exception of telecommunications and information technology, comes close to this achievement (Australian Government Productivity Commission, Trends in Australian Agriculture 2005).
- There are 154,472 farms in Australia - including those for whom farming is not their primary business. However, there are 137,969 farms solely dedicated to agricultural production.
- The gross value of Australian farm production (at farm-gate) totals \$35.6 billion-a-year.
- Australian farmers **invest \$237 million-a-year in research and development**. This is over and above the \$217 million spent by Federal and State Governments each year on agricultural research and development.

R&D Income & Expenditure			
	Contribution		Expenditure
	Industry	C'wth	
	\$M	\$M	\$M
R&D Corporation/Council			
Cotton	7	5	13
Dairy	15	15	40
Fisheries	11	16	27
Forest and Wood products	4	3	7
Grain	61	43	127
Grape and Wine	14	12	25
Horticulture	35	34	67
Land and Water Resources	0	13	33
Meat and Livestock	40	40	81
Pig	4	4	7
Sugar	5	5	10
Egg	1	1	2
Wool	39	11	83
Rural Industries	2	15	22
TOTAL	237	217	542

- Department of Agriculture, Fisheries and Forestry, *At a Glance*, 2007.

- **Efficiency gains through new technologies and farm management practices**, achieved on the back of research and development, have enabled Australian agriculture to stay a step ahead of our international competitors – returning average **productivity growth of 2.8%-a-year** over a 30-year period.
- Key to this productivity growth have been advances in knowledge and technology, improved use of available technologies and management practices, and structural changes that have seen increased farm size and shifts in enterprise mixes (Australian Government Productivity Commission, Trends in Australian Agriculture 2005).
- As a result, Australian farming is world-leading and ultra-competitive. In fact, despite a 50% fall in agricultural terms of trade since 1960, Australian farmers have tripled their production (from an index measure of 37 in 1960-61, to 107.6 in 2003-04), as well as tripled the real gross value of their produce (from \$10,557 million in 1960-61, to \$30,338 million in 2003-04) (Australian Government Productivity Commission, Trends in Australian Agriculture 2005).
- Despite common misconceptions and the worst drought on record, Government support for Australian farms represents just 6% of farming income. By comparison, according to the Organisation for Economic Cooperation and Development (OECD), in Korea it's 63%, Japan 53%, in the European Union it's 32%, in Canada it's 23%, and in the United States it's 11%.
- In fact, Australian farmers are among the most self-sufficient in the world (OCED, Agricultural Policies in OECD Countries: Monitoring and Evaluation 2007).

1.3 FARMING INNOVATION

Agriculture, more than most sectors of the economy, has been forced to rationalise and increase its economies of scale in order to combat declining terms of trade.

The Australian Productivity Commission report, *Trends in Australian Agriculture* (2005), demonstrates that productivity growth in agriculture has more than doubled over the past 14 years, consistently outperforming other sectors. In the past two decades, the Australian farm sector has averaged annual productivity growth of 2.8% a year. Improvements over the past 30 years have resulted in a national ‘productivity dividend’ of more than \$170 billion.

Such productivity growth has allowed farmers to remain internationally competitive and sustain their businesses and incomes in the face of agricultural terms of trade declining by 4.8% in the five years ending 2005-06.¹⁵ In addition, it has allowed Australian farmers to remain competitive in what is the most distorted sector of trade in goods.

The last seven years have been a challenging period for Australian farmers with widespread and prolonged drought leading to a severe reduction in farm production and a resultant 40% escalation in farm debt levels. In addition, the strength of the Australian dollar (particularly against the US dollar), has had a dampening effect on farm export returns, while costs of key farm inputs such as fuel and fertiliser have risen exponentially on the back of shortening global supplies.

However, despite the frustrations for Australian farmers, the international market for agricultural commodities has been very strong, with the Westpac-NFF Commodity Index (measuring the weighted average price of key global agricultural commodity prices) reaching record highs in late 2007.

This has been brought about by surging global demand for biofuels, strong economic growth in developing countries, global population growth leading to

urban encroachment on arable land and widespread drought in key agriculture production nations.

The underlying fundamentals for Australian agriculture remain extremely strong and are expected to remain so over the medium to long term.

In order to capitalise on these opportunities, Australian farmers, with the assistance of the Commonwealth Government, must focus on areas for which they can realistically manage outcomes. Meaningful adaptation to climate change and seasonal variability, building better and more efficient capacity in areas such as transport and labour, and boosting our efforts in gaining access to key global markets are just a few areas that must be resourced effectively.

As previously stated, Australian farming boasts one of the most impressive productivity growth levels of any industry. Much of this productivity growth can be directly attributed to R & D investment which has improved inter alia crop varieties, new technologies and systems and other efficiency gains.

The partnership approach between industry-funded and government matched R&D Corporations has demonstrated success stories.

The direction and drive that industry-focussed research has delivered is a key feature of the R&D approach.

Industry is directly calling the funding ‘shots’ and investing research effort into areas it places greatest value and expected return.

It is therefore vital R & D investment (both government and industry) be continued into the future so that this focus on continuing to make efficiency gains continues.

2. LABOUR/SKILLS SHORTAGES

Prior to addressing the specific questions and terms of reference for the Higher Education Review, it is worthwhile to establish a context in which Australian farming needs a robust, flexible and deliverable higher education sector.

Although skilled labour shortages continue to represent a major problem for the agricultural sector, entry level positions are just as problematic, but have not received nearly the attention that the skilled occupations have at the levels of both policy and practical initiatives.

A significant capacity constraint on farming continuing to meet its objectives in terms of export growth and volume, will be a labour force that is appropriately skilled to match desired volume levels.

In 2005, it was estimated that as farm output reapproaches pre-drought levels, around 50,000 additional employees would be needed in the farming sector. At the beginning of 2008, the estimate has grown to the need for around 100,000 additional employees.

Bearing in mind that the current agricultural workforce represents 3.5 per cent of all employed persons in Australia, the significance of needing one third that number again assumes contextual importance.

The extent of the increased demand for labour within agriculture is in the order of numbers equal to over one per cent of Australia's total workforce.

Agricultural labour shortages are pervasive by region, subsector and occupation. When considering the range of occupations that have been affected, the crisis is certainly better framed as both a labour and skills shortage.

2.1 TRAINING SYSTEMS

As farms become more business orientated, they are recognising the importance of training and an educated workforce and are dismayed at the present deficiencies in training providers.

There are exceptions to this rule, with some sections within TAFE who are willing to “work around” the rigid and controlling structures and funding formula’s imposed on them by the educational bureaucracy. These are the providers who will organise training delivery to occur at a ‘time and place’ suitable to the employer and employee. Rather than prescribing the apprentice is expected to be at the TAFE campus at 10.00am every Monday, they will holistically conduct training at the employers property at a time that does not conflict with work priorities or issues such as seasonality and production calendars.

The highly successful and well supported FarmBis program operated by the federal Department of Agriculture, Forestry and Fisheries, was well tailored to the short-course, seasonal appropriate nature of farm businesses.

Whilst this program has been cut by the Australian Government as it moves to a focus on climate adaptability, there is a significant opportunity for its replacement program to expand into a much wider, broader and more encompassing approach to agricultural education and training. Such a focus would reflect regional and rural training needs with:

- A drive to online learning
- Funding of training that reflects the higher costs and time for regional delivery of training
- An improved Recognition of Prior Learning system
- Specific training tailored to commodity group areas
- Farmer friendly language on education and training programs

- Support funding of skill sets and encourage greater flexibility in delivery
- Development of a ‘skills passport’ that cooperatively works with other industries or commodities to resolve single employment issues. Such a passport could be utilised to match skills, plan work schedules and coordinate labour supply originating domestically or abroad.
- Promotion of farming and its attractiveness as an industry and career path

2.2 HIGHER LEVEL SKILLS

The agricultural sector is in the midst of pervasive changes in terms of the approach and method in which farming is conducted. Technological and scientific developments have been increasingly pertinent to an industry facing harsher climatic conditions and striving to remain internationally competitive on global markets. Traditionally, the skills necessary to working in the industry have been hands-on, developed through on-the-job training.

For a significant majority of occupations on farms, this continues to be how employees are trained. It should, however, be noted that the nature of farming has and continues to significantly change.

Mechanisation, automation, and technological advancements have made farming a much more highly skilled industry than ever before.

As an export competing industry, Australian farming boasts the highest productivity improvements of any other outside of Information Technology.

Farming has needed to reduce its cost inputs every year in order to remain internationally competitive. This has resulted in GPS guided tractors, soil moisture profiling, computerised drip irrigation systems, laser levelling and minimum-till farming methods replacing previously manual labour.

With the increased skill requirements to work in farming, the importance of appropriate education and training that can meet the demands of the industry and also prospective employees, has been reinforced.

Further, education and training in the agricultural sector must be wider ranging than simply focusing on employees.

By its very nature, training and education must be broadly handled and encompass all those who work on a farm including the owner/operator of a family farm business.

A sustainable farming industry requires an improvement in the skill capacity of all those who work on a farm. This adjustment in farmers' attitudes to learning is seen as a crucial step towards improving the sustainability of farming. There is a crucial need to ensure that all those involved in agriculture have high level skills and capacity to undertake work in the sector to enable the agricultural industry to remain competitive and productive in an international market place both now and into the future.

Training delivery is needed across the age spectrum to those already involved in the industry and to educate those interested in the industry on the role farming plays in Australia's economy.

Skills development is complicated by the mobility and comfort of young people to change careers. Whilst agriculture has generally chosen to bury its head in the sand in dealing with Generation Y, greater attention to catering to the needs of this generation in a rural setting needs to occur.

There is also a strong need for farming to move towards higher level skills in order to compete with the job attractiveness of other industry groups.

As the majority of Vocational and Tertiary education delivery is actually at the farm owner/manager, it is imperative that the training delivery needs of this person are integral to creating a culture of learning on the farm.

If this person suffers a poor experience or perceives low value in pursuing learning opportunities for themselves, then this perception will transfer to their family members and workforce. To counter these perceptions, it is extremely

important that learning is delivered upon the fundamental adult learning principles.

Attitudinal change in the farming population is needed so that farmers and their workforce are prepared to identify their deficiencies, adapt to change, and establish risk management practices.

There are series of studies that show the educational outcomes of regional Australia are severely behind that of metropolitan Australia. A serious coordinated effort is required to lift the educational standards of non-metropolitan Australia.

3. TERMS OF REFERENCE

This submission seeks to identify areas in which the education system can be improved to deliver innovation and productivity gains whilst responding to labour and skill market needs.

Where appropriate it will address the specific questions posed by the Discussion Paper, but seeks to make its submissions based on the “key challenges and issues for Australian higher education”.

The NFF submits that the responsibilities of higher education should include:

- Equitable access to educational opportunities for regional, rural, and remote Australians to that of metropolitan Australians.
- Continued supply and retention of skilled people in rural Australia.
- A focus on delivering regional sustainability to communities through professional and community qualifications in areas such as education and health services.
- Continue to lead research, development and innovation in farming and grow the productivity of agriculture thus sustaining food and fibre security for Australia and the world.

3.1 MEETING LABOUR MARKET AND INDUSTRY NEEDS

Agriculture is provided at Australia universities as both a three and four year degree program.

There are some diploma and associate degrees offered but these have low numbers of enrolments.

According to the Australian Council of Deans of Agriculture¹ there are approximately 370 agriculture (science and technology) degree graduates in 2006 which is a decline of 30% from 2001 graduate numbers.

Adding to these figures are 150 agribusiness graduates, 70 horticulture/viticulture graduates, 90 wine science, 230 animal science, 80 agricultural economics, leading to a total figure in the order of 990 agriculture and related studies graduates per year.

On the demand side, it is estimated using Productivity Commission (2005) figures that industry requires approximately 2,200 graduates a year.

It should further be noted that the Productivity Commission estimates that only 7% of the agricultural workforce hold university qualifications (compared to 22% for all industries) and only 31% with other post-school qualifications (compared to 35% for all industries).

If the sector was to match the all industries average of 22%, there would be over 7,000 new graduates required.

With predictions and anecdotal evidence from employers confirming there are two to three jobs available for every agricultural graduate, you would be correct in

¹ JE Pratley and L Copeland, Graduate Completions in Agriculture and Related Degrees from Australian Universities, 2001-2006, 2007

determining there is a significant mismatch between graduate outputs and industry needs.

This disputes the assertion within the Discussion Paper that asserts “students are making rational choices, evidenced by the fact they are finding employment in the area in which they studied”.

NFF submits that finding employment in field of study is more an indication of the tight labour market than a reflection of demand and supply for graduates being aligned.

As our earlier submissions make clear, the need for highly skilled agriculture and related industry graduates is paramount to the future ability of Australia to feed and clothe itself (and by extension, the world), balance our terms of trade, and provide ongoing employment and regional sustainability to rural Australia.

NFF submits that incentives are needed to encourage potential students or members of the existing workforce into defined occupations in demand or those occupations with national security implications.

Furthermore, it is unlikely that the present demand for skilled graduates is likely to be met under the current inflexible and unresponsive nature of gaining a University qualification.

The requirement of three/four year degree qualifications, with little to no regard for prior learning exacerbates the ability for a University to provide education and training that is flexible and meets the needs of the student or demand by industry.

Apart from the ‘Melbourne model’ there has been little innovation to qualification delivery.

It is now common across many institutions and courses for it to be considered full-time study for a student to have as little as twelve contact hours with either a lecturer or tutor.

Fours subjects a semester. Each subject has a two-hour lecture and a one-hour tutorial. Equals three hours contact a week per subject.

With only twelve hours making up a student's contact hours, we have situations as identified in the Discussion Paper of students undertaking a full-time working week in order to support their time on campus.

Surely a responsive and flexible education delivery system would allow people to fast-track their qualification and complete their degrees in at least half the time presently set down by university doctrine.

Obviously this cannot be the case for all subjects or degrees, with some justifying the tenured length and requirements, but there is a case for greater matching course requirements to delivery timeframes.

Predictions of Generation Y and Z show that they will have several careers in their lifetime and over 20 jobs. The education system needs to be responsive not just to these students, but equally the industry.

Industry itself is facing periods of high innovation and requires students with knowledge or skill sets in particular areas of expertise.

At present, universities do not offer or recognise subject qualifications.

Equally they fail to recognise existing worker skills, knowledge and abilities. Whilst the TAFE sector has come some way in its Recognition of Prior Learning (RPL), the Higher Education Sector states and reports its embrace of RPL (or credit recognition) actually does the opposite and places barriers to this occurring. This is outlined further in the submission.

In general, this inflexibility inhibits responsiveness to change, and the needs for upskilling or retraining.

It is stepped in the old-view that higher education is a compulsory form of education delivery and the student and industry should conform to the structure and methods used by the teaching provider.

As farming has learnt through its exposure to international trade and the bringing down of barriers, industries must adapt and respond to their markets or perish.

The higher education sector has a new paradigm in education and training service delivery it needs to come to terms with and excel. Otherwise, their international competitors will simply continue to overtake them.

NFF submits that the higher education sector needs closer alignment with industry and become more respondent to market place needs and pressures.

Equally Government and their bureaucracies need to recognise these changes and not require onerous and ‘old-way thinking’ when it comes to reporting and delivery.

Universities have become more business-orientated, but still have a long way to go.

Skills-based Boards with much stronger engagement with industry is essential to ensuring an accurate educational delivery of the supply and demand of graduates.

3.1.1 Work Readiness

One of the successes of the VET sector has been its industry-driven and industry-led approach to skills recognition and work competency.

A person with a VET qualification (when the system works as intended) is seen by industry as being ‘work-ready’.

The same cannot be said for University graduates who often have unrealistic expectations or lack the fundamental job skills to commence employment in their discipline area.

Industry has long pushed for and sought greater on-the-job preparedness of graduates.

This has been adopted in a piece-meal approach and is largely dependent on the head of faculty viewpoint.

For example, many an accounting graduate first task in an office is bookkeeping using the common MYOB software product. This is a subject that is not taught as part of most accounting qualifications.

Equally many graduates depart with an overinflated view of their first job.

Whether it is a hotel-school graduate who expects to go straight into the role of General Manager of a five-star or a marketing graduate who expects to work on the new 'Coca-Cola' ad campaign.

The discussion papers suggests that an additional 'generalist' qualification will assist with the job readiness of graduates.

As previously highlighted in this submission, an additional year or an additional number of subjects is not providing flexibility or responsiveness to degrees. It is simply another way of adding to the complexity of gaining a qualification.

NFF submits that the vocational aspect to degree qualifications is better to be 'built-into' the existing coursework. It must be an intrinsic part of the subject learning matter rather than an additional year of study or community work.

Equally, good educators and systems can build generic skills such as interpersonal, problem solving, entrepreneurial, creativity and team work into the existing course structure and learning methodology.

Anecdotally and statistically, there are signs that university graduates are recognising this key failing in their qualification and are undertaking additional 'real-world' training in VET prior to seeking employment. This is despite the present tight labour market conditions.

NFF is supportive of suggestions contained in the UK paper *Higher Education at Work: High Skills, High Value* as it recognises the need for greater responsiveness of higher education providers to industry needs. Foremost is the thrust to recognise existing skills to enable fast-track of education for the gaps.

By having industry set out its requirements in the core-curriculum of course offerings, there will be a much closer alignment to the work readiness of graduates.

3.2 EQUALITY OF HIGHER EDUCATION PARTICIPATION

As previously noted, the Productivity Commission (2005) estimates that only 7% of the agricultural workforce hold university qualifications (compared to 22% for all industries) and only 31% with other post-school qualifications (compared to 35% for all industries).

As has been noted in the Discussion Paper, the poor level of higher education amongst low socio-economic status (SES) background people is pronounced. Moreover, those who are from rural Australia have even lower levels of vocational or school-leaver qualifications even after balancing for lower SES backgrounds.

There is a weight of evidence that indicates regional campuses assist in the retention of people in regional and rural centres. Once a regional student departs for a city-based education, there is only a 40% likelihood that they will return to a country area.

Clearly there is significant scope and opportunity to lift Australian wide average by focussing on delivering improvements to the education standards in rural Australia.

As indicated, people from rural Australia have a preference for studying at a regional location.

Catering to these desires with a matching higher education delivery system is expected to deliver strong returns in lifting education standards for rural Australia.

To do this requires access to and opportunity to participate in higher education.

There are a number of activities that Australia can undertake to address the high level skill needs and educational requirements.

NFF submits the following measures:

- Undertake research that assesses the future graduate employment demand and disciplines for farming and provide incentives (similar to that offered to nurses) to match these needs, coupled with research into the reasons students are not choosing agricultural university courses noting that salaries and lifestyle are comparable with similar occupations in other industries.
- Increased support for specialised degree courses based on commodity grouping, and support for cadetships in which farming companies and commodity groups sponsor a student through their degree.
- Introduce programmes and initiatives that encourage city students to undertake their further education in a regional centre, and similarly, appropriate infrastructure and initiatives to allow regional and remote students to acquire their degrees in those areas, either through locally situated institutions or the internet, or both.
- Support for higher education institutions to develop student services, including capital grants to establish and maintain affordable accommodation to cater to the rural student who is by default required to live on campus.
- Greater governments support for regional and rural students accessing scholarships, and financial support that overcomes the distance barrier and having to ‘leave home’ to study.
- Changes to the ‘means test’ on farmers allowing rural students to immediately attend University after leaving school.
- Encouragement of University and centres of higher learning to locate campuses in regional centres and to establish cooperative relationships with TAFE and RTOs.

- Particularly in regional Australia, there is growing interest in the trades as an education path with Certificates and Diplomas give greater career options, whilst still leading to a University degree. It is therefore, essential that the tertiary sector embrace and recognise this prior learning rather than create artificial entrance or completion barriers so that course fees can be realised.
- Programs to encourage metropolitan students to study in regional locations.
 - Studies² have shown that over 40% of metropolitan students who study at an inland University stay in country areas for employment. This is significantly higher return on investment in rural communities need for health, education, and social service professionals than other similarly targeted programs.
 - Students who live in on-campus University supported accommodation are more than 50% less likely to drop out of University study.
- Whole-of-government acknowledgement of the role higher education providers play in regional sustainability, including their role in workforce development, economic development, educational development, and social development.
- Development of a strategy with specific funding commitments to create a world-class Agricultural University in Australia. (At present Australia does not have a single University that is internationally ranked in the primary field of Agriculture, despite agriculture R&D funding exceeding \$500million a year).
- Strategically integrated transport policies and decisions to assist rural students overcome access issues related to inadequate public transport and poorly maintained roads.

² Western Research institute on Charles Sturt University graduate placements, 2006

A focus on proving equality of education access for rural Australians will also have many flow-on benefits to disadvantaged Australians.

In addition to social inclusion gains, it will also assist in alleviating health (including dental and other specialists), education, and other government services problems that are typically below average in rural Australia

Equally, the ability to most actively assist Indigenous Australians lies within these submissions.

3.2.1 Incentives for Rural Australia

The National Farmers' Federation believes that all Australians should have equitable access to appropriate education and training services, regardless of their geographical location.

As such, funding models for rural education and training provision should ensure equity of access to education and training.

This will be a significant determinant of Australia's future prosperity and sustainability as a nation due to food and fibre production being 'products' of rural Australia.

Well educated and trained people are needed in rural Australia to ensure these products continue to be available.

The NFF is supportive of commitments made during the election campaign that provided greater government support for regional and rural students accessing scholarships.

However, the NFF believes more can be done and seeks the Australian Government to commit to a range of incentives to increase support for regional Australians seeking tertiary study including:

- Programs, initiatives, and scholarships that encourage city students to undertake their further education in a regional centre.

- Changes to the ‘means test’ to exempt farm business assets, thereby allowing rural students to immediately attend University after leaving school.
- A Tertiary Access Allowance for students over the age of 16, based solely on geographical qualifications free of means and assets tests.

Obviously the large costs associated with rural families forced to send their children to live away from home in order to access educational institutions is one of the major reasons explaining the current under-representation of rural and remote people in educational outcomes.

These proposals would partly compensate rural children who are forced to leave home to study because there is no tertiary institution close to them. It is obviously far better economically to transport the student to the learning institution than to establish institutions around the country.

The means of defining eligibility would need to be developed and the criteria established for these proposals. NFF would welcome the opportunity to work with the Australian Government in the development of these important initiatives.

As such, an accurate costing of these proposals is not possible without first defining eligibility criteria.

3.2.2 Social Inclusion

Studies show that rural and regional school students have lower literacy and numeracy outcomes than city students. There are also smaller numbers who go on to commence University.

The biggest impact on achieving progress on social inclusion is at the base level of language, literacy and numeracy skills.

Without these, students fail to complete compulsory education and reduce opportunities at all stages of life to engage in higher learning.

The National Centre of Science, Information and Communication Technology, and Mathematics Education for Rural and Regional Australia

(<http://www.une.edu.au/simerr/>) research has demonstrated significantly lower results for rural Australia than metropolitan, even after socio-demographic corrections.

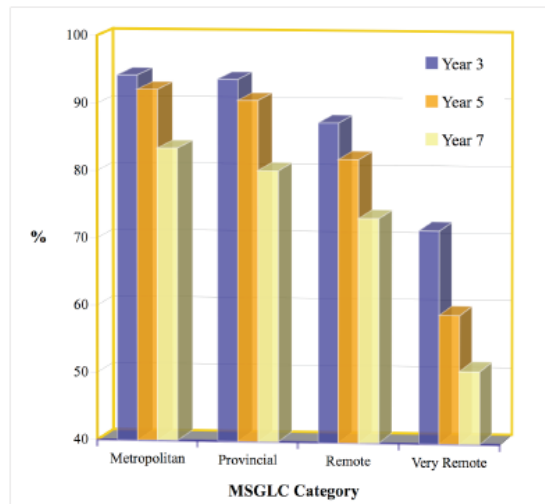


Figure 2.2 Percentages of Year 3, 5 and 7 students in different MSGLC categories achieving the National Numeracy Benchmark in 2004 (adapted from MCEETYA, 2006)

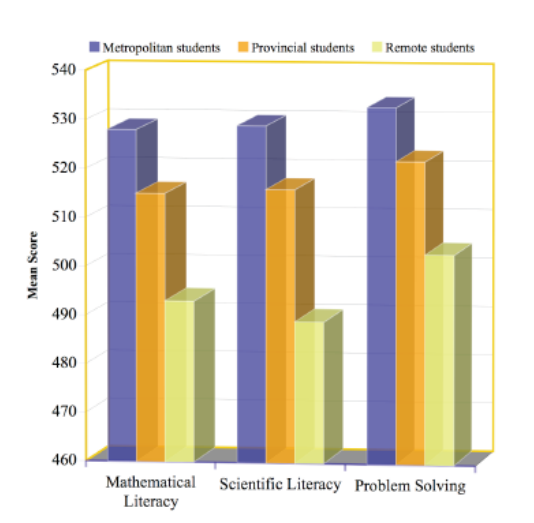


Figure 2.3 Mean scores of Australian students from different locations in the PISA 2003 tests of mathematical literacy, scientific literacy and problem solving (adapted from Thomson, Cresswell & De Bortoli, 2004)

The NFF submits:

- The low level of LLN skills to function effectively in the workforce is principally a failure of the early childhood education system.

- It is preferable to address this problem in the school system as this provides the greatest outcome and offers the highest form of social inclusion.
- LLN Programs should provide intervention assistance to school students for special LLN coaching/training. Gains from intervention have been shown to bring the student back to the class level and achieve significant academic improvement across all disciplines (<http://www.une.edu.au/simerr/projects/Docs/Project%2022.pdf>). Efforts to correct LLN levels at later periods of life lead to significant social exclusion.

By addressing LLN at early developmental stages sets up the opportunity to successfully complete compulsory education and provide the opportunity to pursue higher education opportunities.

Focussing this early intervention in the area most in need – rural Australia – will assist with Australian Government aims to increase the number of Australians with higher level qualifications.

3.3 ENROLMENTS AND IMPACTS OF UNIVERSITY COMMERCIALISATION

Enrolments in tertiary Agricultural courses continue to decline. This creates the possibility that tertiary learning institutions will close down or limit farm course offerings. The “thinness” of the market, particularly with regional campuses, exacerbates this problem.

Under present funding formula and the move by Universities to greater commercial basis in their operations, it will become highly tempting to remove agricultural science courses. This is not just due to the smaller number of enrolments, but the reasonably significant costs of equipment, technology, and

delivery in comparison to soft-study courses such as Commerce or Public Affairs which only require text-books and a lecturer.

While recognising the decline in Agricultural Science graduates, it is acknowledged that there has been an increased interest in Conservation and Land Management students.

Agriculture has an opportunity to capture these students, but will need assistance to fill in the knowledge and skills gaps required by the industry.

The expected collapse of tertiary graduates would create major problems for farming, especially in research and agronomy and will have debilitating effects on our international competitiveness, especially in areas such as gene technology and adapting to climate variability.

It is recognised that there has been a significant failure amongst careers advisers to demonstrate all the options available to a student interested in farming.

The lowering of entrance requirements to attract people to an agricultural-based degree has impacted on the quality of graduates; however, the labour shortage has found major agribusiness companies seeking to lure students to work for them prior to the completion of their formal qualifications.

3.4 HIGHER EDUCATION AND VOCATIONAL EDUCATION

As previously stated in the submission, the VET sector is much more able to respond to industry because of the central role that industry has in the system.

In comparison to higher education, industry is often seen as something that exists ‘outside’ of the system.

Equally, higher education providers generally have very poor linkages to the VET sector, selectively recognising particular RTOs as acceptable for applying credits whilst ignoring or failing to recognise others.

A vocational qualification is part of the AQTF (Australian Quality Training Framework) and is considered equal regardless of the provider. The approach by higher education providers to selectively recognise certain RTOs is baffling and lacking in consistency.

Equally, the relationships between VET and higher education providers at shared facilities or campuses is generally one of animosity rather than one of cohesion and cooperation. Simply pulling these two institutions together to save money could perversely achieve poorer student and teaching delivery outcomes as one institution will always tend towards the 'master' in the relationship.

It is unrealistic to expect these two sectors to merge considering the principal role industry plays in VET and the contrasting poor engagement it has in higher education.

The better path is to break down the pathways that exist between these sectors without destroying efforts to raise the profile of trade career being equal to a University qualification.

NFF has been active in trying to promote and advance learning, teaching and training in Australian trades education and elevate the status of traditional trades and trades education as career choices.

This activity is not limited to agricultural trades but also includes seven additional sectors within its charter. However, it should be said that agriculture is particularly hindered by a lack of tradespeople such as plumbers, electricians and carpenters in regional areas and this is significantly adding to costs and breeding inefficiencies.

Because industry has been a partner in VET it has been particularly involved in trying to generate incentives for prospective students to enrol in a trade skills course and lead to the development of more industry-driven training programs.

Equally the ability for the Recognition of Prior Learning (RPL) that exists within VET lends itself to the careers available in rural Australia.

Many existing workers with a set of skill learnt through on-the-job training are able to enter the VET training system and have these skills recognised.

If they were to approach the higher education sector, the only recognition would be for credits of previous formal study or articulation. Even then, this would be subject to the Universities own criteria.

NFF submits that even if Universities were bound to recognise AQTF VET qualifications and provide instant course credit, there exists strong cultural resistance that excuses would be found that a Diploma under VET doesn't quite match the Diploma subjects at 'our' University and would be deemed ineligible.

Whilst some of this can be driven by regulating such requirements, a significant cultural change is required by Universities to accept that vocational qualifications are the equivalent and equal to a University qualification.

A trade artisan is an equally valuable member of society as is a degree holder.

The Discussion Paper highlights the complexity of governing relationships and reporting obligations on both higher education and vocational education providers.

Further the paper suggests that these are more concerns for the Institution and Governments, and not an issue for students.

NFF submits that it ultimately an issue for students as the inefficient focus on paperwork compliance and working to numerous masters and reporting requirements diverts resources away from improving education provision.

Equally the interference of Government also hampers the ability for higher education providers to more effectively engage with industry.

3.5 ENGAGEMENT WITH THE INNOVATION SYSTEM

NFF has made submissions (Attachment C) to the Innovation Review. In addition the importance of R&D has been reference in earlier parts of the submission.

NFF submits that any principles that could be utilised to specialise research activity at particular universities or types of universities should be respectful of the specific needs of rural Australia.

In attempts to justify the creation of specialist centres, it would be an easy decision for these to be located in Group of 8 Universities in metropolitan Australia, thus further dividing the equity and access options for rural Australia.

Equally, attempts to specialise (regardless of whether it is for University, business or community services) have generally resulted in stagnation and loss of innovation.

A competitive environment should be maintained as it is the underlying principles of competition that drive innovation and continual improvement.

Taking away competitive pressures produces complacency and rigidity.

Whilst this will produce slightly higher expenditure as certain research and development will be duplicated and some level of inefficient resource use, the overall benefits to national productivity are higher.

These inefficiencies could be overcome through greater collaboration, not just in Australia, but within the worldwide research framework.

3.8 INTERNATIONAL ARENA

The Discussion paper highlights the increased demand by students for international recognition of their qualifications.

The move by the European Higher Education Area (Bologna) has many positive aspects and should form the basis for efforts by Australian higher education providers to provide greater course consistency and recognition by international standards agencies.

3.7 SOCIAL, ECONOMIC, AND CULTURAL CONTRIBUTION

As previously submitted, the role of Universities in non-metropolitan Australia is quite significant.

Not only are they major contributors to the regional centres they have operations in, they also contribute to overall regional sustainability through developing a skilled and professional workforce to deliver core services such as health and education.

3.7 RESOURCING THE SYSTEM

The Discussion Paper suggests that student choice could be used as the primary driver of public funding.

Unfortunately, as previously outlined, this approach would result in a stronger mismatch between job opportunities and course offerings.

Courses that are viewed as “popular” would inevitably receive significant more funding under this model regardless of their cost of delivery.

Realistically, some courses are relatively easy to teach and require little in the way of capital expenditure or equipment, whilst other qualifications require significant tutelage, personal supervision and ongoing capital expenditure.

The cost to deliver a lecture on the three P’s of marketing to a lecture hall full of several hundred students has a significantly lower cost base than a subject in entomology requiring laboratory equipment for each student.

It would be a perverse outcome for the marketing subject to receive more public funding and subsidisation than one on entomology considering the relevant merits.

4. CONCLUSION

Rural industries have a lot to boast about from their engagement in research and development and higher education providers.

The productivity gains achieved have allowed Australian farmers to compete against other nations who have significantly lower input costs or who benefit from government subsidies and trade barriers.

It is timely to recognise the importance that higher education has provided to this success and to refine the existing system.

The role and guidance that an industry can have to education provision cannot be disputed.

For Australian farming to deal with the challenges it faces, a highly educated and skilled workforce will be of vital importance to its continued survival.

There are a number of opportunities available to drive greater engagement by rural Australia and farming in higher education and meet some of the core goals being sought by the Australian Government.

Action is required now to make higher education more accessible and equitable for rural Australians.

This will help ensure the future profitability and viability of farming and its role in feeding and clothing the world.