A career in agriculture – what does the future hold?

Sally Davison
Australian Farm Institute

A common adage is that there are two things in life that are certain – death and taxes. However, perhaps there are three – death, taxes and the fact that everyone has to eat. It is tempting to think that this third inevitability means farmers will never be out of a job, but it’s interesting to consider how the nature of the agricultural profession has changed over time, and what this means for those interested in working in the industry.

As those who arrived in Australia in 1788 quickly discovered and as farmers have been learning ever since, Australia is not always an easy place to grow food and fibre. However, despite the difficulties encountered by the early European settlers, Australians have continuously enjoyed an abundance of locally-produced, safe, cheap and high quality food for the past two hundred years. The efficiencies and advancements Australian farmers have made in agricultural production mean that Australia’s 130,000 farmers produce sufficient food for more than 60 million people, and sufficient fibre for many times that number of people.

The methods used to produce food and fibre on Australian farms have changed significantly over time, and with it, what it means to work in agriculture. This is also true of other occupations. You don’t tend to see many telegram deliverymen, petrol station attendants, switchboard operators or chimney-sweeps these days. These are some of the many jobs which have become extinct over time, through the development of new technologies or even new industries. Farming is an occupation that has survived through the ages, but the work of a farmer today is vastly different to that of farmer in the 19th century. Few people working on farms today can shoe a horse, or sow up a bag of wheat, or work a cross-cut saw, or use an adze to shape a fence post, but these were all important farm skills a little more than fifty years ago. On the other hand, farm workers fifty years ago never had to calibrate a boom spray, read a yield map, download CBOT wheat prices, or analyse the fertiliser needs of a paddock based on soil tests.

(continued over page)
A career in agriculture – what does the future hold? (continued)

Agriculture is an industry which perhaps best demonstrates the impact of technology on the nature of an occupation. Not only has the number of people working directly in agriculture changed, but also the types of jobs, the proximity of these jobs to farms, the level of education required of workers, and the technologies that a farmer relies on. Analysing what and how productivity changes have been made in the sector may provide clues as to how the sector is going to evolve in the future, and what that will mean for a future career in Australian agriculture.

Productivity – what’s it got to do with work on farms?

In the second half of the 20th century, global population and therefore food demand grew at an unprecedented rate. Yet despite this enormous growth, agricultural production kept pace, in fact increasing beyond what was required, with the result being that inflation-adjusted food and fibre prices fell significantly over this period. How did this occur? The answer is that productivity gains made in agriculture have a lot to do with it.

Productivity is a measure of the efficiency of the conversion of inputs to outputs. Productivity growth involves increasing output from a given level of inputs, and these inputs include labour. Over the period from 1975 to 2004, the Australian agriculture sector achieved the second highest rate of productivity growth of any industry sector in the Australian economy. Australian agriculture has achieved productivity growth levels up to four times higher than the average for the economy as a whole.

Much of the productivity growth that has occurred in Australian agriculture over recent decades has been in terms of outputs per unit of labour, which has occurred both as a result of reduced labour inputs, but also due to increases in total outputs. Some of the consequences of these changes have been that the number of farm businesses has declined as it has become possible for the same number of persons to manage a bigger area of land, and in addition the number of people employed in the sector has also declined.

Figure 1 above shows the change in the number of farms in Australia from 1956–57 to 2007–08. The analysis is somewhat hampered by a change in statistics collection methodology in 2005–06 as evidenced by the sudden jump in the apparent number of agricultural enterprises. However, the overall trend is clear: over the last half century the number of farms has decreased significantly. While there has been an overall decrease in the number of farms, the size and composition of agricultural enterprises over this period has changed dramatically. Farm businesses have been reducing in number, and increasing in size. Evidence of this is found in ABARE annual farm survey data from 1990 to 2009 (all converted to 2009 dollars) which shows growth in the proportion of farms with gross income of $400,000 and over, while the proportion of farms with less than $100,000 gross income has declined. Over the same period, the proportion of total gross farm output attributable to large-scale farms has increased substantially, rising from around 30% in 1990 to around 70% at present. This means the farms in the $400,000+ gross revenue category now account for 70% of gross production.

Productivity growth has had a lot to do with this change.

As a nation which exports about two-thirds of its agricultural products, increasing productivity growth is also about staying competitive in the international marketplace. As most Australian farmers are aware, the global agriculture market is an uneven playing field. Farmers in other countries often receive support through direct subsidies or trade support. The level of producer support from 2007–09 in Australia was about 4%, compared with 9% in the United States, 47% in Japan, 53% in Iceland, 58% in Switzerland, and 61% in Norway. This measure of support is estimated by the OECD, including not only budgetary outlays to the sector, but also the extent of measures that result in agricultural commodity prices that are higher than those on the international market.

When Australian farmers compete on the international market, they are competing against farmers from other

Figure 1: Change in the number of farms in Australia from 1956–57 to 2007–08.

Source: ABS Statistical publication 7121.0, various years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage change (RHS)</th>
<th>Number of farms (LHS)</th>
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<tbody>
<tr>
<td>1956-57</td>
<td>-7%</td>
<td>220,000</td>
</tr>
<tr>
<td>1958-59</td>
<td>-6%</td>
<td>200,000</td>
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<tr>
<td>1960-61</td>
<td>-5%</td>
<td>180,000</td>
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<tr>
<td>1962-63</td>
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<tr>
<td>1964-65</td>
<td>-3%</td>
<td>140,000</td>
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<tr>
<td>1966-67</td>
<td>-2%</td>
<td>120,000</td>
</tr>
<tr>
<td>1968-69</td>
<td>-1%</td>
<td>100,000</td>
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<td>1970-71</td>
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<tr>
<td>1972-73</td>
<td>1%</td>
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<tr>
<td>1974-75</td>
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<tr>
<td>1976-77</td>
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<tr>
<td>1978-79</td>
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<td>1980-81</td>
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<td>1982-83</td>
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<td>1984-85</td>
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<tr>
<td>1986-87</td>
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<tr>
<td>1988-89</td>
<td>4%</td>
<td></td>
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<td>1990-91</td>
<td>2%</td>
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<td>1992-93</td>
<td>1%</td>
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<td>1994-95</td>
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<tr>
<td>2002-03</td>
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<td></td>
</tr>
<tr>
<td>2004-05</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>2005-06</td>
<td>7%</td>
<td></td>
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<tr>
<td>2007-08</td>
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nations who receive these much higher levels of taxpayer support. Maintaining a higher rate of productivity growth in Australian agriculture relative to other nations is the most important way in which Australian farmers are able to remain globally competitive.

Where do productivity gains come from?

Necessity is the mother of invention. In no other sector is this truer than the Australian agriculture sector. There are many factors which may influence productivity rates in agriculture. These include seasonal changes, infrastructure, education, communications, transport, farm size, improvements in fertilisers, pesticides, new crop varieties and new livestock technologies. Each of these elements, and others, has changed significantly in Australia over past decades.

A combination of a lack of manpower and demand for food during World Wars I and II placed increasing pressure on agricultural systems. The process of planting and harvesting crops, in particular, was revolutionised with the development of the tractor, combine-harvester, delivery of grain by trucks, and the development of sack-loading devices. These changes were all outcomes of necessity.

Despite these significant developments, until the 1960s and early 70s, productivity gains were not keeping pace with population growth. A big factor in the turnaround is work done on plant genetics over this time, in the period termed the ‘Green Revolution’, which resulted in more productive plant varieties that responded to improved production practices with increased yields. The new high-yielding varieties of wheat, maize and rice were introduced commercially into many countries including Australia. This research translated into significant increases in grain production, and coincided with the development of key changes critical to modern agriculture, such as the increased use of pesticides, fertiliser and irrigation.

Increased soil degradation and food shortages in this time also lead to a search for sources of elements critical to the growth of plants, including phosphate rock and guano for phosphorous, nitrogen fertiliser produced by synthesising ammonia from atmospheric nitrogen, and sulphur and potassium. The development of mineral fertilisers was a key contributor to increased global crop yields.

In livestock sub-sectors, the past half-century also represented a period of significant changes in practices as a result of improvements in animal breeding, genetics, feeding technologies, and more recently advances in animal disease and animal health management.

Research and development has been a consistent and significant source of productivity growth, contributing to every step of the modernisation process. The rapid emergence of biotechnologies provides an excellent example of the role research and development plays in changing production practices. Modern biotechnology includes the manipulation of whole organisms, groups of cells or cell components. Genetic engineering generally refers to the identification of genes which control particular processes, and the transfer of that gene into another organism. For plants, this opens up major areas for manipulation such as insect resistance or herbicide tolerance.

Genetically engineered crops were made commercially available in 1996, and since then their use globally has expanded significantly to 134 million hectares in 2009. Genetically engineered crop adoption was slowed in Australia due to state government moratoria, but their adoption is now increasing rapidly. As technology continues to evolve more broadly across society, the application of biotechnology in agriculture will inevitably adapt in response. The future of agriculture will almost certainly incorporate an increasing level of technological advancement.

What does all this have to do with employment?

Over time, developments such as research-induced technical change, changes in infrastructure, levels of education, communication technology, availability of information and advice, seasonal changes, policy environment, investment levels, openness to trade, and uptake of new technologies; have all combined to influence the way people working in agriculture carry out their daily activities. For each factor that influences the agriculture sector, there is an associated skill-set and a job to go with it.
Table 1: Estimated employment in agriculture by sub-sector, 2001–02 to 2007–08.

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</thead>
<tbody>
<tr>
<td>Horticulture</td>
<td>23.9%</td>
<td>27.0%</td>
<td>28.5%</td>
<td>27.5%</td>
<td>27.4%</td>
<td>27.3%</td>
<td>23.1%</td>
<td>−0.9%</td>
</tr>
<tr>
<td>Grain, sheep and beef cattle farming</td>
<td>52.6%</td>
<td>48.1%</td>
<td>49.0%</td>
<td>44.9%</td>
<td>46.4%</td>
<td>46.0%</td>
<td>49.0%</td>
<td>−3.6%</td>
</tr>
<tr>
<td>Intensive livestock</td>
<td>9.9%</td>
<td>10.6%</td>
<td>8.8%</td>
<td>10.4%</td>
<td>10.6%</td>
<td>9.7%</td>
<td>10.2%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Other livestock farming</td>
<td>3.0%</td>
<td>3.5%</td>
<td>3.0%</td>
<td>3.5%</td>
<td>3.7%</td>
<td>3.4%</td>
<td>2.8%</td>
<td>−0.3%</td>
</tr>
<tr>
<td>Broadacre cropping</td>
<td>4.2%</td>
<td>3.8%</td>
<td>3.2%</td>
<td>5.4%</td>
<td>3.0%</td>
<td>4.8%</td>
<td>5.3%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Services to agriculture</td>
<td>6.3%</td>
<td>7.0%</td>
<td>7.5%</td>
<td>8.3%</td>
<td>9.0%</td>
<td>8.9%</td>
<td>9.7%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Total agriculture</td>
<td>372,397</td>
<td>314,670</td>
<td>312,110</td>
<td>303,138</td>
<td>298,675</td>
<td>307,350</td>
<td>305,763</td>
<td>−3.2%</td>
</tr>
</tbody>
</table>

* Percentages may not add up due to rounding.

Sources: ABS and AEC data, as per AEC group, 2010, Towards a Better Understanding of Current and Future Human Resource Needs of Australian Agriculture, Research Report, Australian Farm Institute, Surry Hills, Australia.
Auscott – Namoi Valley, NSW

In 1985, in the Namoi Valley in north-western NSW, the ideal yield for a cotton crop was 7.4 bales of cotton per hectare. Today, the goal is 12.5 bales per hectare, a yield increase of over 60%. The productivity gains made in the cotton industry have a lot to do with new, improved varieties of cotton plants. However, to take full advantage of the opportunities offered by advanced plant breeds, farm managers need to adapt production and management changes, including new technologies.

Thirty years ago, working on a cotton farm was a very physical job, and the most advanced technology was the weather forecasts that arrived by fax. Today, cotton pickers have developed to the point where one machine can do the same work that 12 machines did in 1980. Rather than maintenance involving the local mechanic coming out to the farm, today the technology is available for the mechanic to access the picker remotely via a computer and review the performance of the machine as it’s going. This also means the mechanic doesn’t need to be in a town near the farm, but can access the information from anywhere. The efficiencies these advancements bring are significant; however for employment there are a number of implications, not only for picking crews.

In 1980, about 120 people were working to develop a large-scale irrigated cotton farm in the Namoi Valley. Today, about 20 people work on the farm. The change in the number of employees on the farm has also signalled significant changes in efficiencies across the farm. For instance, where there were once 60 people working in the cotton picking crews alone, today two of Auscott’s 20 employees can do this work. This means that the other 18 people, who were once required to drop everything when harvest started, can now continue working on preparing for the next crop, raising the overall productivity of the enterprise. The time and money that was once spent only on harvesting can now be reinvested in other areas of the business, making it more efficient.

The agriculture production system is diverse and relies on a range of factors. To optimise the efficiency of each factor, a huge range of technologies have been developed, particularly in the cotton industry. From guidance systems for agriculture equipment to telemetry equipment for remote reading of soil moisture levels and management of water movement around the farm, the way farming systems operate has changed dramatically. In many respects, the person who sits in the office and manages soil water movements and water delivery and transfer systems using a laptop computer is the most critical employee.

For the people working at Auscott, having a broad skill-set in a range of areas has become increasingly important as technologies changed. For every new item of equipment that is implemented on the Auscott farm, someone is required to operate it. For this employer, engineering skills, an aptitude for technology and a strong interest in learning, are some of the most important skills of an employee.

As technological change continues at an ever-increasing rate, it’s increasingly unlikely farmers will be able to keep abreast of every new technology development, market demand or retailer requirement. Consultancy or advisory personnel will therefore become increasingly important to facilitate the technology transfer required to keep farms ahead of the competition, a trend that is evident in the data in the table displayed earlier. The pressure to produce increasing amounts of food of very high quality, but with the lowest environmental footprint will also influence the type of skills required of consultants servicing the farm sector. Skills in areas such as environmental assessment, ability to implement standards, and the development of good record keeping systems will be more important in the future.

It’s clear that as each agricultural production change happened, it not only influenced the productivity of the sector, it also influenced the nature of a job in agriculture. What was a very physical job focused on manual tasks, has diversified into many varied roles which require very different levels of technical aptitude. A job in agriculture will be less likely to be based on the farm, the level of technical knowledge and education required will continue to increase, and the range of technologies an employee will need to be conversant in will grow. The increasingly sophisticated nature of the agriculture industry provides a great opportunity for young people looking for a challenging career, and this needs to be highlighted in order to attract new industry entrants to meet the projected future demand for agriculture workers.

Institute research explores the link between private and public sector funded R&D

What do private sector organisations such as agrichemical, fertiliser and seed suppliers think of Australia’s rural research and development corporations? Do they think the R&D corporations are efficient and effective, or do they think they are a waste of farmers R&D levy funds? Do private sector firms see R&D corporations as competitors, or collaborators?

These were some of the questions that have been put to the major private sector agrichemical, fertiliser and seed providers in a research project carried out by the Australian Farm Institute. The project was developed because it was realised that very little is known about the interactions between the private and public sector research organisations that service the farm sector in Australia.

This is becoming an increasingly important issue as public sector funding for agricultural R&D is gradually being reduced in the budgets of most Australian states, and Australian Government agencies are also reducing the resources they allocate to agricultural research. The future funding of rural R&D corporations is also the subject of a current inquiry by the Productivity Commission, which has made a preliminary recommendation that public funding for agricultural R&D should be further reduced in the future.

One of the more interesting preliminary findings to come out of the Australian Farm Institute research concerns the costs of discovering, testing and registering a new chemical active ingredient for use on crops or livestock. Research conducted amongst the major international agrichemical companies has identified that it now costs more than US$250 million to bring a new chemical to the agricultural market.

This cost is so high, because in a country such as Australia where agricultural products are exported to a multitude of different countries, any new chemicals have to be registered for use in all those destination countries. If not, Australian produce would face the risk of rejection if the chemicals were detected, the consequences of which are seared into the memory of all those involved in the Chlorfluazuron beef contamination event that occurred in Australia in 1994.

The high cost of developing and registering a new chemical probably explains why there has been so much consolidation amongst the multinational agrichemical companies, and could also lead to the conclusion that these companies would not have much interest in investing in agricultural R&D in a small market such as Australia. However, this is not necessarily the case, as has been demonstrated by the recent decisions by Dupont to enter into a partnership with the Centre for Plant Functional Genomics at Adelaide University, and Monsanto, which has announced an equity investment and collaboration agreement with Intergrain, a Western Australian cereal breeding company funded by the WA Government and the Grains Research and Development Corporation.

The preliminary results of the Australian Farm Institute research perhaps help to explain why multinational companies would be interested in agricultural R&D investment in Australia. The research found that private sector organisations were very positive about the activities of the rural R&D corporations, and overwhelmingly considered the efforts of the rural R&D corporations to be complementary to private sector research efforts, rather than competitive. Almost half the private sector companies had engaged in collaborative research with the rural R&D corporations, and most reported good outcomes from this collaboration.

Perhaps most significant was the response by these companies to a question asking how they would respond to either a decrease or an increase in agricultural R&D investment by the rural R&D corporations. Forty per cent of the respondent companies said they would decrease their R&D investment if the rural R&D corporations decreased their R&D efforts, and more than 50% of the companies said they would increase their Australian R&D investment if the R&D corporations increased their spending.

These results highlight that private sector organisations see rural R&D corporation activities as being very complementary to their own, and also highlight the folly in assuming that if public sector agricultural R&D is reduced, then the private sector will step in and pick up the slack.

It is anticipated that the report arising from this research will be released by the Australian Farm Institute in early 2011. Check the Institute website (www.farminstitute.org.au) for more information.
Research finds significant flaws in carbon sink forest planning and approvals process

As the Australian Government signals that it intends to take action to put a price on greenhouse emissions during 2011, and with the release of its consultation paper on how farmers can generate carbon offsets, the findings of some recent research commissioned by the Australian Farm Institute becomes all the more significant.

The objectives of the research were to review projections of the likely scale of carbon sink forestry that would be established in Australia if a greenhouse emissions trading scheme was introduced, to review what is known about the likely impacts of carbon sink forestry development, and to examine what development approval processes relevant government authorities consider when deciding whether or not a carbon sink forest development should be allowed to proceed.

These questions are important for the agricultural sector, because carbon sink forests are likely to be developed on land currently used for farming, and could result in increased competition for farmland in certain regions. The resulting changes may also affect farm input suppliers and agricultural processing and marketing companies, as well as regional economies.

The research project was carried out by consultancy firm GHD Hassall, and was partly funded by the National Climate Change Research Strategy for Primary Industries, a collaborative grouping of rural R&D corporations and Australian and state government agricultural agencies.

Treasury modelling carried out as part of the Rudd Government’s Carbon Pollution Reduction Scheme proposal in 2008 identified that most of the projected reduction in Australia’s net greenhouse emissions over the period from 2010 to 2030 would be from either imported international carbon credits, or from offset credits generated from newly established carbon sink forests in Australia.

The modelling projected that, depending on the carbon price, between 6 and 25 million hectares of carbon sink forests would be established by 2050. This would be a very significant change in landuse, given that as a comparison, 25 million hectares is the total area of land currently used for crop production in Australia.

While such modelling is very preliminary and subject to assumptions, it does provide notice about the potential significance of carbon sink forestry as a competing landuse in the future. It is also interesting to observe that the recent introduction of an Emissions Trading Scheme in New Zealand has created strong demand for forestry offsets.

The government has also recently released a consultation paper on its proposed legislation that will enable landholders to generate offsets suitable for some domestic and international carbon markets. The Carbon Farming Initiative (CFI) details the integrity standards that offset activities will be required to meet, in order to generate offset credits. One of the only activities that appears likely to initially meet these requirements is forestry, which provides a further indicator of the likely growth in demand for farmland to be used for carbon sink forests.

Given this potential demand, it would obviously be prudent for state and local government authorities which have planning approval for carbon sink forests to be fully aware of the potential issues that might arise if forestry development is not carefully managed. However, the research found that none of the Australian states or territories has a specific approvals process for carbon sink plantations. The research also found that the approvals processes for forestry developments vary quite considerably. In some cases the relevant approval authority is at the local government level, while in others it is centralised at the state government level. There is considerable variation in relation to how the possible impacts of carbon sink forests are considered. Few states give any consideration to the possible socioeconomic impacts, and only Western Australia requires consideration of the loss of prime agricultural land. No states or territories require any consideration of potential regional economic impacts, and none consider the cumulative impacts of multiple developments within a region.

The research has highlighted that, despite the likely significance of carbon sink forestry in future greenhouse emission reduction efforts, governments in Australia are not well-prepared to deal with these developments. There is an obvious need for a more comprehensive and consistent planning and approvals process for carbon sink forests in Australia, and one that it would be better to have in place before problems arise.

The Implications of Greenhouse Mitigation Policies on the Demand for Agricultural Land is available for purchase on the Institute website.
Foreign investment in Australian agriculture

The Hon. Joe Ludwig
Minister for Agriculture, Fisheries and Forestry

Australian farmers and producers are tough people. We’ve seen that toughness on display in recent weeks right across Australia. But it comes as no surprise to me.

Australian agriculture is resilient in the face of many challenges. Whether it’s climate variability, market pressures, resource scarcity or simply the hard work that comes from working the land – Australian agriculture has adapted and grown.

An area of interest in the general community in past months has been foreign investment in agriculture. What farmers and producers across Australia know is that investment, whether it be domestic or foreign, is vital for the growth and success of Australian agriculture. Investment helps Australian farms to be more efficient, competitive and profitable in world markets. And we’re very good at it. We have a food surplus, growing far more fresh produce than we could possibly eat.

In fact, Australia is a net food exporter by a significant margin. Last year, we had a food-trade surplus of more than $14 billion. Currently we are exporting close to 60% of our food production. At the same time 98% of the fresh produce eaten by Australians is grown and supplied by our own farmers, while we still have plenty of produce to send to overseas markets. One of the factors that has significantly contributed to this unequivocal success is investment in Australia’s agriculture and agribusinesses from foreign sources.

Foreign investment in Australia provides capital for our producers, allowing them to expand beyond what they would otherwise have been able. Flow-on effects benefit regional communities and small businesses, creating new jobs and stimulating the local economies. Increasing the flow of capital also allows for greater investment in research and development, while often foreign investors can also bring with them knowledge of overseas technology and know-how. This new technology, equipment and knowledge, is critical to the long-term development of Australian agriculture.

Overall, foreign investment has contributed to Australian farms being among the most efficient, competitive and profitable in world markets.

Beside the flow-on effects of capital investment, foreign investment in agricultural land is of significant benefit to our farmers. Like any property owner in Australia, ultimately Australian farmers and agricultural companies are entitled to sell their assets to the buyer which maximises their return.

Of course, where the investment is from a foreign source and is of a significant magnitude, then neither the community nor the Government would want the investment to go ahead without any further thought. That’s why Australia has a longstanding foreign-investment policy that allows the Government to review significant proposals on a case-by-case basis to consider whether the investment is in the national interest.

In addition, all foreign governments, agencies and state-owned enterprises must notify the Foreign Investment Review Board – and receive approval – before making a direct investment in Australia. This applies whether the transaction involves one dollar or a billion dollars.

Despite the clear benefits from foreign investment in agriculture and Australian agribusinesses, and the review process that is in place for foreign investments in Australia, there remain concerns among the community about the sale of rural land and agricultural businesses to foreign investors. The Government is addressing these concerns by taking action to strengthen the transparency of foreign ownership of rural land and agricultural food production.

I have asked the Rural Industries Research and Development Corporation, in collaboration with the Australian Bureau of Agricultural and Resource Economics and Sciences to report on the role and history of foreign ownership in the development of Australian agriculture and the factors driving foreign investment.

Additionally, Assistant Treasurer Bill Shorten has asked the Australian Bureau of Statistics to examine rural-land and water ownership, to get a better statistical picture of foreign investment in Australia. This work will strengthen the transparency of foreign ownership of rural land and agricultural production.

While this important discussion continues, our farmers and our country continue to face new challenges such as climate variability, resource constraints and an increasing population. In order to support our primary producers, the Government has introduced important initiatives such as Australia’s Farming Future and Caring for our Country, and continues to invest around $200 million each year in research and development.

In summary, the Government will do all it can to respond to the sector’s concerns and continue to support dynamic markets for Australian agriculture. This is because the Government knows the importance of a healthy agricultural sector to the national economy, jobs, and in turn regional communities.
The Hon. John Cobb MP  
Shadow Minister for Agriculture, Food Security, Fisheries and Forestry

Foreign investment has been incredibly important to agricultural development and production in Australia. However questions of national and international food security, combined with a tenfold increase in foreign investment in Australian agriculture (especially agribusiness), has quite rightly ignited the current debate.

Food security has become a bigger international issue with a series of natural disasters, population growth, diminishing world supplies and debates over future population growth and climate change. This is exacerbated by the emergence of new economic superpowers like China and India who are now international investors; and the sleeping giant Brazil is now awake.

As a country that exports two-thirds of its broadacre production, food security would not seem to be a problem. However it is becoming evident that we risk losing control of our supply lines as other countries and foreign entities, forward planning for their own needs for the next fifty years, are strategically buying in places like Australia.

While Australian heartstrings are pulled by the notion of selling off the farm, in actual fact the bigger issue is foreign ownership of agribusiness. It makes a lot more sense to buy the processor, the trader or the wholesaler of agricultural production than buy a hundred or a thousand farms with all the problems of government bureaucracy, regulations, interference from the green lobby and animal liberationists, rising input costs and variable weather conditions.

In the past, foreign investment has been injected into industries rather than buying them out, but the deregulation of agribusiness in Australia has seen the focus shift from foreign investment to foreign ownership. As a result many farming industries, for example dairy with the buy out of cooperatives, have found that the short-term financial gain to individual members is outweighed by long-term impacts such as reduced farmgate prices though loss of market power.

It is evident that as the world population continues to grow we need to look at our food security in a way we never have before. If we do not put in place sensible safeguards it will make it difficult for governments to regulate exports having allowed the foreign control of agribusiness in the first instance.

The current rules for foreign investment are outdated and do not address food security. For example the $231 million trigger for review by the Foreign Investment Review Board for agricultural investments would almost never trigger a review of land purchases and can be too high even for agribusinesses.

In three short years the Labor Government has presided over a tenfold increase in foreign investment. By cutting valuable programs and stripping research and development resources, the Rudd/Gillard Government has undermined domestic confidence in agriculture and reduced local competition to overseas investment. Furthermore, in the long and short term, domestic agriculture has more to fear from Labor’s proposed carbon tax than any other sector, and Australian investors are all too aware of this.

The Gillard Government has made noises about ownership for political reasons but has largely ignored the real issue, agribusiness. The Senator Xenophon bill1 goes to the other extreme – triggering a costly review for agricultural land purchased for as little as anything over five hectares – but without improving knowledge on which decisions are based.

That is why the Coalition has tabled a notice of motion outlining a comprehensive policy approach to the issue. This notice of motion will task the Australian Bureau of Statistics (ABS) and the Australian Bureau of Resource Economics (ABARE) to gather and clarify information on foreign investment in agribusiness and agricultural land, then task the Productivity Commission with a review to recommend safeguards for national food security interests, not only by evaluating individual investment but also the cumulative impact of foreign ownership. A parliamentary committee will then consider the recommendations.

Foreign investment is important for Australian agriculture, but it is also important that while we encourage investment we safeguard our nation’s food security in a changing world environment.

Comments on the topic of foreign investment in Australian agriculture can be posted on the Ag Forum blog. The June Farm Policy Journal will cover this topic in detail, and will be available for purchase on the AFI website: www.farminstitute.org.au

1. Independent Senator Nick Xenophon has stated he will introduce a Private Members Bill requiring the Foreign Investment Review Board to look more closely at foreign ownership of rural land.
A brief review of media misconceptions about rural Australia

The release of the Murray-Darling Basin Authority’s ‘Guide to the Basin Plan’ in late 2010 and the ensuing debate about water policy resulted in a long list of ‘experts’ propounding at length in the print media on the topic, and repeatedly making what were quite misleading claims. Two misleading claims that were aired repeatedly in the media over this period were that the impacts of the proposed irrigation water cuts on agricultural output (and regional communities) would be minimal based on the experience of the recent drought, and that the nation would be better off if more water was removed from agriculture and allocated to higher value uses such as manufacturing. Despite the major logical flaws in both these claims, no journalists appear to have challenged either of these.

The first claim – that based on past experience a cut of 30% in irrigation water availability would only result in a minimal change in the value of irrigated agricultural output – was made repeatedly by someone whose qualifications suggest he should know better. The following is an example of what was claimed, from the ABC rural radio website:

A university economist says farmer groups are exaggerating the economic losses from reduced water allocations over the past ten years. Quentin Grafton says Australian Bureau of Statistics figures show that despite dramatic water cuts during the drought, gross income in the Murray-Darling Basin fell only slightly. Professor Grafton is Director of the Centre for Water, Economics, Environment and Policy at the Australian National University.

He says the figures show how diversification benefited the whole Basin. ‘In 2000–01, the gross value of irrigated agricultural production was just over $5 billion, and they used surface water of about 10,500 gigalitres in that particular year,’ he says. ‘Fast forward to 2007–08, 70 per cent reduction in surface water use, guess what happened to the gross value of irrigated agricultural production? It changed by less than 1 per cent.’

The inference arising from the use of this example is that the proposed cuts to irrigation water will have minimal economic impacts. The big problem with this reasoning, as any economist is well aware, is that the gross value of irrigated agricultural production is calculated by multiplying the volume of production, by the value or prices received for the agricultural commodities produced. Any change in the gross value of irrigated agricultural production between different years is the combined effect of changes in both the volume of commodities produced and the prices of those commodities, and not just the volume effect of changes in water availability.

This is significant, as the unit prices of most agricultural commodities in 2008 were between 50 and 100% higher than in 2001, as a consequence of the short-lived 2007–08 global soft commodity boom. These higher commodity prices greatly boosted the calculated gross value of irrigated production in 2008, effectively counteracting the reduced volume of production due to the lack of irrigation water.

If constant 2001 prices are used to correct for commodity price changes between these two years, then the constant-price fall in the value of irrigation output associated with a 70% reduction in water availability was approximately 31%. This is obviously a much bigger impact than the ‘less than 1 per cent’ and suggests that the real impact of the 30% cut in irrigation water availability (as proposed in the ‘Guide to the Basin Plan’) would on average be reduction of around 15% in the value of irrigated output, a reduction that would obviously have a large negative impact on the economy of the basin.

While it was extraordinary that a person holding a senior academic position at a major university would make such a blantly misleading claim (raising questions about the administration of ethical standards at the university), what was perhaps even more disconcerting was that there is no evidence that journalists covering this issue challenged the fallacious reasoning being used.

The second claim that was made on a number of occasions (see, for example, ‘No time to go with the flow as inefficient approach leaves us high and dry’ in the Australian Financial Review, 18 December 2010) is that because the gross value of output per megalitre of water used by sectors such as manufacturing is much higher than the gross value of agricultural production per megalitre, the community would be better off if more water was removed from agriculture and transferred to other sectors of the economy. In part, the article stated;

Data from the Australian Bureau of Statistics (ABS) shows the gross value added for each gigalitres (GL) of water consumed in the mining sector in 2008–09 was $226 million and $184 million for manufacturing, but only $4 million for agriculture.

The article then quoted a 2006 Treasury Paper which said that;

[The extent of the differences between sectors shown in earlier figures was so large it was reasonable to conclude that a ‘reallocation of water between industries could improve the allocative efficiency of water use and yield substantial benefits to the economy’.

This notion is almost laughable in its naivety, and ignores the fact that most of the water used for irrigation in Australia is located in the Murray-Darling Basin, which with the exception of Adelaide is geographically separated from the main population centres where other industries that might use water are largely located. It also ignores the fact that other sectors, such as mining or manufacturing, can purchase water entitlements in the Murray-Darling Basin if they require them, but there is simply not enough demand for water from other sectors to account for even a fraction of the water that is used by irrigators.

The logic being applied in this claim is a bit like saying that Australia would be better off if all the land used for farming was converted to housing blocks, because statistics show that land used for housing is valued much higher than land used for farming! What is also amusing about the logic being applied in this second claim is that it is being used selectively for water allocated to agriculture, but strangely not for water allocated to the environment. If this same logic was applied to decisions about environmental water allocations, there would be no water at all for the environment, because the Australian Bureau of Statistics records no economic output value for that water!
Australian and international farm policy news

Carbon heist

Trade on the Emission Trading Scheme of the European Union (EU) was halted in January 2011, following a spectacular heist by computer hackers in the Czech Republic. Two million allowances, worth about €28 million, are unaccounted for after a bomb threat was called in to the company that manages the Czech Republic’s national registry. During the five hours the registry was evacuated, the theft occurred as the computer network wasn’t being monitored. This is the third such theft in as many months.

As a result of this, the largest theft, the EU has ordered its members to shore up security. Only 13 of the EU’s 27 member states have national registries with adequate levels of security, according to the European Commission, the EU’s executive arm. With a turnover of some €90 billion last year, the EU’s Emissions Trading Scheme is the world’s largest carbon market.

In other carbon market news, the price of Certified Emission Reductions (CER) closed 2010 at almost the same price as 12 months ago. Generated from projects in developing countries under one of the flexibility mechanisms of the Kyoto Protocol, CERs were trading at €11.40 on 31 December 2010. This is relatively unchanged from €11.47 on 4 January 2010.

Argentina’s farmers on strike

Argentine farmers have staged protest rallies over a system of export quotas which they say allows millers and exporters to pay them low prices, below international prices for their grain. This follows a wave of protests by farmers in 2008 which disrupted the country’s multi-billion dollar grains trade.

The impact of the protests is expected to be muted because soy and corn harvesting has yet to begin, however they come only nine months before presidential elections, at which Argentina’s President Christina Fernandez is expected to seek re-election.

US Farm Bill – a target for the razor gang?

Conservative Republicans in the United States of America are calling for aggressive steps to cut federal spending, and with the president’s budget being released in February 2011 it’s expected the farm bill will be targeted for cuts. The farm bill is the primary agricultural and food policy tool of the federal government, and is usually passed every five years. The current farm bill is the Food, Conservation and Energy Act of 2008.

The American Farm Bureau Federation has indicated that it wants a safety net that includes crop insurance, direct payments, a simplified Average Crop Revenue Election program and counter-cyclical payments. In 2010, President Obama proposed to reduce the cap on direct payments from US$40,000 per person, to US$30,000 and reduce the adjusted gross income eligibility for farmers to receive direct payments. These proposals did not move in Congress, but it’s expected these proposals will be introduced again in the president’s budget released in February.

Australian canola getting a head start in Europe

There is a new market available for Australian canola growers exporting to Europe, for certified sustainable canola. As part of the European Union Renewable Energy Directive, all materials used for biofuel in Europe must be Certified Sustainable. For growers, this means they may need to sign a declaration which states that the canola was produced from land that did not have a high biodiversity value in 2008, including land that was primarily forest or wooded.

Because competitors with histories of destructive land clearing will have trouble selling into this market, it’s being seen by some as a free kick for Australian canola growers.

Call for papers

The editorial board of the Farm Policy Journal seeks contributions on the following topics for 2011:

- June 2011: Foreign investment in agriculture and agribusiness, what is the issue? article submission due 4 April 2011
- September 2011: Do consumers really know what they want from food products? article submission due 4 July 2011
Out and about

Recently the Institute’s Executive Director, Mick Keogh, has spoken at:

- GRDC Advisor Updates, Bendigo, Victoria
- Federated Farmers of New Zealand National Council Meeting, Wellington, New Zealand
- Tasmanian Government Climate Change Conference, Burnie, Tasmania
- Tasmanian Farmers and Graziers Association Circular Head Branch Forum, Smithton, Tasmania
- Liberal Party Federal Regional and Rural meeting, Sydney
- Meat & Livestock Australia Executive Committee, Sydney
- NSW Nationals briefing, Sydney

In the news

Institute Executive Director Mick Keogh was interviewed by Radio 2UE regarding the Agriculture Roundtable Conference on 10 November 2010.

Following the release of the AFI research report *The Implications of Greenhouse Mitigation Policies on the Demand for Agricultural Land*, and the Federal Government’s draft legislation for the Carbon Farming Initiative, the Institute provided substantial media commentary on the subject of carbon farming. This included interviews on ABC radio and SBS (22/11/10), the ABC Rural article ‘Agriculture asked to help design carbon trading scheme’ (22/11/10), and Leslie White’s *The Weekly Times* article ‘Carbon tree fear’ (17/01/11).

Alison Fairleigh’s article ‘Murray Murmurings: the hidden cost of the Murray-Darling plan’ (3/11/10) on Crikey sourced data from the AFI research report: *Essential Services in Urban and Regional Australia – a Quantitative Comparison*. In an article that highlights the ‘detrimental effects the plan will have on social impacts, particularly mental health, and the risk of increased suicide resulting from loss of livelihood and/or threats to livelihood.’

The Institute was also asked to comment on Reserve Bank of Australia predictions of agricultural production growth of 10% in the ABC Rural report ‘Agriculture production to boom: Reserve Bank’ (20/12/10).

Mick Keogh was interviewed on ABC’s Bush Telegraph on 13 December 2010 on ‘The outlook for 2011’: ‘the deluge has been a game changer for rural Australia and created an extraordinary turnaround in fortunes for many farmers as they head into 2011.’

The flood disaster and subsequent downgrading of crop value resulted in a large volume of media interest in the farm sector, with the Institute being sought extensively for comment. Lauren Wilson and Amanda O’Brien’s article ‘Rain swamps rural recovery’ featured on the front cover of the *The Australian* on 4 December 2010, and was quoted on Bloomberg.com. An article by Ricky Roxa ‘Extended rains destroy crops, decimate Aussie harvest estimates’ in the *International Business Times* quoted the Institute: ‘that up to 30 per cent of that harvest projections could be lost if the wet weather does not improve.’ (6/12/10)

The *Australian* ran a follow-up article in January ‘Deluge swells wheat prices’ (5/01/11) quoting AFI predictions that: ‘wheat farmers in South Australia’s Eyre Peninsula, the Victorian Woomera and Mallee regions and some parts of the Riverina were among those to benefit from high commodity prices.’