VALUE ADDING TO AGRICULTURE IN CENTRAL WEST NSW
About Regional Development Australia Central West
Regional Development Australia — Central West is part of a national network of 55 locally managed, not-for-profit incorporated associations and is jointly funded by the Australian and NSW Governments. Our region extends from Lithgow in the east to Lake Cargelligo in the west and comprises the local government areas of Lithgow, Oberon, Bathurst, Blayney, Orange, Cabonne, Cowra, Parkes, Forbes, Weddin and Lachlan.

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Introduction

This study was born of a mutual recognition across key stakeholders and government bodies in the region, including Regional Development Australia Central West, NSW Department of Industry (Western NSW), the Department of Premier and Cabinet and Central NSW Councils (Centroc), that a food and fibre strategy was needed to ensure a sustainable, diverse agricultural economy reflecting the changing global landscape.

In 2016, NSW Department of Planning and Environment released two reports relating to agriculture and broader regional development and planning for the Central West and Orana regions:

1. Central West and Orana Agricultural Industries Report (Jan 2016)
2. Central West and Orana Regional Plan Draft (April 2016)

The Central West and Orana Regional Plan (Draft) specifically states that; “the NSW Government will work with Regional Development Australia Central West and Industry NSW to prepare and implement a value-adding strategy for the Central West area.”

Debate rages over whether agriculture will replace mining as Australia’s next big boom to become the “food bowl of Asia”. There is, however, general consensus that, due to the growing Asian middle class, a well-managed Australian agriculture has a bright future.

Agriculture represents 7.7% of Central West NSW’s GRP and is a key industry for the region.1

The Central West currently exports 65% of its agricultural production in commodity form.2 This shows that despite the number and variety of agribusinesses and food enterprises, the majority of wheat, livestock and horticultural products currently leave the region without additional value adding.

This report reviews current agricultural value adding trends and opportunities in Central West NSW, with particular focus on the categories of biotechnology, digital technology, processing and packaging, branding, and co-operation and collaboration. The report relies heavily on the case studies of Central West agribusinesses.

1 Regional Development Australia Central West (2014) NSW Central West Export/Import Contribution Study
2 Ibid
The purpose of this report is to provide deeper analysis of the agriculture sector in Central West NSW including the current value adding landscape. This report assesses trends across various agricultural sectors, considers domestic and international market demand trends and factors such as Free Trade Agreements that may impact future growth, and identifies promising opportunities to increase the extent of value-adding in niche areas. This report relies heavily on the experiences and insights of regional agribusiness case studies.

**METHODOLOGY**

The first stage of this report involved the completion of a comprehensive literature review and desktop study. Sources used include industry and academic research papers, government reports and media commentary covering regional, national and global issues relating to the broad field of value adding to agriculture and current trade opportunities. Please refer to the bibliography for a full list of sources.

The second stage involved stakeholder consultations including State and Federal Government departments, research and academic institutions, banks, industry bodies and individual businesses. Please refer to the stakeholder list at the end of this document for more information.

The most significant aspect of the project was the interview stage, which involved face-to-face meetings with over twenty regional agribusinesses. Individual case studies and business perspectives form a key component of the report. All interviews were followed up with phone calls and emails and subjects were given the opportunity to proof read transcripts of their interviews to ensure no information of a commercial in confidence nature was revealed. Developing and maintaining trust with local businesses was imperative in order to ensure meaningful participation in the process.

During the case study process, four key agribusinesses were selected to be interviewed, resulting in the production of a two-minute video showcase designed to be used on a variety of mediums to promote investment and agribusiness in Central West NSW.

The five key “value-adding” categories featured in this report (biotechnology, digital technology, processing and packaging, branding, and collaboration and co-operation) were identified as a result of the stakeholder engagement and individual business case studies.

The final stage of the project involved the development, distribution and analysis of an on-line survey. The survey established basic business information including approximate annual turnover, number of staff, location and core business type. The survey asked participants why their business was based in Central West NSW and the advantages and disadvantages of their location. Participants were also asked to describe any value adding activities they were currently engaged in or planned to engage in.

Over 100 surveys were distributed through various food and agribusiness networks including RDA Central West’s own database, Agribusiness Today forum members (including regional LLSs), Farmers’ Markets networks and through RDA Central West’s social media pages (Twitter and Facebook) and newsletter. Surveys completed and returned for analysis represented a range of agricultural sectors and businesses including dairy, meat, horticultural and grain producers, organic farmers, wine producers, bee keepers, cheese makers, fibre and meat processors and packaging enterprises.
KEY OBSERVATION HIGHLIGHTS

JOBS & SKILLS

Although it is one of the most important sectors and employers in the region, jobs are shrinking in agriculture in Central West NSW. If the region is to leverage the value adding opportunities afforded by the predicted growth of the agricultural industry, it will have to consider the consequences and develop strategies to manage shrinking jobs and skills gaps.

EXPORT AND DOMESTIC MARKETS

Considerable growth demand expectations in middle class Asian markets, and various trade agreements with those regions, will create significant opportunities for Central West agricultural products, including premium pre-packaged cuts of meat and fresh, packaged or processed horticultural produce, which are key strengths of the region.

The ability to transport produce by air from Canberra to Singapore — and 11 Chinese cities connected through Singapore — is a potential game-changer for agricultural exports from Central West NSW.

BIOTECHNOLOGY INNOVATION HUB

Central West NSW is ideally placed to be an Innovation Hub for research and the application of biotechnology in agriculture due to:

/ The region’s diversity of high quality agricultural produce;
/ The region’s proximity and accessibility to major centres;
/ Existing industry confidence in the region with two private enterprise biotechnology ventures already operating;
/ The location of the NSW Department of Primary Industries;
/ The region’s close ties with Charles Sturt University and the Graham Centre for Agricultural Innovation;
/ The region’s attractiveness to higher skilled workers (affordable housing, cost of living, work/life balance, schools and higher educational facilities, medical services and specialists and culture.)
/ The region’s status as one of seven “centres of regional growth” Australia-wide expected to contribute over $15b to the national economy in 2031.3

DIGITAL TECHNOLOGY

Advances in digital technology are creating myriad opportunities for on-farm and post farm gate value adding. There is an urgent need for robust, future-proof and wide-reaching telecommunications capabilities in Central West NSW, specifically the rectification of mobile blackspots and sufficient NBN capacity, without which the agriculture sector will not be able to grow domestically or compete on an international level. Growth in the region is currently stunted by inadequate telecommunications.

PROCESSING AND PACKAGING

Processing weaknesses in the Central West NSW agricultural supply chain may present opportunities for some niche sectors.

Investment in innovative processing and packaging R&D and infrastructure may create new opportunities for both domestic and export value adding to a broad range of agricultural sectors in the region.

BRANDING

A unified approach is needed, in collaboration with existing destination marketing, to regional branding between Local Government Areas, Regional Tourism Organisations and agricultural stakeholders to develop an authentic, effective regional agricultural brand.

Maintaining and protecting our “clean and green” reputation is critical to the region’s ability to command high global prices for agricultural products. International competition to be “clean and green” means Central West NSW needs to remain vigilant and unified in this space.

COLLABORATION & CO-OPS

There may be a need for continued advocacy to ensure regional agricultural co-operatives are not excluded for eligibility for government grants on the basis of their business structure.

FREIGHT AND LOGISTICS

Connectivity to market is a key challenge for Central West NSW agricultural SMEs.

For a full list of key observations see pages 72–74.
Part 1

Agritechnology, Borenore. Photo Kate Barclay.
Value Adding

Value-adding includes any process or service in the supply chain that adds to or enhances the value of products to customers. Value-adding may include supplying new products or different varieties, changing presentation to meet market requirements, providing expertise and/or services and promotion and marketing activities to differentiate products.⁴

Value adding to agriculture is about finding ways for farmers and agribusinesses to move from being “price takers” to “price makers”.

In agriculture, value-adding can be achieved on-farm, post farm gate, or as a combination of the two. On-farm value adding can be achieved through harnessing science and new technologies to create greater efficiencies and cost competitiveness in farm production. For example;

- Advances in biotechnology are increasing the genetic performance of animals;
- Increasing competition and cost of labour is leading to the development and adoption of new technologies, software, mechanisation and robotics;
- Precision agriculture⁵ is creating opportunities for farmers to optimise returns on inputs while preserving resources;
- Intensive livestock farms can earn carbon credits by capturing methane gas for the Government’s Emissions Reduction Fund, and many are converting biogas into energy.

With these technological opportunities come challenges, such as the continued struggle for farmers and regional communities to have adequate telecommunications capabilities to take advantage of new technologies and growing data needs.

In keeping with its Innovation Agenda, the Federal Government has developed a “Farming Smarter” section within the 2015 Agricultural White Paper, addressing the need for Australian agriculture to continue to have access to the most advanced farming technologies and practices, as well as the skills and labour to drive innovation and growth.

In Central West NSW, organisations such as the farmer-driven Central West Farming Systems exist to trial and research new farming methods and innovations, to share knowledge and create valuable farming and agribusiness networks. Local Land Services bring together agricultural production advice, biosecurity, natural resource management and emergency management into a single organisation. NSW Farmers’ “AgInnovators” is a news and information site designed to connect the world of technology, business and communication with leading agricultural thinkers.

While, on-farm value adding represents significant opportunities for agriculture in the Central West, the main focus of this report is post farm gate value adding.

**KEY OBSERVATION**

While farmers and agribusinesses continue to strive towards cost efficiencies, largely through digital and bio technological advances, they struggle to compete with Asia on price competitiveness. However, they can compete on quality and uniqueness — by value adding to their product and/or marketing and ensuring that quality and authenticity can be verified and traced.

⁴ Commonwealth Department of Agriculture, Fisheries and Forestry (1999). Increasing Value-adding to Australia’s raw materials.

⁵ “Precision agriculture provides the means for measuring the variability observed in crop yield and quality parameters. Precision agriculture tools also provide the means for site specific crop management and when combined with traditional agronomy tools, can lead to improved crop yields, quality and efficiency of crop production.” Society of Precision Agriculture Australia (2014) Strategic Plan, available from http://www.spaa.com.au/strategic-plan.php
Agricultural sectors are increasingly realising the value of moving away from “commodity-based” marketing and into more “value-based” marketing in order to ensure long term profitability and sustainability.

The Cattle Council of Australia, for example, recently released its five-year industry assessment advocating for a shift towards ‘value chains’ rather than ‘supply chains’ and the production of beef that is ‘fit for a purpose’. The plan describes the needs of consumers from paddock to plate as the foundation of a comprehensive industry plan aimed at building long-term profitability into grass fed beef production.6

One of Central West NSW’s most significant agribusinesses, MSM Milling in Manildra, is a commodity based (canola) business with a growing focus on value-adding, through research and development and packaging and processing, to its high quality vegetable oils and stock feed.

Post farm gate value adding can be achieved through various methods. As a result of consultations with regional stakeholders and agribusinesses, the following value-adding categories have been developed and will be further explored in this report:


Value adding through

Biotechnology

Digital technology

Processing & packaging

Branding

Collaboration & co-operatives
“Bioscience is critical for the world not just for the Central West. We need to develop systems to add value to horticulture, agriculture, food waste so that we can reuse, recycle all of those things we need to do; we all know we need to do them. Bioscience gives us a natural means of doing that.”

— Derek Robinson, Business Development Manager, Agritechnology

Agribusiness can add value to products by harnessing science to create greater efficiencies, cost competitiveness and premium products.

According to the Convention on Biological Diversity, biotechnology refers to “any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.” This may include, for example, using bacteria to make yogurt, cheese, and vinegar, or the use of plant or animal cross-breeding techniques to produce stock with enhanced qualities. Biotechnology includes, but is not limited to, genetic modification (GM).

Biotechnology has a critical role to play in helping to deal with emerging challenges facing agriculture, including climate change, pressure on global food supplies and the management of pests and diseases. Biotechnology can also benefit the environment, through reduced chemical use or through the development of alternative fuels (biofuels) made from plant and plant-derived resources.

After conducting primary research through consultation with local agribusinesses and secondary research through international market analysis, three areas of opportunity for Central West NSW agriculture in biotechnology have been identified;

1. Functional Foods
2. Protein and Animal Feed
3. Bioenergy

**FUNCTIONAL FOODS**

Increasingly, biotechnology is playing a role in value adding through the development of agricultural products with greater health benefits.

“Functional foods” or “nutraceuticals” are food products that have been manipulated in order to deliver perceived health benefits to consumers. Functional foods are a growing field in food science and biotechnology due to advances in technology, health-conscious consumer interest in the relationship between diet and health, and the move towards preventative health and wellness in an ageing population.

Functional foods may include, for example, high antioxidant fruits such as the Queen Garnet Plum, a new plum variety developed by the Queensland Department of Agriculture, Forestry and Fisheries. It may also include value added food ingredients such as oils, vinegars, whey protein powders, freeze dried powders and yeasts.

“I believe that in the future we will have grain varieties with enhanced health properties that will attract a premium in the market.”

— Professor Chris Blanchard, Functional Grains Centre, Wagga Wagga

**KEY OBSERVATION**

Agricultural sectors in Central West NSW with significant “functional foods” potential include grain and oil seeds, horticulture and dairy.

Agritechnology is a bioscience company developing new products and processes for clients in agriculture, nutraceuticals, biofuels, and food and beverage production.

Overlooking the rolling hills of the Orange Wine Region, the Agritechnology HQ originally functioned as a vineyard and winery. Over the years, the vineyard business was scaled back and the bioscience work scaled up on location. The winery infrastructure and equipment now forms part of the plant used for bioscience research and production.

“Bioscience is critical for the world, not just for the Central West,” says Derek Robinson, Business Development Manager at Agritechnology. “We need to develop systems to add value to horticulture, agriculture, food waste so that we can reuse, recycle all of those things we need to do, we all know we need to do them. Bioscience gives us a natural means of doing that.”

“Agritechnology is a world class outfit, our market is global,” says Derek. “Our customers come from all around Australia for our continuous fermentation expertise particularly. Agritechnology is a business that allows us to pursue real science, real business opportunities and yet still live in such a great place. There’s about thirteen of us on site in Orange, it varies a little bit project to project. People are drawn literally from all over the world. We have people from Pakistan, French Reunion, from India, from China. We have brought people back to Australia from Sweden who are working over there. It’s quite a melting pot here.”

“Our physical location is fantastic for us. We are an R&D company that works with fruits and vegetables, [and] with [the] grain belt. Where we are we have got canola and wheat within an hour, and we’ve got fruit and vegetables just over the hill. Mixed horticulture, it’s fantastic for us. But more than that we’ve also got access to the engineering support we need to run a plant here — the Central West still allows us to have access to all of that.”

Agritechnology has formed wholly owned subsidiaries and joint-venture companies to further the commercialisation of a number of its discoveries. One such company is Australian Functional Foods Pty. Ltd. (AFF). Using technology developed by Agritechnology, AFF processes fresh fruit and/or vegetables into premium healthy functional and nutraceutical food and beverage products.

Being located in a major cherry growing region where second grade cherries represent about 20–50% of the annual cherry crop, Agritechnology recognised the opportunity to value add to the significant cherry waste stream in the region by extracting nutraceutical compounds and converting waste cherries into food.

Cherries have substantial levels of anthocyanin (an important antioxidant) with nutraceutical properties including for gout, inflammation and other health benefits. Cherries are also a recognised low-GI food and cherry-derived products appeal to the diabetic market in particular.

The Agritechnology team applied its expertise in food science to develop a process to create a cherry juice with shelf stability, high yield, good texture and flavour and high levels of anthocyanin. The team also developed a functional food from the cherry waste in the form of a powder with a strong red colour, intense cherry flavour, and
antioxidant profile demanded by ingredient distributors and food manufacturers.

“I think there’s a recognition that agribusiness and adding value to our agricultural production is attractive in the investment world generally at the moment. Orange is seen as an R&D base and the Central West is seen as a ‘hub’, so that works to our advantage in attracting investment as well.”

— Derek Robinson, Business Development Manager at Agritechnology.
CASE STUDY: BOTANICAL INNOVATIONS — THE FUSION OF TECHNOLOGY AND BOTANY

Botanical Innovations, a biotech start-up based in Orange, looks like the basement of Willy Wonka’s Chocolate Factory. Vats, pools, pipes, valves, gauges and pumps fill the 550 sq. metre shed on the outskirts of town, where Managing Director Kerry Ferguson can be found deeply engrossed in the innovative R&D phase of her business.

Combining herbs, fruits, vegetables, plants and woods with the latest technological advances in extraction, purification and packaging, Botanical Innovations manufactures botanical extracts, essential oils, flours and oil for the food, nutraceutical, medical and cosmetic industries.

The company can manufacture liquids, solids and powders. Specific capabilities include essential oil manufacturing, cold pressed oils, drum and spray drying and powder manufacturing, extruding for product and ingredient manufacturing and packaging.

Things are moving quickly for Botanical Innovations, which was established in late 2014 and already has investors and markets showing a keen interest in its range of products.

“Having finally worked out how best to package my vinegars, oils and extracts I am about to commence exporting,” says Kerry. “I have worked with a business partner in India for many years and will be exporting Botanical Innovations products to India.”

Kerry, who has a corporate background in health care and agribusiness, says Southern Cross University, Austrade and industry specific trade fairs have been key to establishing contacts and networks in this critical start-up phase of the business.

There is value to be realised from agricultural waste streams, currently being done with cherry waste streams in the region and could also be applied to grapes, apples, olives and other stone fruits which are produced in significant quantities in the Central West NSW region.

GLOBAL TRENDS AND MARKET OPPORTUNITIES FOR FUNCTIONAL FOODS

There is an increased demand for healthy functional food both domestically and internationally, especially in growing middle classes of Asia.

The functional food market was worth $US25 billion globally in 2011, yet Australia had only a 1.6% share.8

Strict regulations on health claims have made Europe a centre for clinical trials in the functional food market. Until March 2014, the European Food Safety Authority (EFSA) had only approved 254 health claims out of the 2,242 submitted.9

Japan, on the other hand, has become a test hub for innovation. In early 2014, total approvals in Japan had reached over 1,100; five times higher than the number of approvals in Europe, standing out among developed countries for the range of health ingredients.10

This has made Europe a hard market for manufacturers of functional foods, but one with high standards for health claims.11

The largest number of functional food and drinks consumers is in

8 Charles Sturt University, (2013) New $2.1 million grains and research centre at CSU, //news.csu.edu.au/
9 Ibid
10 Ibid
The future of functional food regulation, Canadean, July 14
the US — especially as a market for lifestyle health products. Emerging hubs such as China, India and Brazil are also likely to exert significant influence over the functional food and drinks market in the future.

Demand for functional food is being driven worldwide by a growing interest among consumers in health and wellbeing, due to an ageing society and increasing prevalence of lifestyle related diseases.

The functional food market is particularly strong in Asia with growing opportunities for businesses operating in the Australian food industry.12

Australian-based businesses are in a good position to market functional food products effectively, with Australia having a strong reputation in credible research (despite ranking low worldwide in terms of commercialisation13), and general food and product safety.

PROTEIN AND ANIMAL FEED

Rapid income growth in Asia is associated with an increased demand for high protein foods such as meat, fish, milk and eggs. Meeting the growing consumer demand for meat, milk, eggs and other livestock products is dependent to a large extent on the availability of regular supplies of animal feeds which are considered safe, appropriate and cost-effective.14

The Protein Challenge 2040 is a global coalition of organisations and NGOs exploring how we feed nine billion people enough protein in a way which is affordable and good for the environment. A key priority is to scale up sustainable feed innovation to meet the consumer demand for animal protein.

“We are looking at opportunities to extract proteins from pulses and use them as high value food ingredients. We are also working on incorporating omega-3 unsaturated fatty acids in animal feed so that we can produce premium meat products... I believe that in the future we will have grain varieties with enhanced health properties that will attract a premium in the market. We are working on wheat varieties with reduced allergenicity properties. We’re working on new high value options for canola meal. We also think there is a lot of potential in new uses for protein isolated from pulses.”

— Professor Chris Blanchard, Functional Grains Centre, Wagga Wagga15

12 corrs.com.au (Sept 2014) Marketing Functional Foods in Australia — How to navigate the rules on health and therapeutic claims
14 Protein Sources for the Animal Feed Industry FAO UN 2004 http://www.fao.org/3/a-y5019e.pdf
15 Professor Chris Blanchard, email interview 20 April 2016
CASE STUDY: RESEARCH FINDING NEW WAYS TO TURN COMMODITIES INTO VALUE ADDED PRODUCTS.

The Australian Research Council (ARC) Training Centre for Functional Grains, funded through the Industrial Transformation Training Centres program from 2014 to 2016, is a research hub for grain scientists from Charles Sturt University (CSU), NSW Department of Primary Industries (DPI) and CSIRO, with a focus on three commodities — rice, pulses, and canola.

Also involved is the Graham Centre for Agricultural Innovation — a collaborative research alliance between CSU and NSW DPI. Other partners include Grain Growers, MSM Milling, Flavour Makers, Teyes Australia, Woods Grains, Grains and Legumes Nutrition Council, Grains Research and Development Corporation and Rural Industry Research and Development Corporation.

“Rice, pulses and canola account for $2.5 billion of earnings when sold as commodities, with even greater economic potential for the Australian economy through value-adding,” Associate Professor Blanchard said.

“What is called the ‘functional food market’ was worth $US25 billion globally in 2011, yet Australia had only a 1.6 per cent share.”

CSU Vice-Chancellor and President Professor Andrew Vann praised Associate Professor Blanchard and his team for securing the competitive ARC funds.

“Charles Sturt University’s position in the food bowl of Australia offers natural linkages between researchers and food-processors of these major commodities.”

May 2016 Update — The ARC ITTC funding was only for 3 years from 2014 to 2016 and there is currently no opportunity for extension.

KEY OBSERVATION

Research, development and training to assist Central West NSW producers supply worldwide demand for sustainable, quality protein and animal feed for both human and animal consumption respectively should be encouraged and supported.

GLOBAL TRENDS AND MARKET OPPORTUNITIES FOR PROTEIN AND ANIMAL FEED

The Farm Animal Production industry has performed well despite difficult trading conditions over the past five years. Volatile weather patterns and resulting shifts in demand for animal feed, fluctuating grain prices and strong competition in the industry have contributed to revenue movements over the period.

The proportion of grain being fed to livestock has been increasing. This places more significance upon Australia having a consistent and reliable source of animal feed grains into the future. The major companies in the animal feed industry, which earn 90.9% of industry revenue, have remained profitable by reducing their exposure to market supply volatility through sheer size.

Animal feed industry revenue is projected to grow at 3.6% per year over the five years through 2015–16 as demand increases both domestically and internationally. According to the Stock Feed Manufacturers’ Council of Australia (SFMCA), the major risk Australia faces is a nationwide drought that extends over two winter cropping years affecting the supply of animal feed.


18 Ibid
The Australia Meat Processing industry has performed strongly over the past five years. A mature domestic market has constrained local consumption of industry products, with the exception of premium and organic products. However, rapidly rising demand for Australian meat, particularly beef, in export markets has contributed to strong industry revenue growth over the past three years.

Industry revenue is forecast to grow at an annualised 9.0% over the five years through 2015–16, to reach $19.4 billion. Despite ongoing strong demand from export markets, industry revenue is projected to grow at a more subdued 5.8% in 2015–16.19

CASE STUDY: MSM MILLING — PROVIDING STOCKFEED TO THE WORLD

In 2008, MacSmith Milling Manildra (MSM Milling) was formed to produce canola oils for industrial and retail markets under The Healthy Baker and Manildra Gold brands.

MSM Milling’s decision to re-invest in the Manildra site to allow for further value adding has resulted in locally grown canola being transformed into stockfeed which is sold both domestically and internationally.

The feed mill produces protein and energy-dense pelleted stockfeed, using canola meal and oil products as well as local wheat and barley and products from the Manildra Flour Mill. Some local award-winning producers have indicated that they are experiencing favourable growth and conditioning using the pellets. International producers are also benefitting, including dairy farmers in New Zealand.

In 2015, MSM Milling joined forces with the Manildra Group and Oilseed Products (OSP) NZ to form Manildra Stockfeeds New Zealand.

MSM Milling’s range of stockfeed is constantly expanding, with specialised pellets now available for beef and dairy cattle, dairy goats and lambs.20

19 Ibid
20 MSM Milling (2015) Year in Review Newsletter, Stockfeed to the world
**Bioenergy**

Bioenergy is produced through the conversion of biomass (solid or liquid) to electricity and heat via processes of combustion, fermentation and digestion. Bioenergy has the potential to play a significant role in providing future biofuels and electricity to the region.

Agriculture can provide a range of feedstocks such as woody biomass, crop residues, oil seed crops and tallow for bioenergy.

**Key Observation**

*Biofuels and bioenergy present new opportunities to value add across all agricultural sectors of Central West NSW including broad-acre cropping, forestry, dairy, horticulture, beef and intensive livestock.*

A Victorian Government report found that bioenergy production could assist the development of regional areas in a number of ways including:

- Reducing greenhouse gasses, such as biogas being captured and used to generate power
- Providing additional electricity for expansion of regional industries
- Using waste streams through processing agricultural produce
- Providing alternative options for land use, should warmer and drier weather experienced in the recent past continue into the future
- Providing employment in regional areas

An example of how this could be developed is evident in the work of Regional Development Australia Orana, which neighbours the Central West NSW region. RDA Orana have been working with local councils, businesses and industry to progress investment in a regionally-based BioHub, ultimately leading to the establishment of a network of Hubs across the region and developing new supply chains in an emerging ‘bio economy’.

Stakeholders perceive a range of opportunities arising from establishing a BioHub to transform invasive woody weed species into bioenergy in areas of Western NSW.

**Global Trends and Market Opportunities for Bioenergy**

Bioenergy has the potential to play a crucial role in the provision of sustainable energy. However, bioenergy’s potential in Australia is yet to be fully realised and its fortunes will likely be influenced by Government incentives and various State Government requirements for greenhouse gas mitigation, in the absence of well-established markets in this area.

The Australian Renewable Energy Agency (ARENA) announced in January 2016, $3 million funding support for the Rural Industries Research & Development Corporation (RIRDC) to undertake a comprehensive assessment of using biomass for bioenergy. This project is set to identify new opportunities and make it easier to develop biomass generation and biofuel projects in Australia.

RIRDC plans to geospatially map existing and projected biomass resource data alongside other parameters such as existing network and transport infrastructure, land use capability and demographic data.

“This will provide better linkages between biomass suppliers and end users and support local businesses to get more value from organic material destined for landfill, disposal or other low value uses,” says ARENA CEO, Ivor Frischknecht.

The first iteration of the database is planned for release in late 2016.

According to ARENA, Australia’s bioenergy use is projected to increase by 60% from 2007–08 to 2029–30. There is potential to expand Australia’s bioenergy sector with increased utilisation of wood residues from plantations and forests, waste streams and non-edible biomass.

Global demand for bioenergy resources is expected to increase with the projected growth in bioenergy use. In the short-term, demand for bioenergy resources are likely to be met by sugar, starch and oilseed crops, as well as utilising the large volumes of unused residues and

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22 Further information in the Dubbo Biohub Project is available at http://www.rdaorana.org.au/our-initiatives.htm


“There is a widespread scientific consensus that agriculture (including the agrifood chain) and, more generally, the rural sector has considerable potential for providing renewable energy, both by supplying the biomass (including waste products) needed as feedstocks for various forms of renewable energy, and by utilising the spatial dimension of rural land (much of which is under the ownership of farmers) as a catchment area for the ‘free’ resources wind and solar energy.”  
— OECD report on Sustainable Agriculture

CASE STUDY: CLEAN COWRA — DEVELOPING A MODEL TO CONVERT LOCALLY-SOURCED BIOMASS INTO COST COMPETITIVE ENERGY

Cowra Low Emissions Action Network (CLEAN) Cowra is a community-based group advocating for a decentralised, aggregated biomass-to-energy model to be developed that could service local agricultural industries by using produce and waste, subsequently providing a platform for sustainable economic development. The Cowra biomass project estimates it will produce around 60% of Cowra’s energy needs at full capacity. It would involve construction of a biomass plant — an initial 2MW version is estimated to cost around $8 million.

The Initial Project Scoping Review of CLEAN Cowra suggests it could provide a best practice waste processing and energy supply model that can be implemented elsewhere in regional areas, given the availability of appropriately zoned and serviced blocks of land.

KEY OBSERVATION

Central West NSW is well placed to be an innovation hub for research and application of biotechnology in agriculture for the following reasons:
/ significant diversity of high quality agricultural produce;
/ proximity and accessibility to Canberra and Sydney;
/ existing market attraction — two private enterprise biotechnology ventures already operating in Orange;
/ location of the NSW Department of Primary Industries;
/ the region’s close ties with Charles Sturt University and the Graham Centre for Agricultural Innovation;
/ attractiveness of the region to higher skilled workers (attractions include affordable housing, cost of living, work/life balance, schools and university, medical services and specialists and culture.)
/ the region’s status as one of seven “centres of regional growth” Australia-wide expected to contribute over $15b to the national economy in 2031.

25 The Oxford Dictionary defines lignocellulose as “a complex of lignin and cellulose present in the cell walls of woody plants”.  
Digital Technology

Across all agricultural sectors, digital technologies are radically changing agricultural business models and providing significant opportunities for value adding.

While precision agriculture, mechanisation and robotics all contribute to value adding on-farm, this report focuses on the post-farm gate digital technology opportunities including E-commerce, which is providing new and more direct pathways to market both internationally and domestically.

New methods of ‘traceability’ are important as the provenance and safety of food becomes critical to the competitiveness of products in the international market and increasingly the domestic market.

**THE DIGITAL DIVIDE**

With these opportunities come challenges, most notably the continued struggle for farmers and regional communities to have adequate telecommunications capabilities to take advantage of new technologies.

The Agricultural White Paper addresses the need for Australian agriculture to continue to have access to the most advanced farming technologies and practices, as well as the skills and labour to drive innovation and growth.29

“Lack of reliable access to internet and mobile coverage is one of the most restrictive elements in preventing the wider uptake and adoption of existing and emerging technologies in Australian agriculture... (there is) dire need for better and more reliable regional and remote internet and mobile access”. — Grains Research and Development Corporation30

**KEY OBSERVATION**

Advances in digital technology are creating myriad opportunities for on-farm and post farm gate value adding.

There is an urgent need for robust, future-proof and wide-reaching telecommunications capabilities in Central West NSW, specifically the rectification of mobile blackspots and sufficient NBN capacity, without which the agriculture sector will not be able to grow domestically or compete on an international level. Growth in the region is currently stunted by inadequate telecommunications.

30 The Land (2016) Regions Wait for Digital Revolution, 4 April

**DIGITAL PLATFORMS CONNECTING AGRIBUSINESS TO CAPITAL**

Lack of capital and land assets are a significant impediment to growth and value adding for agribusiness in the region. New online platforms, such as Condobolin-based AgValue, are being developed to expand the range of capital available to agribusinesses, including sourcing alternative investment methods and connecting investors with family farms and agribusinesses.

Andrew and Nadia Hulme from Adagio Alpaca Mill in Orange, used digital platform ‘Kickstarter’ to create a crowdfunding campaign and raise $21,000 of start-up capital for the mill. Although Kickstarter raised the $21,000 sought, a significant amount of work and costs were involved in the process. Raising capital to start the venture has been a major impediment.

**KEY OBSERVATION**

While advances in digital technology and applications are creating new avenues for capital-raising, finances remain a major impediment for start-ups. Although grants and other assistance are available for expanding existing business activities, research and development, innovation and exporting, there are no grants available for starting a business in Australia.31

31 Australian Small Business Commissioner http://www.asbc.gov.au/resources/faq/funding#t36n167
CASE STUDY: BRYTON WOOL — VIDEO SALES PLATFORM CONNECTING REGIONAL AUSTRALIA TO THE WORLD

Geoffrey Beath, Managing Partner of Bryton Wool in Canowindra, says the success of his wool buying and brokering business is due to a continuing push for expansion and keeping up with technology in an ever-changing industry.

The business, established in 1973 and taken on by Geoffrey and his wife Sue in 1992, now has warehouses in Canowindra, Young, Crookwell, Forbes and Oberon, and around 4,000 growers on the books. Business has grown solidly over the past two decades, but it is in the last five years that the most significant growth has occurred and it is all down to taking on digital innovation.

“Currently at the Canowindra store we have thirteen employees, eighteen employees total spread out in four centres,” says Geoffrey. “The people that are employed here at Bryton Wool are all local people. We have two new young juniors who have just started. It’s a natural progression to bring youth into the trade.”

“We source wool from as far west as Wilcannia through to Oberon, down as far as Braidwood, Bungendore across over to Tumut, Caragabal and as far north as Yeoval and Euchareena. We do cover a large area. Last year we put 25,000 bales through the shed here. In a shrinking industry we find ourselves travelling to distant areas to source our product.”

Since 2010, Bryton Wool have been working on video technology to display wool samples online which eliminates the need to display sample at a show floor, giving buyers the ability to view wool samples from anywhere in the world.

Geoffrey says he was inspired to develop the technology partly due to the diminishing number of exporters in Sydney; a result of declining wool production and the costs involved in displaying wool in Sydney.

“It just made sense to digitally show samples,” says Geoffrey.

“We went through some experimentation with stills but weren’t able to provide an accurate viewing of the wool. Stills couldn’t provide enough information regarding length, colour, style and crimp. We needed to show movement.”

Broadband technology made a video trading platform viable in Canowindra. Bryton Wool invested around $18,000 in developing its video trading platform, including purchasing camera equipment, digital platform software, data collection and storage capacity.

“Once we were able to reliably describe the wool our buyers gained confidence in what we were selling and the true value of the wool,” says Geoffrey.

Between 2012 and 2015, Bryton Wool increased the number of bales handled from 18,000 to 25,000 with the help of the video sales platform they employed.
E-COMMERCE

E-commerce is the transaction for goods or services via the internet.

E-commerce has revolutionised the way business is conducted, from record and account keeping to marketing and promotion, banking, communication and product or service research. It provides agribusinesses the potential to reach new customers anywhere in the world and to cut out the ‘middle men’ in the supply chain. E-commerce is opening up expanded sales avenues to niche value added agricultural products and commodity producers.

Recent changes to China’s e-commerce regulations mean that from April 2016, goods bought and sold online to China will be subject to new duties. Some food suppliers, such as powdered milk providers, will be required to have their product licensed or re-licenced by China’s food and drug regulators.

Although China’s new e-commerce duties are expected to increase the cost of Australian goods by an estimated by 10–20%, Australian producers remain in a strong position to capitalise on the huge Chinese market for high end, reliable, clean food products. 32

“The image of foreign products as being cleaner and greener, and the many food safety scandals in China, makes it hard to see Chinese customers switching to domestic alternatives, no matter the price rise. While the price of Australian milk powder and vitamins will rise, so too will the price of our competitors’ milk powder and vitamins.”33

In 2014 the total sales value of China’s e-commerce sector was worth more than half a trillion Australian dollars. Around 90% of online shopping in China is transacted through e-commerce marketplaces which have the potential to bring China’s online consumers within reach of even the smallest Australian exporters. 34

The NSW Department of Primary Industries are expecting to publish a review on the China e-commerce sector by the end of 2016.35 The intention of the review is to establish a body of knowledge on the nature of e-commerce in China, what it means for the Australian agrifood industry, an understanding of the e-commerce supply chains and identification of areas of inefficiencies.

Recommendations are expected to be, firstly, establishing an e-commerce flagship shop front site. Secondly, developing a project that will look at what Chinese consumers are searching for and what are their shopping methodologies. Thirdly, publishing fact sheets which the agrifood export can use as a source of information and guidance when considering the China e-commerce industry.

— Dr Fay Haynes, NSW Department of Primary Industries36

32 Manuel, R (2016) China’s e-commerce laws not a crackdown but closing a loophole, The Conversation, 1 April
33 Ibid
35 Dr Fay Haynes, International Engagement, NSW Department of Primary Industries, personal conversation and email, 11 May 2016
igrain.com.au is an online grain trading platform based in Bathurst. The business was established in 2009 shortly after market deregulation in response to a specific need from grain growers for greater pricing transparency and a broader market access the grain buyers. In 2015, igrain transacted 410,000 tonnes. The company has transacted close to 2 million tonnes with over 260 grain buyers across QLD NSW VIC and SA since its inception.

‘Igrain assist farmers find the best price for the grain on any given day that they sell,’ explains Igrain founder Tom Roberts. ‘We do this by providing access to more buyers in the one location. We always ensure farmers will be paid for what they produce by underwriting every transaction with trade insurance. Growers not being paid for grain is a huge industry problem due to traders’ going receivership.’

While Roberts concedes they may have over engineered technology in the early stages when farmers where not quite ready for online transacting, he says things have changed rapidly over the past five years.

‘(We) see opportunities for agriculture in greater adoption of technologies and improvements in freight and logistics to move what we produce here into key markets,’ says Roberts.

Robert’s cites good staff, technological capability, close proximity to markets and perseverance as key to igrain’s success in Central west NSW. 37

37 Email interview with Tom Roberts, Founder igrain, Bathurst, 6 May 2016

CASE STUDY: IGRAIN — ONLINE TRADING PLATFORM FOR THE GRAIN INDUSTRY

TRACEABILITY

“Consumers will be “information-empowered” and rural industries stand to gain or lose market share based on this increase in consumers’ knowledge.” —CSIRO Megatrends Report 38

Agribusinesses throughout the food supply chain are using a variety of digital traceability tools to capture critical information during the path from paddock to plate. Traceability not only provides reassurance of food quality and safety, but also creates branding and marketing opportunities to build a valuable connection between consumers and producers.

The food traceability market is projected to reach $14 billion by 2019. The Asia-Pacific is projected to be the fastest-growing market for food traceability, driven by the technological advancement and growing concern for food safety among consumers in developing countries such as India and China. 39

Traceability can be provided at the item, case, pallet or container level, through the use of smart farming sensor systems, Radio-Frequency Identification tags (RFID), bar codes and QR (Quick Response) codes, GPS satellite locations, packaging, data loggers and more.

Traceability has been identified as one of the key global megatrends in agriculture. The ‘where did my food/fibre come from?’ factor is a powerful motivator for consumers. Establishing provenance, quality and safety will be key to attracting market premiums both domestically and internationally in the future. 40

KEY OBSERVATION

Traceability is an increasingly important capability within the supply chain facilitated by advances in digital technology; in order to remain competitive this is an area in which Central West NSW agribusinesses cannot afford to lag behind.

38 Sandra Eady, Stefan Hajkowicz (2015), Rural Industry Futures: megatrends impacting Australian agriculture over the coming twenty years, Rural Industries Research & Development Corporation & CSIRO

39 Food Traceability Market Global Trend and Forecast to 2019, Marketsandmarkets.com, International Union of Food Science & Technology; US Food and Drug Administration

40 New trends research predicts mega opportunities for Australian agriculture as world grows hungrier, wealthier with fussier consumers by 2035, Rural Industries Research and development Corporation, 14 Aug 2015 & Dr Stefan Hajkowicz, CSIRO
Agricultural processing in Central West NSW includes, but is not restricted to, wine and cider making, grain and oilseed milling, wool scouring and milling, livestock slaughter, timber milling, fruit and vegetable processing and juicing, pasteurisation, biotechnology and the production of functional food and cosmetic ingredients.

Traditional manufacturing companies, including food and fibre processors, in the Central West, have been in decline for a significant period. Domestic challenges facing the industry include skilled labour shortages, increasing operational costs, transport costs, cross jurisdictional regulations and retail competition. Globalisation means imported processed foods are finding shelf space in Australia at cheaper prices. Australian processors find it difficult to compete with the cheaper labour, economies of scale, lower costs of raw materials and lower standards of processing.41

Despite the challenges, Australia’s food export markets continue to grow, and automation and advanced manufacturing processes are creating opportunities to revitalise the industry.

CASE STUDY: ADAGIO ALPACA MILL — PREMIUM FIBRE PROCESSORS

The high costs of processing in Australia has evidently affected the wool and fibre industry, though some local Central West NSW processors are filling this gap to create value added premium products.

Engineers, Andrew and Nadia Hulme, moved to Orange in 2008. When the couple discovered the nearest mill to process their alpaca fibre was as far away as Victoria, they began to investigate the wool and other fibres processing gap in the NSW market.

“One third of alpacas are estimated to be in NSW, and Central West NSW is a bit of a hub. Our aim is to purchase fibre for a reasonable rate from producers, making it a sustainable industry” says Andrew.

One of the main benefits of alpaca fleece is the absence of lanolin which is found in wool. Water can be reused during alpaca fleece processing, biodegradable chemicals can be used and less energy is required, creating a more environmentally-friendly process.

Despite being told by some financial institutions that manufacturing is dead in Australia, Andrew and Nadine persevered to raise the capital they needed to establish the mill.

“We believe strongly that Australian manufacturing can be sustainable,” says Nadine. “Scale is critical. We need to be big enough for some economies of scale, but small enough to be premium. We avoid the word ‘niche’ because this is not a hobby — it is a serious venture.”

Adagio Alpaca Mills launched in May 2015, sourcing alpaca wool locally, contract milling for individuals and producing their own range of premium alpaca yarns available online. They currently employ two full time and two part-time staff.
KEY OBSERVATION

Processing weaknesses in the Central West NSW agricultural supply chain may present opportunities for some niche sectors.

THE STRENGTH OF CENTRAL WEST NSW FRUIT AND VEGETABLE PROCESSING

There is renewed interest in horticultural value adding and processing in the region. Examples include the future development of Botanica’s new High Pressure Processing enterprise in Cowra (billed as the modern version of the now defunct Windsor Farm, formerly Edgell’s Cannery in Cowra), and the trend in apple juice and cider processing in Orange by businesses such as Small Acres Cyder and Appledale Processing.

There is a substantial food manufacturing capability in the region. Simplot Australia has two factories in Bathurst which produce a range of branded products for major retail and food service customers under the Edgell, Birdseye and I&J brands.

A range of frozen formulated protein and vegetable portions are pressed on a dedicated line using a Formax machine. High speed robotic packing technology at up to 1,200 picks per minute and robotic palletising enables efficient carton packing in a range of formats. The second plant produces a range of vegetable products in can, sealed bag or pouch format. Vegetables are cooked in retorts and packed in sealed cans or can be mixed and packed uncooked in a variety of bag in box formats. Weigh fill machines are used to provide high-speed weight based packing. There is also extensive equipment for grading and sorting in the processing stages as well as specific lines for corn processing and other products.
**CASE STUDY: BOTANICA — CROSS SECTOR OPPORTUNITIES IN HIGH PRESSURE PROCESSING**

Quality, diversity of produce and proximity are the key reasons Australian premium juice company, Botanica, has chosen Cowra in Central West NSW as the ideal location to establish its new state of the art high pressure processing (HPP) facility.

HPP uses a method of cold pasteurization and intense pressure to kill bacteria and preserve food without disfiguring or bruising the product. There are currently only five HPP facilities in the country, and Botanica intend to offer the largest capacity of throughput in Australia from their factory in Cowra.

"The Central West is likely the best location in Australia to operate a cold pressed juice facility," says Botanica Director, Richard Magney. "The locality to fresh, clean, seasonal fruit and vegetables, rich soils, accessibility to logistics, adequate artesian water, temperatures and altitudes make the Central West an optimum location to locate our new factory."

HPP is not only used for juices. It also can be applied to meat, dairy and packaged fruit and vegetables. All agricultural sectors in Central West NSW have the potential to utilise HPP technology.

"HPP has no boundaries," says Richard. "A huge growth area is ‘ready-made meals’ for domestic and export retail so particularly [relevant for] the meat processors and veggie growers."

The factory will include a high pressure processing machine, cold press juice machines, chilled warehousing, delivery and dispatch docks.

Given the global trend towards healthier, fresher packaged food, innovative processing and packaging technologies such as HPP have the potential to open broad new markets for agricultural producers in Central West NSW.

The 21st century consumer, says Richard, wants convenience foods, higher sensorial and nutritional quality, additive free, natural, functional products.

"Food companies need to innovate by using the latest non-thermal technologies, and High Pressure Processing is the most relevant one," he says.

Thermal methods, traditionally used in the food industry for food preservation, carry disadvantages like vitamin destruction or flavour changes that can be avoided with HPP.

The main advantages of HPP include:

1. **Quality** — the characteristics of the fresh product are retained, sensorial and nutritional properties remain almost intact.
2. **Safety** — HPP destroys pathogens such as Listeria, Salmonella, Vibrio and Norovirus.
3. **Higher quality longer shelf-life** — HPP drastically reduces the overall microbiological spoiling flora.
4. **Natural/Additive free labelling** — HPP avoids or reduces the need for food preservatives.
5. **New innovative food propositions and competitive advantage** — products that can’t be thermally treated can now be High Pressure Processed.
6. **Higher yields, fresh flavour, minimum hand labour** — HPP provides the ability to shuck molluscs or extract crustacean meat without boiling.
7. **Environmentally friendly** — HPP only requires water (which is recycled) and electricity.

Botanica see many opportunities to vertically integrate with other businesses, sectors and producers in the region.

"HPP will allow for farmers to begin adding greater value at the source," says Richard. "The ability to utilise their second grade fruit and vegetables will be a very large opportunity. It will allow for other food processors to innovate their products and also allow for farmers to begin creating better brands for themselves rather than just selling the primary inputs."

**KEY OBSERVATION**

*Investment in innovative processing and packaging R&D and infrastructure will create new opportunities for both domestic and export value adding to a broad range of agricultural sectors in the region.*
THE DECLINE OF CENTRAL WEST NSW MEAT PROCESSING

Over the past decade, the number of large scale commercial abattoirs in Central West NSW has dropped from eleven to just one; Cowra Meat Processors — a multi-species abattoir (however not licenced for Halal or export).

The next closest abattoirs to the Central West NSW region are Fletchers in Dubbo and Hilltops Meats in Young. Both process, package and market their own brands however do not provide slaughtering and processing services to other producers. Fletchers is the largest sheep meat processor in Australia, and Hilltop Meats export to the Middle East, South-East Asia, Korea, Japan, Canada, USA and Africa.

Only five abattoirs process pigs in NSW, two of which are export licensed. However, with their locations in Lismore and Corowa, at opposite ends of the state, this requires long freight journeys from the Central West NSW region. Pig producers in southern NSW often take their stock into Victoria for slaughter, especially those requiring export-licensed abattoirs. Victoria charges a sales tax, the Victorian Swine Duty (up to 16¢ per pig in 2010), on all pigs slaughtered on top of the slaughter levy. Approaches at the ministerial level to have this tax refunded to NSW producers have been unsuccessful.

Currently there are no export and halal accredited abattoirs for deer in NSW, and for goats in the Central West NSW region. As at June 2016, the proposed goat abattoir in Blayney had not yet been approved for development.

Reasons cited by meat processors for the decline in the industry in Central West NSW include:

- Record low numbers of livestock over the past decade
- Competition from supermarket chains
- Lifestyle — consumers want quick and easy meat from supermarkets
- Proximity to urban populations and environmental pressures
- Prominent meat processors who remain in the Central West NSW region include:

Cowra Meat Processors

Cowra Meat Processors supplies 300 restaurants and butchers making it the largest domestic meat wholesaler in NSW. Chris Cummins, owner of Cowra Meat processors, says value adding is achieved through their “Breakout River” branding and marketing, incorporating Watervale Beef, Cowra Lamb and Chiverton Pork. Currently, Cowra meat processors are focused primarily on domestic market opportunities, as an alternative to larger supermarkets. Cowra Meat processors injects around $13M into the local economy and has almost 200 full time employees.

Oberon Abattoir

In 2014, fire closed the Oberon abattoir, putting 20 people out of work. In May 2016, Oberon Council gave approval for extensions and repair of fire damage and it is understood the site will re-open as an abattoir.

Tablelands Premier Meats

Tablelands Premier Meats near Canowindra is an ‘on-farm’ fully licenced abattoir and meat processor, processing their own animals and providing service kills of sheep, goats, pigs, chickens, ducks and turkeys for other growers, with no minimum kill number required. Tablelands Meats are the only white meat processor in the Central West.

Tablelands Premier Meats do not process cattle at this time, but are able to process small vealers subject to negotiation due to size limitation.

Tablelands Premier Meats clients include hobby farmers, organic producers, butchers, market retailers and general consumers through their own on-line shop. They provide home delivery in their own refrigerated transport throughout the Central West and into the Sydney region.

In an interview with The Land newspaper in 2015, Tablelands Premier Meats proprietor and Meat Safety Inspector, Stephen Tamplin, said “We are never going to compete with JBS or Fletchers but we provide a beneficial service to others, especially small producers who want their own product processed in the way they are happy with.”

**KEY OBSERVATION**

There is significant red meat and pork production in the region but very little value adding to regional products due to the lack of processing facilities, in particular for smaller and niche producers.

**KEY OBSERVATION**

There are few options for meat to be processed locally, in and around Central West NSW, which are halal and export accredited; this increases costs such as freight for producers in the region who wish to take advantage of export opportunities internationally.
Branding

Your brand is your reputation in the marketplace. It may be backed up with marketing collateral such as logos, tag lines and PR campaigns, but it may also be as simple as a reputation.

**REGIONAL BRANDING**

Regional branding can be centred around a small geographic location such as Orange or Cowra, or a larger region such as Central West NSW, all of NSW or Australia.

A regional brand is developed by describing authentic regional characteristics and values. It is important to be realistic when determining these comparative advantages and to understand if they are being developed for a domestic or export/international market.

New Zealand’s “100% Pure” campaign has been very successful in positioning New Zealand products, services and experiences as some of the highest quality and “purest” in the world. As a branding and marketing strategy, 100% Pure NZ owes much of its success to its authenticity and versatility — its ability to be leveraged across multiple sectors of the New Zealand economy.

Regional branding can be a highly effective marketing tool, especially for the agricultural industry. However, there is a risk that too many individual regional brands within one region can dilute and confuse markets.

Many Local Government Areas in Central West NSW brand themselves to support local agricultural and tourism industries and to identify comparative advantage for broader economic development. Cabonne Shire Council, for example, created the “Cabonne Country — Australia’s Food Basket” branding and marketing campaign twenty years ago. Lachlan Shire Council currently use the tag line “Your Ultimate Bush Experience”.

The risk of Local Government Areas branding regions within specific local government boundaries is that it can create political borders with little relevance to agriculture or tourism locations and result in less logical and less collaborative regional branding.

A Key Observation of the report was that although Australia was well regarded, it was not well differentiated.44 The same could be said for individual regions, including Central West NSW.

Over the past decade, Central West NSW has branded and marketed itself in a variety of ways through a variety of different organisations and government bodies. Many of these branding and marketing campaigns incorporate the region’s agriculture and produce and agritourism as a core strength.

**INDUSTRY OR SECTOR BRANDING**

Industry or sector branding has the potential to build on the strong reputation among overseas buyers of Australian agricultural commodities, and consumers of products such as Australian wine, red meat and dairy products. It links the perceptions of Australian food to the unique strengths of Australia’s agricultural production and biosecurity systems, and clean environment.45

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43 Australian Government, (May 2014), National Food Brand — International research results.

44 Ibid

45 Commonwealth of Australia 2015, Agricultural Competitiveness White Paper, Canberra
An example of sector marketing is Meat and Livestock Association’s (MLA) “True Aussie” brand, used for individually for the lamb, beef and goat sectors.

In the Central West, Cowra Meat Processors add value to products through their “Breakout River” branding and marketing, incorporating Watervale Beef, Cowra Lamb and Chiverton Pork.

**A CENTRAL WEST NSW BRAND**

Central West NSW “Agriculture”, or “Farmers”, could be considered as a “brand”. Feedback from the Value Adding to Central West NSW Agriculture Survey (see Appendix), suggests that characteristics associated with a Central West NSW agriculture brand might include diversity, quality, proximity to market, know-how, innovation and pioneering spirit.

Central NSW Tourism’s current “Unearth Central NSW” is a destination marketing campaign, inviting key target markets to visit the region — promoting the region as a destination.

A specific Central West NSW Agriculture branding campaign would potentially work in collaboration with the existing destination marketing campaign and promote the key characteristics of Central West agricultural produce to domestic and international markets.

**KEY OBSERVATION**

**Characteristics associated with a Central West NSW agriculture brand might include diversity, quality, proximity to market, know-how, innovation and pioneering spirit.**

**A unified approach regional branding is needed, in collaboration with existing destination marketing, between Local Government Areas, Regional Tourism Organisations and agricultural stakeholders to develop an authentic, effective regional agricultural brand.**

**CASE STUDY: MANDAGERY CREEK VENISON**

Tim and Sophie Hansen are the proud owners of Mandagery Creek Venison, producing Australian Red deer meat for export and domestic markets since 2002.

Despite the small size of the national herd and limited processing facilities, Mandagery Creek Venison has achieved economies of scale by combining with other Red Deer producers when supplying abattoirs, and developing a clever suite of marketing strategies for their brand domestically.

Tim and Sophie combine with over ten other venison producers in NSW and Victoria in order to be processed in Myrtleford (Vic) in a critical mass and supply the Mandagery Creek Venison brand.

Tim, a former meat trader, is able to find a market for every part of the deer — trimmings included. Nothing is wasted according to their top-to-tail philosophy, including the hides and antlers which are used to produce beautiful artisan leather goods by Tim’s sister Penny Hanan in her business “1803”.

The greatest percentage of their venison is currently exported to the Middle East, Asia, Europe and the United States. “It’s important to our business model to have a diversified market,” says Sophie. Supplying the domestic market remains important but one of the impediments is its time-consuming nature which has previously taken up 90% of their time yet only 10% of their product.”

Currently their domestic market consists of high-end restaurants in Sydney, though Mandagery Creek Venison is exploring the option of a retail presence in Australia in the future.

“Because venison is still a niche product, we have had to work extra hard at marketing our story and creating a strong brand that people want to seek out,” says Sophie.

Sophie Hansen’s blog *Local is Lovely* not only captures their day-to-day farming operations and philosophy, but showcases venison recipes and other regional producers. Combined with social media posts, workshops and Farm Kitchen Tours and lunches, the Hansen’s have not only marketed their own product and brand, but have done a lot for the wider venison sector.
“These days people are more interested than ever in the stories from behind the farm gate — our customers want to feel involved and invested in what we do and social media really helps us achieve this,” says Sophie.

Sophie’s innovative “My Open Kitchen” concept, which won her the NSW-ACT RIRDC Rural Women’s Award for 2016, aims to build an online social media course enabling other regional producers and sectors to showcase their produce and ultimately value add to their product through marketing as well.

WINE — COMBINING SECTOR AND REGIONAL BRANDING

Wine regions brand and market themselves according to location, topography, soils and climate — all together these characteristics make up a region’s unique ‘terroir’.

The Cowra Wine Region (which includes Canowindra) is defined by its Lachlan Valley location, characterised by warm days, cool nights and dry late summers. The region identifies chardonnay as one of its ‘champion’ varieties and is increasingly focussed on developing an organic niche.

The Orange Wine Region leverages its unique terroir in its branding and marketing. As the highest wine region in the country, the Orange Wine Region is cool climate, a characteristic currently associated with quality wine. The Orange Wine Region has also worked very well in collaboration with food and tourism groups, creating a stronger, unified quality regional brand. Flagship events, such as Orange Wine Week, have also contributed to the regions successful branding. The strength of the Orange Wine Region brand has helped local wine producers sell their product into metropolitan and international markets.

“CLEAN & GREEN”

‘Clean and green’ describes methods, practices and biosecurity systems that result in environmentally sustainable, healthy, safe produce. Clean and green does not have to be organic — organic produce requires stricter certification. “Clean and green” may infer a number of any of the following characteristics;

- carbon neutral
- environmentally sustainable
- ethical
- chemical free
- safe
- traceable
- additive and hormone free
- GM free
- free range
- nutritious
- supporting farmers

Australia’s reputation as a producer of clean, green and safe food has created high global demand for our food products — particularly beef, wheat, canola, barley, sugar and dairy. Upholding and building this reputation is particularly relevant in breaching broader markets, where local food safety and quality concerns dominate consumer attitudes.

46 Nunzio, J. Future Directions

Maintaining and protecting this ‘clean and green’ truth is critical to Australia’s ability to command high global prices. A strong quarantine and biosecurity system is fundamental to maintaining Australia’s pest and disease-free status.

There is a risk, however, in assuming that the characteristics that determine a regional brand are unique to that area. The attributes we commonly associate with Central West NSW such as diversity, quality, proximity, ‘clean and green’ and heritage for example, could also be used for any number of other NSW or Australian regions.

Similarly, the “clean and green” attribute we commonly use to describe and brand Australian produce can be used to describe a growing number of other countries as the world becomes increasingly aware of the need to clean, safe produce. “Clean green” is not going to remain a comparative advantage for the Central West, NSW or Australia forever.

However, there is still great value in Australia’s “clean and green” reputation when it comes to marketing our agricultural produce — either as commodities or value added products.

“The Chinese consumer increasingly favours imported foods due to safety concerns associated with their local food production systems. Australia’s ‘clean, green and sustainable’ reputation means Chinese people seek out and enjoy using our oil as a key ingredient in their local cuisine, as well as gifting our products in corporate packages and highly regarded and sought after presents.”

— Bob Mac Smith, Director MSM Milling.
THE WORLD IS COMPETING FOR THE “CLEAN AND GREEN” MARKET

Brazil is considered to have the world’s first sustainable biofuels economy and the biofuel industry leader, a policy model for other countries.

India. Organic production in developing countries has also been increasing as rapidly, as has exports to meet rising consumer demand in Europe and the West. In India, for instance, a committee set up by the federal Planning Commission in 2000 recommended organic farming as the most viable option for the states in the Northeast. Following the report, a number of Indian states declared themselves organic and committed to an official agricultural policy supporting organic smallholder farming, and farmers in adapting to or adopting organic farming practices, facilitating the certification of organic products and helping build connections to export markets.47

China. There is a small but growing trend towards sustainable food production and consumption in China, as shown by the rise in farms using environmentally friendly methods, organic farmers’ markets in major cities, and an increasing emphasis on sustainability in Chinese policies related to agriculture.

Community Supported Agriculture (CSA) — a relatively recent arrival in China — is growing rapidly, with over 300 CSA farms scattered throughout the country. Agribusiness focused on organic and green foods in China are increasingly common.48

KEY OBSERVATION

Maintaining and protecting our “clean and green” reputation is critical to the region’s ability to command high global prices for agricultural products. International competition to be “clean and green” means Central West NSW needs to remain vigilant and unified in this space.

THE ORGANIC DIFFERENCE

“Organic” is different to the other eco labelling claims such as “natural”, “chemical free”, “clean and green”.

“Being organic involves a certification system and standard not required for the others. There are others certifications such as Humane Choice, Humane Society, Fair Trade and GM Free that are also growing,” says Sam Statham of Rosnay Organics in Canowindra, Central West NSW.

Australia has the most organic land in the world — there are currently around 22 million hectares of organic land in Australia. NSW has the highest percentage of certified organic operators in Australia.

There are currently 32 certified organic producers and processors in the Central West region.51

50 Ibid
51 Data collated from — Organic Food Chain, NASAA, ACO and AusQual

There are 32 certified organic producers and processors in the Central West region.
CASE STUDY: ROSNAY ORGANIC FARMS — CANOWINDRA

On their property overlooking the Belubula River near Canowindra, Sam and Simone Statham, and Sam’s parents Richard and Florence Statham, grow Rosnay Organic wines, olives and figs. They value add by producing certified organic wines, jams, olives and olive oils and dehydrated figs, marketed under their artisan label ‘Rosnay Organic’, featuring artworks by Florence. Over the past decade, the Stathams have leveraged social media and blogs to reach out to a growing market demographic keen to support authentic organic produce and “buy in” to their lifestyle. The family have built a strong domestic market for their products and also export small quantities of their wines to Japan.

The Statham’s commitment to organics was recognised in 2012 when they were awarded the inaugural Organic Pioneers Award through the NSW Department of Primary Industries.

By combining communal living principles with a more structured business model, the Statham’s have also created Rivers Road Organic Farms on their 140 hectare property — a subdivision of twelve farming and ten residential blocks. While the individual businesses of Rivers Road Organic Farms run independently, they benefit from providing services to each other and through shared ownership.

The Statham family have found their niche — the arts and organics — and are living their lives and working their business around it.

“For us, it is more about sustainability than growth for the sake of growth,” says Sam. “We prefer to stay small and avoid waste. It’s about scale.”
Collaboration and Co-operation

COLLABORATION

Collaborations can be tight, such as mergers between companies or formal co-operatives, in order to diversify, vertically integrate or achieve economies of scale. Collaborations can also be looser arrangements, such as alliances or contracts designed to share costs, pool complimentary skills or secure supply.\(^{52}\)

The ability to access capital, government grants and concessions is a significant impediment faced by agribusinesses in the Central West.\(^{53}\) New collaborative business models may provide opportunities for greater investment into growth and value adding to agriculture.

INFORMAL COLLABORATIONS

Informal collaborations are becoming more common in the region. Fiona Hall, of Caernarvon Cherries in Orange, describes their business model as a collaboration or "alliance" of 22 cherry growers and 5 apple growers. No contracts are involved, but the group of growers benefits from the combined market strength of the premium Bite Riot brand.

Farmers Markets are a growing movement across the country. Farmers markets run every second Saturday of the month in Orange, every third Sunday of the month in Blayney, and every fourth Saturday of the month in Bathurst. Many smaller Central West towns also have regular farmers’ markets. A co-ordinated approach to the scheduling of farmers’ markets like the sharing of weekends between Orange, Bathurst and Blayney, provides an opportunity for growers and producers to generate regular, reliable sales, critical to business sustainability.

Farmers markets are bridging the gap between producers and consumers and providing consumers with an opportunity to purchase food of a high quality with low food miles and support local growers and communities. There is a strong “feel good” factor associated with farmers’ markets, which create a “village square effect” – bringing communities together.

CASE STUDY: THE BUSH GODDESS — COLLABORATING TO CREATE LOCAL FOOD ECONOMIES

“Bush Goddess” Pennie Scott, is a pork producer, farmer’s market co-ordinator, blogger, teacher, and passionate regional food advocate based in Wagga, with close ties to Central West NSW communities. Pennie developed the Eat Local Movement in the Riverina and has since expanded the concept into Canberra.

“The purpose of the Eat Local Movement is to provide as many trading opportunities as possible for growers and makers so eaters have convenient access to the best the region has to offer, and the traders have a reliable and regular cash-flow, and, the money spent remains in the region,” says Pennie.

Among other events and projects, Pennie runs a workshop called “From commodity producer to retail food farmer — price takers to price maker”, designed to upskill small to medium sized producers to become more entrepreneurial, to value add and to innovate.

“Eat Local Thursday diverted almost $2million from supermarkets into the pockets of growers and makers of chemical and GMO-free produce and product from the Riverina and northern Victoria. This is the potential and outcome of focusing on creating a local food economy,” says Pennie.

KEY OBSERVATION

There is potential for groups of producers and existing farmers’ markets organisations to lead the expansion of a local food economy in the Central West.

53 RDA Central West stakeholder consultations. Steve Hannan, Westpac Agribusiness presentation, ABARES Outlook 2016
CASE STUDY: CAERNARVON CHERRY CO. AND BONNY GLEN FRUITS

Bernard and Fiona Hall are the owners of Caernarvon Cherries and Bonny Glen Fruits in Orange. They were also 2015 NSW Farmer of the Year finalists.

The Caernarvon Cherry Co has four full-time employees, and Bonny Glen Fruits has 20 full time employees. The Halls employ around 1000 people over the cherry harvest time.

By investing in state-of-the-art fruit grading technology and cool-rooms, positioning themselves as a packing “hub” for regional orchardists, and developing a clever branding and marketing strategy, the Halls have managed to grow their orchard business in the face of significant industry contraction in the region.

“‘The demand’s coming for a higher consistent quality product so we’ve invested in new technology so we can guarantee consistent product to our customers both domestically and internationally,’” says Fiona. “‘We have invested in other technology to improve our systems and our efficiencies as well as looking at value adding our products as well.’”

Caernarvon were the first cherry producers in NSW to install an optical sorting cherry grader, creating a significant point of difference. The sorter robotically removes blemished and internally soft fruit and sorts colour and size. It takes ten photos of every cherry, resulting in sizing to within 0.2mm accuracy, and maximising returns to growers for larger-sized fruit.

Caernarvon now acts as a packing facility for 20 orchardists around the region. By collaborating under the “Bite Riot” label, the growers have been able to improve economies of scale, minimise risk and increase their “market clout”.

“Before we bought our own pack-house and the new technology, what we had here was a lot of small growers all doing their own thing and all sending to the central market system and all just being a price-takers,” says Fiona. “Bernard and I saw an opportunity to create a pack-house and an alliance of growers, so we’ve joined a group of growers together and we collaborate to achieve our common goal of brand recognition for our quality premium produce”.

/ Fiona Hall and her children. Photo Kate Barclay.
We have some very skilled growers with many generations of experience. We create a brand and a recognition as a group that works really well together.”

Caernarvon has expanded their cherry season by sourcing from growers across a wide geographical area, including Griffith, Mudgee and Young, enabling them to build relationships with major domestic retailers and export customers looking for high quality, reliable supply.

Australian cherry exports have shown strong growth over the past five years, increasing from $15 million in 2010–11 to almost $50 million in 2014–15.

“We exhibited with Cherry Growers Australia in Hong Kong when we first developed our ‘Bite Riot’ brand five years ago,” says Fiona. “We now export to Hong Kong, Malaysia, the Middle East and Singapore.”

The Bite Riot range is now venturing into the potentially lucrative “functional food” market, value adding to second grade fruit to produce a quality cherry juice with high levels of the antioxidant anthocyanin.

“With the known health benefits of cherries, the potential of the 100% cherry juice and other cherry by-products, there is huge potential particularly in the growth of the affluent Asian markets,” says Fiona.

“We’re always looking at new opportunities. We’ve done cherry juice, we’re looking into cherry crushers and there’s plenty of opportunities. What we do best is growing, processing and marketing. If we’re going to go down the distribution channels we need to be making sure we have the resources and people to do that properly. There is huge potential. There are also huge opportunities for agritourism in this area as a value add to the business.’

CASE STUDY: CO-LOCATION

Second Mouse Cheese is co-located in a large shed on the outskirts of Orange, sharing space with boutique beer-maker Badlands, refrigerated transport operators Robar Distribution, and local food, wine and music retail hub Agrestic Grocer. Co-location means shared benefits including reduced energy costs, retail and tourism opportunities.

“Our waste whey is used by a local heritage pig farmer who also takes Badland Brewery’s waste barley,” explains Kai Waltman, owner and cheesemaker at Second Mouse Cheese Co. “Together, the whey and barley makes a great pig muesli!”

The Agrestic Grocer is a retail enterprise selling fresh and value added local produce from across the region. It incorporates a café and regular live music gigs, providing a broader, cultural experience for visitors and regular locals.

Second Mouse Cheese and Badlands Brewery Co-location sell their products through The Agrestic Grocer as well as other retailers and wholesalers. For all four businesses, co-location means shared benefits including reduced energy costs, waste disposal and retail and tourism opportunities. For example, Second Mouse Cheese waste whey and Badlands waste barley are reused by a local heritage pig farmer, who then sells his pork products at The Agrestic Grocer.
BRAND ORANGE — A CROSS-SECTOR ALLIANCE

Established in 2007, Brand Orange is an independent, not-for-profit organisation with the primary purpose of leading economic and tourism development, strategic marketing and community benefits to the Orange Region. Brand Orange works to increase tourism visitation numbers, but also promotes the region as a place to live and work for current and future residents, encouraging increased business investment and economic diversification.

Brand Orange’s membership base includes food and wine producers, tourism operators, retailers and restaurants and cafes. In conjunction with Orange City, Cabonne and Blayney Shire Councils, Brand Orange represents the region and its members in partnership with other industry organisations including Central NSW Tourism, Destination NSW, Orange Business Chamber, NSW Wine, Wine Australia and Tourism Australia.

FARM CO-OPERATIVES AND COLLABORATION PROGRAM

The Federal Government’s new Farm Co-operatives and Collaboration Pilot Program has been developed to strengthen farmer awareness and knowledge about innovative business models, such as cooperatives, in order to have more control of the food supply chain and to boost their bargaining position in the marketplace. The two-year pilot program, announced by Agriculture Minister Barnaby Joyce in April 2016, will be delivered by Southern Cross University.

CO-OPERATIVES

A co-operative is a business created by members for their mutual benefit. This typically involves a patronage relationship where members buy and sell from the co-operative. The members are also its shareholders and owners.54

Agricultural co-operatives have played a crucial role in rural Australia in assisting primary producers to process and market their commodities. The earliest Australian co-operative, the South Coast and West Camden Co-operative Company, emerged in the dairy industry on the NSW coast in the 1880s with the aim to remove ‘middle men’ and improve returns for farmers. The top two co-operatives in Australia in 2011 in terms of turnover were agricultural co-operatives — Cooperative Bulk Handling Ltd in Western Australia and Murray Goulburn Co-operative Co Limited in Victoria.55

In 2013, Regional Development Australia Mid North Coast published a report titled “Co-operatives in Australia — A Manual.” The report identified two main types of agricultural co-operatives in Australia.56

1. Agricultural supply co-operatives — provide members with supply and storage of inputs for agricultural production, including fertilisers, seeds, fuel, and ploughing or harvesting services. As a member of an agricultural co-operative, a farmer can take advantage of volume discounts.

2. Agricultural marketing co-operatives — are formed by members to process, package, brand, distribute and market farm products.

The Regional Development Australia Mid North Coast report found it was difficult to get reliable statistics on the current co-operative sector landscape in Australia. Co-operative numbers have fallen significantly in Australia over the past two decades, yet the co-operative movement has grown overseas. The Australian decline is thought to be partly due to restrictions and additional compliance costs in the regulatory environment and larger co-operatives and mutuals becoming companies to access external capital. Also contributing to the decline may be a lack of grassroots understanding and support for linkages, a low commitment to co-operation among co-operatives, the requirement to have at least five members, a lack of training in the sector, and the lack of a strong voice from co-operatives to develop a higher profile with the Australian public and governments.57

Although the Federal Government announced a $14 million package to help farmers form cooperatives as a key measure in the White Paper on Agricultural Competitiveness, co-operatives in Central West NSW, including Appledale Co-op, have found that their co-operative

56 Regional Development Australia Mid North Coast NSW, 2013 Co-operatives in Australia
57 Ibid
business model limits access to government grants to enable them to innovate and grow.58

A Senate inquiry report into co-operative, mutual and member-owned firms, published in March 2016, investigated barriers preventing co-operatives and mutuals from forming and realising their full potential and recommended that “the Commonwealth Government review, and where necessary amend the eligibility criteria for grants and funds across all government grants and program guidelines to ensure that co-operatives and mutual enterprises are not excluded on the basis of their business structure.”59

**KEY OBSERVATION**

There may be a need for continued advocacy to ensure regional agricultural co-operatives are not excluded for eligibility for government grants on the basis of their business structure.


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**CASE STUDY: CO-OP CULTURE IN ORANGE**

Dwindling shareholder membership of the Appledale Processors Co-operative in Orange has led to the group to innovate and shift from a market model to a processing model which will include fresh juice and cider making.

Twenty years ago, the co-op boasted around 120 members. Appledale was founded by a group of Orange district growers and orchardists in March 1978 with the principal objective of ensuring that the efficient and cost effective methods were implemented for utilising the processing grade fruit produced in the district.

Today, only 38 apple orchardists around Orange, Cabonne and Forbes make up the shareholder base.

Jess Byrne, General Manager of Appledale Processors Co-op, says the aging orchardist population is the main reason for the decline, with younger generations not keen to take on such a challenging lifestyle.

However, with the purchase of the first mechanical harvester in Australia, Appledale has plans to create a new niche for itself as a producer of fresh juice and cider.

“The domestic cider market has been growing exponentially in recent years,” says Jess. “Cider has seen growth on growth, so we will be able to supply that market.”

Orange is also home to the Woodward Road Rural Co-op Society and the Orange Co-op Cool Stores. Established fifty years ago, Woodward Road Rural Co-op is made up of 30 shareholders including orchardists and vignerons.

**KEY OBSERVATION**

Informal collaborations are becoming more common in the region, offering agribusinesses an opportunity to share costs, pool knowledge and complementary skills and secure supply with more market clout.

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**THE ENTERPRISE SOLUTION CENTRE**

Previously known as the SME Solution Centre, ‘The Enterprise Solution Centre’ is now funded by CSIRO and Food Innovation Australia Ltd.

This program is designed to connect companies to expertise or research advice to provide a solution to a technical challenge which businesses are unable to solve themselves in order to take advantage of a market opportunity. The new solution, when supported with training that builds business capability, is designed to increase the competitiveness of the company in their desired markets.
CASE STUDY: AUSTRALIAN WOOL NETWORK — BRINGING WOOL GROWERS, WOOL PROCESSORS AND CONSUMERS TOGETHER

In 2014, Hysport, a knitwear clothing manufacturer established in Melbourne in 1971, was purchased by Australian Wool Network (AWN) — Australia’s largest independent wool marketing company. The following year, a group of Kangaroo Island wool growers signed a deal with AWN to sell and market their wool under AWN’s ‘direct network advantage’ or ‘DNA’ wool supply program, developed in conjunction with Hysport.

Chairman of Kangaroo Island Wool, Christine Berry, says the signing of the deal with AWN in 2015 was the culmination of four years’ work.

“We started on the concept of a grower to garment proposal in 2011 when nineteen members came together to form Kangaroo Island Wool. Eighteen of our members are wool growers and the nineteenth is our local vet who supervises all our sheep health and genetic breeding work.”

The end product is the luxury knitwear label Merino Snug, one of Hysport’s premier clothing brands, made from Australian merino wool and New Zealand possum fur. In conjunction with the Merino Snug brand, the swing tag and point of sale signage identify the contribution of wool grown on Kangaroo Island.

A similar partnership is currently being developed with Tasmanian wool growers.

“The value adding is in engaging the customer,” says AWN Marketing Manager Cynthia Jarrett. “Merino Snug garments all tell authentic regional stories. The QR swing tags take customers directly to an engaging video about a producer who actually contributed to the garment. Growers know where their wool is going and consumers know where it is from.”

Cynthia believes there are opportunities for wool growers in other regions, such as Central West NSW, to value add through similar collaborative branding. “It only takes one person in a group of growers in a region to take the lead,” she says.


KEY OBSERVATION

Other regions are collaborating and branding themselves more successfully than Central West NSW. For example, there may be an opportunity for Central West wool growers to come together and collaborate like the Kangaroo Island Wool growers.
Export Opportunities and Trade Agreements

Trade Agreements have the potential to add value to the terms of trade and create competitive advantage for Central West NSW agricultural producers, but the continued marketing of Central West NSW produce as clean, green and safe will be increasingly vital to trade relationships and future export opportunities.

China

China is a rapidly growing market for Australian horticultural products, with exports worth $111 million in 2014–15 — up from $14 million in 2009–10. Under ChAFTA, all tariffs on horticultural products will be progressively eliminated. This presents new opportunities for the Central West NSW region’s strong horticultural sector, including potential to increase apple and cherry production in the eastern part of the region to tap into the growing fresh fruit market in Asia.

Trade Agreements have the potential to add value to the terms of trade and create competitive advantage for Central West NSW agricultural producers, but the continued marketing of Central West NSW produce as clean, green and safe will be increasingly vital to trade relationships and future export opportunities.

China

Snapshots of Potential Export Opportunities for Central West NSW agricultural produce (list is indicative only)

<table>
<thead>
<tr>
<th>Trade Agreement</th>
<th>Central West NSW Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>China ChAFTA signed Dec 2015 (See Export Growth China Initiative information below)</td>
<td>Removal of tariffs will add value to terms of trade and create competitive advantage, but marketing clean, green, safe brand will be vital. Innovation in irradiation tech has potential to increase horticultural exports to China. Tariffs of 14% to 20% on Australian wine exports eliminated by Jan 2019. Tariffs on dairy phased out by 2026. The 15% tariff on infant formula passed out by 2020, however other regulations will restrict further growth in baby formula market. China expected to remain main processor of Australian wool. ChAFTA may have benefits. Global food demand expected to constrain wool production in NSW.</td>
</tr>
<tr>
<td>Japan Japan-Australia Economic Partnership Agreement (JAEPA) came into force Jan 2015</td>
<td>Rolled oats sales to Japan have increased 62% since JAEPA. Increased market for frozen beef and beef tongue. Asparagus sales to Japan have increased 41% since JAEPA. Significant export bottled and bulk wine growth. Table grapes export also increasing.</td>
</tr>
<tr>
<td>Korea The Korea-Australia Free Trade Agreement (KAFTA) came into force December 2014</td>
<td>Wine exports to Korea doubled to $8.9 million in 2015, compared with the same period in 2014. Goat meat, lamb and beef. Cherries and fresh packaged horticulture.</td>
</tr>
<tr>
<td>ASEAN Brunei, Myanmar, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, and Vietnam ASEAN-Australia-New Zealand Free Trade Area (AANZFTA) is Australia’s first multi-country FTA</td>
<td>Meat and livestock opportunities include breeding cattle and artificial insemination, dairy cattle and equipment, feedlot management and technology, abattoir, meat handling and butchering equipment, other meats such as offal, mutton, goat, and lamb and education and training programs. New lines of processed meat products catering to the developing retail industry (supermarkets/ hypermarkets) such as small goods. Horticulture opportunities include plantation technology and services, cold storage and horticulture product handling, seed management and distribution and pest management and consultancy services. Supply of products and services specific to the food services sector (ingredients). Technology transfers (e.g., packaging and establishment of processing plants).</td>
</tr>
<tr>
<td>India Comprehensive Economic Cooperation Agreement</td>
<td>Opportunities for growth in pulses, canola oil, oats and malting barley. Opportunities for products and services to improve productivity and efficiency. Opportunities for training, consultancy and management services. Growing demand for dairy starting to be met by Indian corporates. Opportunities for Australia may be in skills, training and value added product innovation.</td>
</tr>
<tr>
<td>United States 2005</td>
<td>Goat meat</td>
</tr>
<tr>
<td>UAE Australia-Gulf Cooperation Council (GCC) FTA negotiations are ongoing</td>
<td>Organic grains, pulses, food oils, horticulture, dairy. New lines of processed meat products catering to the developing retail industry (supermarkets/ hypermarkets) such as small goods. Pre-marinated, premium meat cuts. Processed food: fresh ready-to-cook, ready-to-eat products, pre-cut vegetables, processed, canned/preserved and frozen food</td>
</tr>
</tbody>
</table>

Sources: Austrade, Department of Foreign Affairs and Trade, and NSW Department of Industry.
**CASE STUDY: MSM MILLING EXPANDING INTO CHINA**

MSM Milling is a unique, integrated oilseed processing business based in the heart of the Australian canola growing region in Central West New South Wales. MSM Milling buys non-GM canola seed directly from local farmers and transforms it into value added oil and meal products for domestic and international food manufacturers, retailers, food service companies and stock feeders. MSM has well established partnerships with many of the world’s best known and respected multi-national businesses.

MSM currently shipping to over 15 countries around the world. The enterprise includes an in-house documentation department, dedicated container packing facilities and rail access at the site, taking export containers direct to port.

MSM offers canola oil in flexibags, IBC’s or 205 litre drums, packaged on-site under strict quality control. Canola meal is packed loose in 20’ containers in our enclosed out-loading facility.

MSM Milling has exported retail products to China since 2010 under two brand names, including MSM Milling.

“During the past six years, the Chinese consumers’ appetite for healthy 100% Australian grown, produced and packaged oil has increased exponentially and we believe there’s a terrific opportunity for far greater expansion in China, given the opportunities in that market for high quality edible oil,” says Bob Mac Smith, Director MSM Milling.

“MSM Milling’s export expansion plans have been boosted with the China-Australia Free Trade Agreement (ChAFTA). In time, the ChAFTA will open further opportunities for MSM Milling in the Chinese marketplace.”

“We look forward to the ChAFTA removing the barriers of costly and complicated tariffs, excises, quotas and regulatory requirements that for many years have challenged and frustrated our export expansion plans. MSM Milling was fortunate to take part in this year’s Australia Week in China which allowed us to better understand the ramifications of the ChAFTA and the exciting opportunities available to us, and other Australian businesses.”

“MSM Milling has already moved to embrace these new trade opportunities and is establishing an automated retail packing line on site in Manildra to allow us to keep up to Chinese consumers’ insatiable appetite for high quality edible oils for use as a key ingredient in local cuisine, as well as corporate gifts and presents.”
Export Growth China is an initiative of the Australian Chamber Movement. It is a highly subsidised and practical program designed to improve the export success of Australian Businesses and agriculture.

The program offers small businesses a combination of professional export services to overcome the hurdles in building a Chinese export business including:

- A comprehensive Export Readiness Report, including a diagnostic consultation
- Your product displayed in our Shanghai Showroom for a minimum of 6 months
- Mandarin product promotions
- Pro-active Buyer Matching
- Product Feedback Reporting.
- Optional consulting and negotiation services

Export Growth China is also open to all members of any Chamber of Commerce across Australia. Export Growth China has partnered with NSW Farmers to help facilitate the entry of NSW Farmers members into the China market.

Part 2
Central West NSW — an overview

The Regional Development Australia Central West region extends from the Central Tablelands on the western side of the Blue Mountains to the Central West plains approximately 500km to the west. The region comprises of 11 Local Government Areas (LGAs) including Lithgow, Oberon, Bathurst, Blayney, Orange, Cabonne, Cowra, Parkes, Forbes, Weddin and Lachlan with a total population of 177,000 and a total land area of 63,000 square kilometres.

BLURRED BOUNDARIES

It is important to note the varying definitions of “Central West NSW” when studying this area. For the purposes of this report, “Central West NSW” comprises the 11 Local Government Areas (LGAs) of; Lithgow, Oberon, Bathurst, Blayney, Orange, Cabonne, Cowra, Parkes, Forbes, Weddin and Lachlan.

However, the lack of continuity in regional boundary definitions makes it difficult to accurately interpret data and compare reports from various government bodies and organisations. This results in greater margins of error and the transfer of misinformation. For example;

- The NSW Department of Primary Industries “Central West Pilot Area” agricultural profiles define the area as including only Forbes, Cabonne, Orange and Blayney LGAs.
- The NSW Department of Industry and Destination NSW tourism body define Central West NSW more broadly, including Mid-Western (Mudgee), Lithgow, Oberon, Bathurst, Orange, Cabonne, Cowra, Weddin, Forbes, Parkes and Lachlan LGAs.
- The NSW Department of Planning and Environment 2016 report on the region’s agricultural industries combine the “Central West and Orana” as one region, extending the boundaries further to include Bogan, Coonamble, Dubbo, Gilgandra, Narromine, Warren, Warrumbungle and Wellington LGAs. A total area of 125,666 square kilometres.
- The ABS Central West NSW SA4 definition includes Bland and Mid-Western LGAs. A total land area of 70, 298sq km. The SA4 regions are the largest sub-State regions in the Main Structure of the Australian Statistical Geography Standard (ASGS). They are designed for the output of labour force data and reflect labour markets within each State and Territory. SA4s provide the best sub-state socio-economic breakdown in the ASGS.
AGRICULTURAL LAND AND SECTOR CHARACTERISTICS

Agriculture makes up 73% of Central Western NSW’s GRP, making it the region’s third sector of importance after mining and manufacturing. Historically the backbone of the regional economy, agriculture in Central Western NSW experienced a growth of 5% in GRP between 2006 and 2013.

A key characteristic of Central West NSW is the diversified production systems that combine cropping with sheep meat, wool or cattle production. The variety of landscapes and climates within the region means a diverse range of quality produce can be grown. The range of agricultural industries also supports many other enterprises including stock feed merchants, processors, transports and logistics industry, saleyards and abattoirs.

Climate, rainfall and topography vary significantly across the region, which is often described by farmers and communities as being two distinct sub-regions divided by the Newell Highway, described as either “East of the Newell” and “West of the Newell” (predominately broad acre enterprises).

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60 RDACW Economic Profile 2014, NIEIR, A.P. SHEERE CONSULTING
61 RDA Central West NSW, (2014) NSW Central West Export/Import Contribution Study
### Agricultural land and sector characteristics of Central West NSW by LGA

<table>
<thead>
<tr>
<th>LGA</th>
<th>Average Elevation</th>
<th>Land form</th>
<th>Climate</th>
<th>Average Annual Rainfall mm</th>
<th>Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithgow</td>
<td>950m</td>
<td>Wide variations in elevations:</td>
<td>Cool temperate</td>
<td>858.5</td>
<td>Cattle, sheep, softwood forestry and poultry are key sectors. Niche primary industry include goat cheese, olive oils, alpaca wool and mushrooms.</td>
</tr>
<tr>
<td>Oberon</td>
<td>1113m</td>
<td>Plateau</td>
<td>Mild to warm summers and</td>
<td>968.4</td>
<td>Prime lamb and beef cattle are key sectors, plus vegetables, trees nurseries, nuts and bulbs. Timber processing by CSR and Boral Timber a sig secondary industry. Niche opportunities in mushrooms and truffles. Some protected cropping (hydroponic vegetable growing) currently being evaluated.</td>
</tr>
<tr>
<td>Bathurst</td>
<td>650m</td>
<td>Ranges from slightly undulating to rough and very steep</td>
<td>Cool temperate</td>
<td>637.7</td>
<td>Predominately a grazing region producing sheep, cattle, fat lambs and fine wool with a temperate climate. Horticulture is a key sector. Two dairy operations. Some niche organic agriculture and alternative fruit crops such as hazelnuts, figs and feijoas.</td>
</tr>
<tr>
<td>Orange</td>
<td>862m</td>
<td>Well-watered, gently undulating to hilly</td>
<td>Cool temperate</td>
<td>1059.8</td>
<td>Predominately a grazing region producing sheep, cattle, fat lambs and fine wool with a temperate climate. The combination of niche produce together with tourism opportunities given its proximity to Sydney sees this as a thriving area with fine wine and food a major attraction.</td>
</tr>
<tr>
<td>Cabonne</td>
<td>577m</td>
<td>Ranges from gently undulating to plains</td>
<td>Warm temperate</td>
<td>701.9</td>
<td>Sheep, beef cattle, wool, grains, canola, dairy, viticulture and horticulture, nitch and organic ag including nuts, olives, figs, honey.</td>
</tr>
<tr>
<td>Blayney</td>
<td>863m</td>
<td>Well-watered, gently undulating to hilly</td>
<td>Cool temperate</td>
<td>765.4</td>
<td>Sheep, beef cattle and grain. Organic agriculture and alternative fruit crops such as hazelnuts, figs and feijoas.</td>
</tr>
<tr>
<td>Cowra</td>
<td>310m</td>
<td>The Lachlan Valley ranges from gently undulating to open plains. Fed by Lachlan River</td>
<td>Warm temperate</td>
<td>598.1</td>
<td>Known for its quality food and fibre production. Thriving livestock and cropping industries with horticulture also a key enterprise. A good proportion of the state’s Merino stud stock comes from Cowra. The viticulture industry has significantly declined in recent years but still has a presence and is creating a niche in organic viticulture and winemaking.</td>
</tr>
<tr>
<td>Parkes</td>
<td>324m</td>
<td>Open plains</td>
<td>Warm temperate</td>
<td>587.5</td>
<td>Broad acre enterprises predominate, producing a high volume of quality grain and livestock, with irrigation also coming into the mix along river systems. Some dairy.</td>
</tr>
<tr>
<td>Weddin</td>
<td>410m</td>
<td>Open plains with some hills</td>
<td>Warm temperate to hot</td>
<td>622.9</td>
<td>Thriving livestock (predominately beef and lamb) and cropping industries with horticulture also a key enterprise. A good proportion of the state’s Merino stud stock comes from around Cowra and Weddin. Cropping includes canola, wheat, barley, lupins.</td>
</tr>
<tr>
<td>Forbes</td>
<td>245m</td>
<td>Open plains fed by Lachlan River system</td>
<td>Warm semi-arid</td>
<td>526.4</td>
<td>Broad acre enterprises predominate, producing a high volume of quality grain and livestock, with irrigation also coming into the mix along river systems. Site of a major dairy enterprise. Some cotton being trialed.</td>
</tr>
<tr>
<td>Lachlan</td>
<td>339m</td>
<td>Red soil plains</td>
<td>Hot semi-arid</td>
<td>449.4</td>
<td>Broad acre enterprises predominate, producing a high volume of quality grain and livestock, with irrigation also coming into the mix along river system. Emerging cotton industry.</td>
</tr>
</tbody>
</table>

(Sources: NSW Central West Export/Import Contribution Study; Invest Central West Investment Opportunity Assessment, A.P. Sheere Consulting; Bureau of Meteorology 2014; NSW Farmers)
In total, agricultural production amounted to over $1 billion in 2011 in the Central West NSW region.

Table 1.0 (right) illustrates that the Lachlan LGA produced the most value in agricultural commodities within the Central West NSW region in 2011, followed by Cabonne and Forbes. Cereal crops in 2011 contributed the most $ value at $485,429,000, followed by the meat sector at $251,736,000.

<table>
<thead>
<tr>
<th>LGA</th>
<th>Cereal Crops</th>
<th>Other Broad Acre Crops</th>
<th>Nurseries, Cut Flowers and Cultivated Turf</th>
<th>Crops for Hay</th>
<th>Vegetables, Fruit and Nuts</th>
<th>Wool</th>
<th>Milk</th>
<th>Eggs</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathurst</td>
<td>$1,229,192.00</td>
<td>$403,667.20</td>
<td>$1,607,312.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$251,014.10</td>
</tr>
<tr>
<td>Blayney</td>
<td>$1,093,234.00</td>
<td>$211,114.60</td>
<td>$327,018.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$24,091,450.10</td>
</tr>
<tr>
<td>Cabonne</td>
<td>$32,981,458.00</td>
<td>$12,158,541.00</td>
<td>$306,085.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$50,047,714.00</td>
</tr>
<tr>
<td>Cowra</td>
<td>$16,552,435.00</td>
<td>$5,357,121.00</td>
<td>$704,356.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$20,248,045.00</td>
</tr>
<tr>
<td>Forbes</td>
<td>$73,625,972.00</td>
<td>$16,665,485.00</td>
<td>$678,084.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$25,368,637.00</td>
</tr>
<tr>
<td>Lachlan</td>
<td>$191,277,333.00</td>
<td>$8,362,217.00</td>
<td>$3,994,348.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$260,950,970.00</td>
</tr>
<tr>
<td>Lithgow</td>
<td>$35,948.00</td>
<td>$14,252.00</td>
<td>$109,340.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$18,809,118.00</td>
</tr>
<tr>
<td>Oberon</td>
<td>$81,310.00</td>
<td>$7,839.00</td>
<td>$3,695,545.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$17,826,143.00</td>
</tr>
<tr>
<td>Orange</td>
<td>$10,385.00</td>
<td>$7,409.00</td>
<td>$643,061.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$4,534,349.00</td>
</tr>
<tr>
<td>Parkes</td>
<td>$105,908,794.00</td>
<td>$21,944,118.00</td>
<td>$157,484.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$19,279,088.00</td>
</tr>
<tr>
<td>Weddin</td>
<td>$62,633,196.00</td>
<td>$18,507,193.00</td>
<td>$4,063,922.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$134,613,885.00</td>
</tr>
</tbody>
</table>

Table 1.0 Agricultural production value in Central West NSW, 2011 data

Source: Dept. of Agriculture — ABS Agri data. Note: the ABS suggests caution when assessing data with low values.
GROSS REGIONAL PRODUCT

Industry Gross Regional Product (GRP) contribution identifies the value of final goods and services produced in the local economy and provides an insight into the size of the economy and the key industries that are creating value in the region. Industry GRP also highlights any reliance and dominance of particular sectors within a region.

The 11 LGAs within the Central West NSW region recorded an estimated GRP of $9.65 billion in 2014 representing 2.05% of NSW’s Gross State Product (GSP).

EMPLOYMENT

The region recorded 73,258 resident workers in 2011 representing an average annual increase of 1.2% over the previous five years (based on industry sectors of employment). The Mining sector, followed by Administrative and Support Services, were amongst the fastest growing sectors in the NSW Central West region (see Table 2.0).

The employment shares for the Agriculture, Mining, Education and Training sectors for the NSW Central West region are relatively higher than the regional NSW and NSW averages, indicating the relative strength of these sectors in the region.

From Table 2.0, it can be seen that in 2014 the mining sector accounted for 21.9% of Central West NSW’s GRP (up from 18.7% in 2011) which is significantly higher than the NSW average of 3.1%. Manufacturing continues to contribute in terms of GRP reaching approximately $727.52 million in 2014 which was equal to the NSW average — also at 7.5%.

### Table 2.0 Key industry sectors contributing to the NSW CW region’s GRP, 2014

<table>
<thead>
<tr>
<th>Top GRP Contributing industry sectors</th>
<th>Central West NSW</th>
<th>% of total Central West NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining</td>
<td>$2,112.22</td>
<td>21.9%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>$727.52</td>
<td>7.5%</td>
</tr>
<tr>
<td>Agriculture, Forestry and Fishing</td>
<td>$709.52</td>
<td>7.3%</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>$703.81</td>
<td>7.3%</td>
</tr>
<tr>
<td>Construction</td>
<td>$642.46</td>
<td>6.7%</td>
</tr>
<tr>
<td>Public Administration and Safety</td>
<td>$587.85</td>
<td>6.1%</td>
</tr>
<tr>
<td>Education and Training</td>
<td>$581.98</td>
<td>6.0%</td>
</tr>
</tbody>
</table>

Note: GRP at Market Prices. 2014

Source: RDACW Economic Profile 2014, NIEIR, A.P. SHEERE CONSULTING

### Table 3.0 Employment by Industry comparison, 2006-11

<table>
<thead>
<tr>
<th>Industry</th>
<th>Central West NSW region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
</tr>
<tr>
<td>Agriculture, Forestry and Fishing</td>
<td>7,628</td>
</tr>
<tr>
<td>Mining</td>
<td>2,212</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>6,872</td>
</tr>
<tr>
<td>Electricity, Gas, Water and Waste Services</td>
<td>1,178</td>
</tr>
<tr>
<td>Construction</td>
<td>4,330</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>7,853</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>1,928</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>4,536</td>
</tr>
<tr>
<td>Transport, Postal and Warehousing</td>
<td>3,074</td>
</tr>
<tr>
<td>Information Media and Telecommunications</td>
<td>806</td>
</tr>
<tr>
<td>Financial and Insurance Services</td>
<td>1,195</td>
</tr>
<tr>
<td>Rental, Hiring and Real Estate Services</td>
<td>798</td>
</tr>
<tr>
<td>Professional, Scientific and Technical Services</td>
<td>2,280</td>
</tr>
<tr>
<td>Administrative and Support Services</td>
<td>1,392</td>
</tr>
<tr>
<td>Public Administration and Safety</td>
<td>4,968</td>
</tr>
<tr>
<td>Education and Training</td>
<td>5,899</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>7,754</td>
</tr>
<tr>
<td>Arts and Recreation Services</td>
<td>582</td>
</tr>
<tr>
<td>Other Services</td>
<td>2,548</td>
</tr>
<tr>
<td>Inadequately described or not stated</td>
<td>1,452</td>
</tr>
<tr>
<td>Total employed persons aged 15+</td>
<td>69,265</td>
</tr>
</tbody>
</table>

KEY OBSERVATION

Although it is one of the most important sectors and employers in the region, jobs are shrinking in agriculture in Central West NSW. If the region is to leverage the value adding opportunities afforded by the predicted growth of the agricultural industry, it will have to consider the consequences and develop strategies to manage shrinking jobs and skills gaps.

AGRICULTURAL JOBS

The number of jobs available within each of the 11 LGAs in Central West NSW are used to illustrate the concentration of jobs available in that job sector within each LGA. In total, there were close to 66,000 jobs in 2011 within the region. Some 6,000 of these jobs were in the Agriculture, Forestry and Fishing industry sector. Census 2011 data illustrates that the Cabonne LGA had the most jobs associated with this sector (1,134) followed by the Lachlan LGA (795).

<table>
<thead>
<tr>
<th>LGA</th>
<th>Number of local Agricultural, Forestry and Fishing jobs, 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathurst</td>
<td>550</td>
</tr>
<tr>
<td>Blayney</td>
<td>347</td>
</tr>
<tr>
<td>Cabonne</td>
<td>1134</td>
</tr>
<tr>
<td>Cowra</td>
<td>669</td>
</tr>
<tr>
<td>Forbes</td>
<td>670</td>
</tr>
<tr>
<td>Lachlan</td>
<td>795</td>
</tr>
<tr>
<td>Lithgow</td>
<td>191</td>
</tr>
<tr>
<td>Oberon</td>
<td>389</td>
</tr>
<tr>
<td>Orange</td>
<td>218</td>
</tr>
<tr>
<td>Parkes</td>
<td>618</td>
</tr>
<tr>
<td>Weddin</td>
<td>479</td>
</tr>
<tr>
<td>RDACW Total</td>
<td>6,060</td>
</tr>
</tbody>
</table>

Source: Australian Bureau of Statistics Census 2011

The majority of businesses actively trading in Central West NSW are in Agriculture.

Table 5.0 Percentage of Business Count by Industry Sector, 2011

<table>
<thead>
<tr>
<th>Industry sector</th>
<th>Central West NSW</th>
<th>Regional NSW</th>
<th>NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Forestry and Fishing</td>
<td>32.5%</td>
<td>21.5%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Mining</td>
<td>0.5%</td>
<td>0.3%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>3.5%</td>
<td>3.9%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Electricity, Gas, Water and Waste Services</td>
<td>0.3%</td>
<td>0.3%</td>
<td>0.3%</td>
</tr>
<tr>
<td>Construction</td>
<td>13.2%</td>
<td>16.3%</td>
<td>15.7%</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>6.9%</td>
<td>7.3%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>2.8%</td>
<td>2.8%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>4.1%</td>
<td>4.6%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Transport, Postal and Warehousing</td>
<td>6.2%</td>
<td>5.6%</td>
<td>6.5%</td>
</tr>
<tr>
<td>Information Media and Telecommunications</td>
<td>0.4%</td>
<td>0.5%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Financial and Insurance Services</td>
<td>4.1%</td>
<td>5.5%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Rental, Hiring and Real Estate Services</td>
<td>7.3%</td>
<td>8.8%</td>
<td>11.0%</td>
</tr>
<tr>
<td>Professional, Scientific and Technical Services</td>
<td>5.7%</td>
<td>7.9%</td>
<td>13.2%</td>
</tr>
<tr>
<td>Administrative and Support Services</td>
<td>2.3%</td>
<td>3.0%</td>
<td>4.3%</td>
</tr>
<tr>
<td>Public Administration and Safety</td>
<td>0.3%</td>
<td>0.3%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Education and Training</td>
<td>0.8%</td>
<td>1.1%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>3.5%</td>
<td>4.5%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Arts and Recreation Services</td>
<td>1.0%</td>
<td>1.3%</td>
<td>1.4%</td>
</tr>
<tr>
<td>Other Services</td>
<td>4.6%</td>
<td>4.5%</td>
<td>4.2%</td>
</tr>
<tr>
<td>Total</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Source: ABS Census, Cat 8165.0 (2012)
Livestock production has a significant value chain in Central West NSW including meat processors (though this is a declining sector), packaging, transport and logistics. Livestock production for meat is the second largest agricultural sector in Central West NSW (see Table 1.0).

**SHEEP**

Sheep numbers in the region have been trending downwards for the past two decades but have now stabilised and are beginning to rebuild. There is evidence of a shift of managing sheep for wool production to meat production to capitalise on demand and high lamb prices.63

The RDACW sheep sector Gross Value of Agricultural Product (GVAP) was $98M in 2010–11. Cabonne LGA recorded the highest GVAP at $19M, followed by Lachlan LGA at $15M and Parkes LGA at $14M (see below).

63 RMCG (2016), Central West and Orana Agricultural Industries, Sydney
BEEF

There has been no discernible trend in cattle numbers over the past two decades. Most beef enterprises in the Central West are small businesses, less than 500ha with a turnover of under $350,000.64

64 Ibid

The Central West NSW beef sector GVAP was $139M in 2010–11. Cabonne recorded the highest GVAP at $28M, followed by Blayney at $19M and Lachlan at $17M. (see below)

An example of a business value adding to the beef industry in the Central West is Cowra Breakout River Meats “Watervale Beef” brand which supplies to over 300 restaurants and butchers making it one of the largest domestic meat wholesalers in the state.

PIGS

Approximately two-thirds of processed pork product (which includes ham, bacon and smallgoods) is made from imported pork. The fresh pork market is all Australian. The small export market includes Singapore, New Zealand and other Asian markets.65

65 Department of Primary Industry (2015)
NSW Pork Industry Overview

The last ten years have seen an increased interest in outdoor production systems. NSW has the highest proportion of small-scale farms in this category. Small-scale growers and free-range producers tend to target niche markets, and pigs produced for sale range from weaners to bacon weight.

NSW suffers from a lack of pork processing facilities and faces significant transport costs from farm to slaughter. Costs for slaughter include interstate levies for interstate pork health programs.66

66 Ibid
Pork production can include income from;
/ pigs sold for meat in fresh and processed market segments
/ pigs sold to other farmers for breeding animals
/ semen sales from productive boars housed in registered breeding centres
/ pigs sold to other farmers for growing out and subsequent sale to processors
/ sales of manure and bedding as compost or fertiliser

Niche markets tend to be serviced by smaller-scale pork producers, although some larger-scale farmers target these markets also. Niches include organic pork, free range pork, and weaner pigs for the spit pig market, on-line marketing and farmers’ markets. In some market niches such as organic pork, demand currently outstrips supply.67

Examples of value adding pork producers in the Central West include;
/ Trunkey Creek Bacon & Pork, who are regulars at various regional farmers’ markets and have a retail outlet in Orange, and;
/ Fresh Pastures Pork from Stuart Town who raise free range pigs and value added products include vacuum sealed pork bellies, wood smoked middle bacon, apple and rosemary sausages (preservative free) and American Ribs.

Australia produces around 360,000 tonnes of pig meat every year. A little over 8% is exported to countries like Singapore, New Zealand and Hong Kong, and 25 per cent is sold through restaurants and other food service outlets in Australia. (Figures current as at early 2015).68

The Central West NSW poultry meat sector GVAP increased significantly from approx. $134,000 in 2006 to approx. $9.7M in 2011. Weddin recorded the most GVAP at approx. $5,094,000 followed by Cabonne at approx. $2,487,000 and Lithgow at approx. $1,871,000 in 2011.

KEY OBSERVATION

High growth expectation in poultry meat demands over the coming decade presents an opportunity for increased poultry meat production in Central West NSW.

POULTRY — EGGS

The largest egg production farms in NSW are located in the West and Central West of NSW. Egg production is limited to domestic markets, although some producers are beginning to show interest in export market opportunities.

68 Australia Pork Ltd, 2015 figures
69 NSW Department of Primary Industries (2015) NSW Poultry Meat Industry Overview
Demand for eggs is increasing, with estimates that the industry needs to grow at approximately 1.5% a year to meet demand, largely due to population growth.70

The largest layer farm in the Southern Hemisphere, Wattle Ridge (a Pace Farms operation), is located just outside the Central West Region at West Wyalong in Bland Shire.

In Central West NSW, a 250 ha vineyard in Cabonne Shire has diversified in recent years to include a state-of-the-art cage free poultry farm now supplying Aussie Farmer’s Direct and IGA.

Increasing demand for free-range eggs in recent years has increased interest in small-scale free-range enterprises. Many small farms have been and continue to be established. In 2015, small-scale free-range poultry egg enterprises represented 70% of layer farms in NSW. Anecdotal evidence suggests that these operations have a business life cycle of less than 2 years, owing to the high and constant labour requirement in all stages of the production chain, lack of scale and poor production performance.71

The Central West NSW poultry eggs sector GVAP increased significantly from approx. $2,714,000 in 2006 to approx. $23,398,000 in 2011. Weddin recorded the most GVAP at approx. $14,393,000 followed by Lithgow at approx. $4,670,000 and Cabonne at approx. $3,759,000 in 2011.

Table 7.0 Poultry (meat) sector comparative GVAP in Central West NSW 2006–2011

<table>
<thead>
<tr>
<th>Central West NSW LGA</th>
<th>Poultry $ 2006</th>
<th>Poultry $ 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathurst</td>
<td>$2,725.00</td>
<td>$145,956.80</td>
</tr>
<tr>
<td>Blayney</td>
<td>-</td>
<td>$43,272.40</td>
</tr>
<tr>
<td>Cabonne</td>
<td>$106,814.00</td>
<td>$2,487,000</td>
</tr>
<tr>
<td>Cowra</td>
<td>$10,809.00</td>
<td>$59,488.00</td>
</tr>
<tr>
<td>Forbes</td>
<td>$11,272.00</td>
<td>$1,964.00</td>
</tr>
<tr>
<td>Lachlan</td>
<td>$1,235.00</td>
<td>$632.00</td>
</tr>
<tr>
<td>Lithgow</td>
<td>$486.00</td>
<td>$1,871,174.00</td>
</tr>
<tr>
<td>Oberon</td>
<td>$217.00</td>
<td>$479.00</td>
</tr>
<tr>
<td>Orange</td>
<td>-</td>
<td>$36.00</td>
</tr>
<tr>
<td>Parkes</td>
<td>-</td>
<td>$4,788.00</td>
</tr>
<tr>
<td>Weddin</td>
<td>$497.00</td>
<td>$5,093,838.00</td>
</tr>
<tr>
<td><strong>RDACW Total</strong></td>
<td>$134,055.00</td>
<td>$9,708,266.20</td>
</tr>
</tbody>
</table>

Source: Dept of Agriculture — ABS Agri data. Note the ABS suggests caution when assessing data with low values.

Table 8.0 Poultry (eggs) sector comparative GVAP in Central West NSW 2006–2011

<table>
<thead>
<tr>
<th>Central West NSW LGA</th>
<th>Eggs $ 2011</th>
<th>Eggs $ 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathurst</td>
<td>$363,336.90</td>
<td>11,067.00</td>
</tr>
<tr>
<td>Blayney</td>
<td>$190,029.70</td>
<td>-</td>
</tr>
<tr>
<td>Cabonne</td>
<td>$3,759,407.00</td>
<td>$2,424,469.00</td>
</tr>
<tr>
<td>Cowra</td>
<td>$15,124.00</td>
<td>$144,710.00</td>
</tr>
<tr>
<td>Forbes</td>
<td>$1,988.00</td>
<td>-</td>
</tr>
<tr>
<td>Lachlan</td>
<td>$100.00</td>
<td>$82,154.00</td>
</tr>
<tr>
<td>Lithgow</td>
<td>$4,670,543.00</td>
<td>$479.00</td>
</tr>
<tr>
<td>Oberon</td>
<td>$208.00</td>
<td>$6,056.00</td>
</tr>
<tr>
<td>Orange</td>
<td>$26.00</td>
<td>-</td>
</tr>
<tr>
<td>Parkes</td>
<td>$4,500.00</td>
<td>-</td>
</tr>
<tr>
<td>Weddin</td>
<td>$14,392,701.00</td>
<td>$45,118.00</td>
</tr>
<tr>
<td><strong>RDACW Total</strong></td>
<td>$23,397,963.60</td>
<td>$2,714,053.00</td>
</tr>
</tbody>
</table>

Source: Dept of Agriculture — ABS Agri data. Note the ABS suggests caution when assessing data with low values.

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**GOAT**

The production of goats for meat is a relatively new industry in the region and in 2010–11 was concentrated in Bathurst, Blayney and Cowra.72

Goat meat is the most consumed meat product in the world and is a burgeoning commodity in Australia. In 2006/7, there were 1,089 goat farms in Australia.73

Despite China, India and Pakistan being the largest producers and consumers of goat meat in the world, Australia is the world’s largest exporter of both goat meat and live goats.74

The National Farmers Federation describes the Australian goat meat sector as “emerging” and cites exports of around $100 million of produce each year, while the mohair trade generates almost $2 million a year.75

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70 NSW DPI (2015) NSW Poultry Egg Industry Review
71 Ibid
72 RMCG (2016), Central West and Orana Agricultural Industries, p 25
73 Australian Bureau of Statistics, Small Area Data 2006/2007, Catalogue No.7125.0
In June 2016, Meat and Livestock Australia’s (MLA) export goat over the hooks indicator for the 8.1 to 10 kilogram category hit an all-time record of 556 cents per kilogram carcase weight, up 251c on the five-year average.

MLA describe the strong global demand for goat meat, boosted by free trade agreements and record farm-gate returns as the “perfect storm” for producers. The MLA is encouraging more livestock producers to start farming rather than wild harvesting.76

The development application for a large goat abattoir in Blayney stalled in 2016.

Given the global popularity of goat meat and opportunities for growth in the Australian industry, there may be scope to explore the benefits of a goat processing facility in the region.

The Central West NSW Goat meat sector GVAP totalled $372,000 in 2011. Blayney recorded the most GVAP at $65,099.40 followed by Bathurst at $63,606.30 and Cowra at $58,277.00 in 2011. Table 9.0 illustrates that there were no GVAP figures for goat meat in the Central West NSW region in 2006.

DEER

Deer is grown for meat (venison) and velvet (supplying the lucrative Asian market for medicinal deer velvet). There are 196 deer farms in Australia, with 25 (12%) located in NSW. The industry has a small number of large farms and many small farms. Domestic market development is identified as an R&D priority. Deer Farmers cited lack of profitability (41%), abattoir costs and access (18%), and lack of markets (10%) as the reasons for leaving, or considering leaving the industry.77

Mandagery Creek Venison is a high profile grower in Central West with an established brand profile. (See Mandagery Creek Venison Case Study).

ALPACA

There are 466 alpaca studs in NSW, 74 of which are located in the Central West. According to the Australian Alpaca Association, although mostly farmed for wool, the establishment of an alpaca meat industry has the potential to increase the demand for otherwise unprofitable animals and lead to genetic gains across the industry. Breeders in the Adelaide Hills, for example, have been trying to establish alpaca as a gourmet meat under the brand name LaViande. For meat production, the Huacaya breed is preferable over the Suri alpaca as it provides more lean meat.78

Export Opportunities

Since the Japan-Australia Economic Partnership Agreement (JAEPA) came into force in January 2015, fresh/chilled and frozen beef exports have increased by 24 and 15 per cent respectively. The export value of beef tongue increased by 75 per cent.79

Beef exports to Korea increased 30 per cent in value for the first six months of 2015 compared with the same period in 2014. The reduction of a 22.5 per cent tariff on goat meat to 18 per cent has seen significant growth in

76 Goodwin, S (2016) Goat price surge to fuel more management, less wild harvest, The Land, 22 June
77 Rural Industries Research & Development Corporation (2010) Deer Industry Database
78 Honan, K. (2015) ABC RURAL Aussies hungry for alpaca meat
79 Department of Trade and Investment (2016) Exporters quick to capitalise on Japan FTA, Media Release, 15 Jan

Table 9.0 Goat meat sector comparative GVAP in Central West NSW 2006–2011

<table>
<thead>
<tr>
<th>Central West NSW LGA</th>
<th>Goat meat $ 2006</th>
<th>Goat meat $ 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathurst</td>
<td>-</td>
<td>$63,606.30</td>
</tr>
<tr>
<td>Blayney</td>
<td>-</td>
<td>$65,099.40</td>
</tr>
<tr>
<td>Cabonne</td>
<td>-</td>
<td>$42,216.00</td>
</tr>
<tr>
<td>Cowra</td>
<td>-</td>
<td>$58,277.00</td>
</tr>
<tr>
<td>Forbes</td>
<td>-</td>
<td>$26,746.00</td>
</tr>
<tr>
<td>Lachlan</td>
<td>-</td>
<td>$34,942.00</td>
</tr>
<tr>
<td>Lithgow</td>
<td>-</td>
<td>$47,718.00</td>
</tr>
<tr>
<td>Oberon</td>
<td>-</td>
<td>$6,269.00</td>
</tr>
<tr>
<td>Orange</td>
<td>-</td>
<td>$8,164.00</td>
</tr>
<tr>
<td>Parkes</td>
<td>-</td>
<td>$8,133.00</td>
</tr>
<tr>
<td>Weddin</td>
<td>-</td>
<td>$10,699.00</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>$371,869.70</td>
</tr>
</tbody>
</table>

Source: Dept of Agriculture — ABS Agri data. Note the ABS suggests caution when assessing data with low values.
export volume since the Korea-Australia Free Trade Agreement (KAFTA) came into force, up 43 per cent in 2015, compared with 2014. In the first half of 2015, Korea was Australia’s third largest goat meat market, worth $73 million. Under KAFTA, goat meat tariffs will reach zero by 2024.80

RED MEAT AND HIDES FOR LEATHER

Exporters of red meat and hides for leather to have welcomed the announcement of a free trade deal with China. The combined value of reducing tariffs by 2023 the next nine years to zero is calculated as representing a $11 billion boost to the sector by 2030.81

Tariffs of 12–25 per cent on beef will be eliminated by 2023; tariffs up to 23 per cent on sheep meat and goat meat to be eliminated by 2022; and the 12–25 per cent tariff on offal will be eliminated by 2024.

Meat and Livestock Australia (MLA) and the Australian Meat Industry Council (AMIC), representing processors, say that it has the potential to increase the gross value of beef production by $270 million annually by 2024. Out to 2030 the total benefits for beef will approach $3.3 billion.82

For the sheep meat sector the potential benefits are more than $150 million each year by 2024.

Skins, hides and leather exports to China, worth $896 million in 2014, attract a tariff of five to 14 per cent, and those tariffs will be eliminated over the next few years. China is the dominant market for skins, taking 80–90 per cent of Australia’s exports.83

The ChAFTA is calculated to be worth an additional $436 million a year to hides, skins, offal sector by 2024 — and out to 2030, these benefits could total $6 billion. China already takes a combined total of $2.3 billion worth of beef, lamb, hides, skins, offal and livestock.84

PORK MEAT, OFFAL, HAIR AND PROCESSED MEAT AND SAUSAGES

The Australian pork industry has welcomed the agreement which would see tariffs on products including pork meat, offal, hair and processed meat and sausages, reduced from between 12 to 25 per cent to zero over four years.

The Australian pork industry doesn’t currently export to China and would need to establish accreditation and import protocols before trade could begin.

In a statement, industry body Australian Pork Limited said ‘expanding export market opportunities is a long term initiative identified in the Australian Pork Limited Five Year Strategic Plan.’85

ALPACA

China is developing as a key market for the Australia alpaca industry. According to current exporters China is interested in establishing an agriculture industry around the alpaca as they see a market for fibre and products. A growing worldwide consumer interest in alpaca products is expected to generate demand for more producers of high fashion and high quality homewares, and an increase in industries such as the high quality manufacturing of alpaca carpets and rugs.

While shipments to China, Taiwan, Japan and Korea, are increasing, alpaca exports to Europe have declined by more than 50% over the past eight years.86

81 Locke, S. (2014), Beef and lamb exporters winners in the free trade agreement with China, ABC Rural
82 Ibid
83 Ibid
84 Ibid
85 Locke, S. ABC Rural (2014), Beef and lamb exporters winners in the free trade agreement with China
86 ABC Rural (2015) Australia alpaca industry doubles last year’s ‘one off’ record shipment to China
Horticulture

“The gross value of horticultural production (in Australia) is expected to increase from $9.3 billion in 2014–15 to $10.2 billion in 2020–21.”

— ABARES Outlook 2016

Horticulture (fruit, nut and vegetable production) generated around $84.5 million GVAP across the 11 LGAs of Central West NSW in 2011. Horticulture is focussed largely in the eastern part of the region due to access to high security water licences and suitable climatic conditions. Economies of scale are a significant factor in the success of horticulture in the region; increasing scale provides opportunities for the introduction of mechanisation and improved water efficiency.87

Appledale Processors Cooperative in Orange have purchased the first mechanical apple harvester in Australia, increasing efficiency and cost effectiveness. The mechanically harvested fruit will be processed into fresh juice and cider. Appledale has plans to create a new niche for itself as a producer of cider.

The domestic cider market is a growth industry. Between 2010–2015, the annual growth of cider industry revenue was 13.1%. The Australian cider industry expects to continue to grow at an annualised 6% between 2016–2020.88

Currently, Cowra is the highest producer of vegetables in the Central West, followed by Bathurst, Forbes and Cabonne. Cabonne is the highest fruit and nut (including wine-grapes) producer, followed by Orange and Forbes. The region produces high quantities of fruit, particularly the Orange region which benefits from cold winters, cool summers and high rainfall.89

Overall, the NSW Central West produced 6.4% of Australia’s Apples and 4.4% of Australia’s cherries in 2010–11.90

Within the region, vegetables accounted for over $37 million in GVAP (2011) or 5% of the total value, and fruit and nuts accounted for over $47 million in GVAP (2011) or 6% of the total. Cowra accounted for 35% of the region’s vegetables GVAP followed by Bathurst, Forbes and Cabonne. The GVAP for nuts was highest in Cabonne, followed by Cowra.

87 RMCG (2016), Central West and Orana Agricultural Industries, p 2.

88 Ibis World (2015) Cider Production in Australia, March

89 Regional Development Australia Central West (2014) NSW Central West Export/Import Contribution Study

90 Ibid

Table 10 Horticultural sector GVAP in Central West NSW

<table>
<thead>
<tr>
<th>Central West NSW LGA</th>
<th>Vegetables $</th>
<th>Fruit and nut $</th>
<th>Fruit $</th>
<th>Nuts $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathurst</td>
<td>$8,983,550.10</td>
<td>$433,579.10</td>
<td>$409,271.70</td>
<td>$24,307.40</td>
</tr>
<tr>
<td>Blayney</td>
<td>$8,899.30</td>
<td>$831,729.50</td>
<td>$765,802.20</td>
<td>$65,927.30</td>
</tr>
<tr>
<td>Cabonne</td>
<td>$6,507,272.00</td>
<td>$30,267,332.00</td>
<td>$30,091,615.00</td>
<td>$175,717.00</td>
</tr>
<tr>
<td>Cowra</td>
<td>$13,060,309.00</td>
<td>$1,264,256.00</td>
<td>$1,187,082.00</td>
<td>$77,174</td>
</tr>
<tr>
<td>Forbes</td>
<td>$6,788,660.00</td>
<td>$5,783,637.00</td>
<td>$5,783,637.00</td>
<td>$1,103.00</td>
</tr>
<tr>
<td>Lachlan</td>
<td>$81.00</td>
<td>$81.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lithgow</td>
<td>$134,804.00</td>
<td>$72,339.00</td>
<td>$64,526.00</td>
<td>$7,813</td>
</tr>
<tr>
<td>Oberon</td>
<td>$1,338,488.00</td>
<td>$38,226.00</td>
<td>$38,226.00</td>
<td>-</td>
</tr>
<tr>
<td>Orange</td>
<td>$439,669.00</td>
<td>$8,486,112.00</td>
<td>$8,433,561.00</td>
<td>$52,551</td>
</tr>
<tr>
<td>Parkes</td>
<td>$1,103.00</td>
<td>$1,103.00</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Weddin</td>
<td>$92,006.00</td>
<td>$145,820.00</td>
<td>$145,820.00</td>
<td>-</td>
</tr>
<tr>
<td>Total (2011)</td>
<td>$37,353,657.40</td>
<td>$47,324,214.60</td>
<td>$46,920,724.90</td>
<td>$403,489.70</td>
</tr>
<tr>
<td>Total (2006)</td>
<td>$12,788,768.00</td>
<td>$59,514,444.00</td>
<td>$59,068,796.00</td>
<td>$445,648.00</td>
</tr>
</tbody>
</table>

Source: Dept of Agriculture — ABS Agri data. Note the ABS suggests caution when assessing data with low values.
The value of vegetables increased by over 192% between 2006 and 2011, whilst the value of fruit and nuts decreased by 20% during the same period.

Niche horticulture currently produced in Central West NSW includes, but is not limited to;
- Asparagus
- Bee pollen
- Honey
- Berries
- Olives
- Figs
- Hazelnuts, chestnuts, walnuts
- Truffles
- Saffron
- Lavender
- Heritage and cider apples
- Roses

Examples of value adding to horticulture in Central West NSW include;
- Improving the shelf life of fresh produce through new packaging technologies such as high pressure processing (see Botanica Case Study)
- Developing high nutrient juices from second grade fruits such as cherries and apples.
- Cider and wine making, bottling, branding and selling, from paddock to glass.
- Regional branding for domestic and export markets such as Bite Riot Cherries.
- Development of functional food ingredients from horticultural seconds and waste.
- Growth of agritourism retail enterprises such as The Agrestic Grocer in Orange, and farmers’ markets, providing sales platforms & collaborative marketing for producers.

In 2011, Central West NSW produces;
- 6.4% of Australia’s apples
- 4.4% of Australia’s cherries
- 64% of the region’s fruit & nut GVAP come from Cabonne
- 35% of the region’s vegetables GVAP come from Cowra

The changing wine industry in central west NSW

Central West NSW includes two distinct “official” wine regions — the warm climate Cowra Wine Region known for its Chardonnay, Shiraz and Italian varieties, and the cool climate, higher altitude Orange Wine Region, known for its Shiraz, Cabernet and Sauvignon Blanc. Orange’s cool climate also allows it to produce varieties such as Pinot Noir and even an Australian version of “ice wine.”

The last ten years has witnessed a significant restructuring and downturn in profitability in the Australian wine industry, due to the global financial crisis and oversupply of the domestic market. The Cowra Wine Region
has significantly decreased in area “under vine” and much land has returned to broad-acre cropping, grazing or other horticultural farming. According to the Cowra Vineyard Association, in 2010 there were 1433ha under vine in the region, and by 2012 the area had decrease to 833ha under vine. A further 320 ha of vineyard were described as “mothballed” or non-producing.91 Some of the remaining Cowra Wine Region vineyards are working collaboratively on establishing an organic niche.

2011 ABS statistics do not show the decline in the Cowra Wine Region, but the 2016 Agricultural Census is expected to show the trend.

The Orange Wine Region has been somewhat less adversely effected by the industry downturn, being not as reliant on contracts with large corporate grape contracts and with strong regional branding.

After a few bad years, the Central West region (including the Orange and Cowra Wine Regions) is well placed to take advantage of the growing middle class Asian wine culture. The continuing rise in Australian exports last year was achieved without the full benefits of free trade agreements with Japan, Korea and China.92

KEY OBSERVATION

The wine industry in Central West NSW has been through a significant restructuring over the past five years, especially the Cowra Wine Region, which has almost halved in area “under vine”. After a few bad years, wine regions in the Central West (including the Orange and Cowra Wine Regions) are well placed to take advantage of the growing middle class Asian wine culture.

PROTECTED CROPPING

Protected (or indoor) cropping is the broad term for hydroponic and greenhouse horticulture.

Any horticultural crop can be grown under protection. Some research and experimentation has gone into growing blueberries under protected cropping by the Department of Primary Industries. It is unclear how many protected cropping enterprises are currently in Central West NSW.

Nectar Farms, a newly established protected horticulture enterprise, has expressed interest in establishing 40 hectares of glasshouse, including plant nursery and sorting/packing facilities, in Oberon, Central West NSW.93

The benefits of protected cropping include sustainable, efficient production, product safety and quality control. Protected cropping enables growers to exercise control over environmental conditions such as extreme weather events. The need to use chemicals such as pesticides, fungicides and herbicides to control pests, predators and weeds is greatly reduced, water can be reused and recycled in a closed system, and energy costs can be greatly reduced.

All of these significant control factors have the potential to make protected cropping enterprises more attractive to risk-averse investors traditionally shy of investing in agriculture.

According to peak industry body Protected Cropping Australia (PCA), the indoor cropping sector in Australia is worth around $1.8 billion at the farm gate per annum, equivalent to 20% of the value of total vegetable and cut flower production in Australia.94

91 Email correspondence from Jason O’Dea, Windowwie Estate Vineyard and Sam Statham, Rosnay Organic Wines, 17 May 2016
92 Wine Australia (2016) Export Report
The sector employs more than 10,000 people directly across the country and is currently expanding at between four and six per cent a year, with an average return on investment of between 5% and 10% and, for high-tech greenhouse vegetable enterprises, a potential return-on-investment as high as 20% to 25%, per annum.95

**KEY OBSERVATION**

*Given its proximity to major markets and strong horticultural background, Central West NSW may be an attractive location for future protected cropping infrastructure and investment.*

**EXPORT OPPORTUNITIES**

China is a rapidly growing market for Australian horticultural products, with exports worth $111 million in 2014–15 — up from $14 million in 2009–10. However, China applies some of its highest tariffs on horticultural products.

Under ChAFTA, all tariffs on horticultural products will be progressively eliminated. Key outcomes include:

- Elimination of the 10 to 25 per cent tariff on macadamia nuts, almonds, walnuts, pistachios and all other nuts by 1 January 2019
- Elimination of the 11 to 30 per cent tariff on oranges, mandarins, lemons and all other citrus fruits by 1 January 2023
- Elimination of the 10 to 30 per cent tariff on all other fruit by 1 January 2019
- Elimination of the 10 to 13 per cent tariff on all fresh vegetables by 1 January 2019.

Separate to the ChAFTA negotiations, Australia already enjoys quarantine access protocols for export into China for many horticultural products, and will be able to take immediate advantage of tariff reductions for a range of products including citrus, grapes, almonds, macadamias, mangoes and some cherries.

There are no changes to Australia’s domestic science and risk-based quarantine measures as a result of ChAFTA.96

**Canberra to Singapore — a potential game changer for Central West NSW**

Singapore Airlines has announced it will commence flights from Canberra Airport in September 2016. The ability to transport produce by air from Canberra to Singapore is a potential game-changer for the Central West in terms of exporting good into Asia, especially time-sensitive horticultural produce. Singapore Airlines connects with 11 cities in China.97

Various FTAs are anticipated to help return the industry to growth in the five years to 2021 as exports increase. The perception of high quality Australian fresh food produce in international markets will work to the industry’s benefit, helping to ease pricing pressures.

The China-Australia Free Trade Agreement will reduce fruit tariffs from 10.0% to zero by 2020 and the Japan-Australia Economic Partnership Agreement will remove tariffs of up to 34.0% by 2031. The Korea-Australia Free Trade Agreement has already eliminated...
a 24.0% tariff on cherries and is set to remove tariffs on other Australian fruit produce between 2018 and 2025.98

The elimination of the 24% tariff on cherries to Korea has seen Tasmanian cherry exports grow from virtually zero in 2014 before KAFTA’s entry into force to over $3.5 million in the first seven months of the agreement—an increase of almost 5000%.99

KEY OBSERVATION

China is a rapidly growing market for Australian horticultural products, with exports worth $111 million in 2014–15—up from $14 million in 2009–10. Under ChAFTA, all tariffs on horticultural products will be progressively eliminated. This presents new opportunities for the Central West NSW region’s strong horticultural sector, including potential to increase apple and cherry production in the eastern part of the region to tap into the growing fresh fruit market in Asia.

VEGETABLES

Typically, vegetable growing in Australia is more labour intensive than other agricultural industries. The delicate nature of the produce commonly requires the use of labour to hand pick the vegetables. This puts the vegetable industry at a disadvantage to other agricultural industries as it limits vegetable growers’ ability to introduce mechanised technologies (which allow for cost cutting) as a substitute for labour.

A number of Australian vegetable growers have successfully built markets in Singapore and Japan and are among the leading sources of imports for several vegetables. This success has been achieved despite the price of vegetable imports from Australia often significantly exceeding the price imports from lower cost and geographically closer countries in East Asia. This shows that factors other than price (such as quality, reliability, availability and good supply line connections) are important contributions to success in Asian vegetable markets.100

NUTS

Nut production in Central West NSW is predominately hazelnuts, chestnuts and walnuts.

Tree nut production in Australia is dominated in scale by almonds and macadamias, with the former representing more than 50% of the total area planted and the tonnage produced.

The Australian tree nut industry is likely to surpass $1 billion in export sales before 2025, due to strong worldwide demand, food safety and eating quality, as well as high social and environmental stewardship credentials of producers.101 Australia’s tree nut sector believes the new FTAs could encourage export growth, especially for macadamia nuts.102

WINE

China’s wine import market is growing dramatically, doubling in size since 2009–10 to be worth $2.1 billion in 2014–15.

China is Australia’s third-largest export market for wine, worth $269 million in 2014–15. However, Australia competes with New Zealand and Chile, both of which have preferential wine access under their FTAs with China. China’s wine imports from Chile have increased almost eleven-fold since its FTA with China entered into force in 2006. / Under ChAFTA, tariffs of 14 to 20 per cent on Australian wine imports will be eliminated by 1 January 2019.103 / Tariffs of up to 65 per cent on other alcoholic beverages and spirits will be eliminated by 1 January 2019.104

IRRADIATION

POTENTIAL TO INCREASE HORTICULTURAL EXPORT OPPORTUNITIES

World trade of horticultural commodities is continually growing and accompanying this is an increased risk of introducing exotic pests and diseases in the trading countries. There are many different types of treatment methods, however, irradiation is the only non-chemical treatment method that will allow fruit such as NSW cherries to be airfreighted into premium China markets. International markets are now increasingly accepting commodities treated by irradiation, reducing the amount of domestic transportation to a centralised treatment facility. The cost of the plant is expected to be around AUD$400,000.

As the plant also uses x-ray technology rather than nuclear technology, product labelling may not require the nuclear symbol.

The NSW Department of Primary Industry is looking into the concept of a ‘cabinet style’ irradiation treatment plant that could potentially be placed in packing houses. This would mean that those horticultural commodities can be treated by irradiation, reducing the amount of domestic transportation to a centralised treatment facility. The cost of the plant is expected to be around AUD$400,000.

KEY OBSERVATION

Given the existing established linkages in Central West NSW between research institutions, government and agricultural producers, the diversity of agricultural produce in the region, and the potential establishment of a large scale High Pressure Processing and packaging facility in Cowra, Central West NSW may be ideally placed for future investment into a centralised irradiation treatment facility.

105 Email interview with Dr Fay Haynes, International Engagement, NSW Department of Primary Industries, 11 May 2016.
**Dairy**

“The Central West has secure underground irrigation water, quality soils and excellent dairy cow climate. With an attention from government for freight infrastructure and investment attraction programs, this area could really become the next milk bowl for Australia.”

— Erika Chesworth, Little Big Dairy

Dairy represents a relatively small proportion of the total Central West GVAP at around 1.8% in 2011. The combination of undulating topography, available irrigation on the river flats of the Lachlan River and fertile soils make Forbes and Gooloogong highly suitable for dairying.

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Table 11 Number of Dairy Cattle Farms, 2011

<table>
<thead>
<tr>
<th>LGA</th>
<th>No of stock</th>
<th>No of Dairy Cattle Farms</th>
<th>% of LGA Dairy Cattle Farms to NSW</th>
<th>% of Dairy Cattle Farms by LGA in the RDACW region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bathurst</td>
<td>1,213</td>
<td>10</td>
<td>0.68</td>
<td>12.2</td>
</tr>
<tr>
<td>Blayney</td>
<td>1,021</td>
<td>8</td>
<td>0.55</td>
<td>9.8</td>
</tr>
<tr>
<td>Cabonne</td>
<td>2,004</td>
<td>13</td>
<td>0.89</td>
<td>15.9</td>
</tr>
<tr>
<td>Cowra</td>
<td>2,131</td>
<td>14</td>
<td>0.96</td>
<td>17.1</td>
</tr>
<tr>
<td>Forbes</td>
<td>9,179</td>
<td>13</td>
<td>0.89</td>
<td>15.9</td>
</tr>
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<td>Lachlan</td>
<td>12</td>
<td>2</td>
<td>0.14</td>
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<tr>
<td>Lithgow</td>
<td>12</td>
<td>5</td>
<td>0.34</td>
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<td>Oberon</td>
<td>1</td>
<td>3</td>
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</tr>
<tr>
<td>Orange</td>
<td>286</td>
<td>7</td>
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</tr>
<tr>
<td>Parkes</td>
<td>28</td>
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<td>0.07</td>
<td>1.2</td>
</tr>
<tr>
<td>Weddin</td>
<td>508</td>
<td>6</td>
<td>0.41</td>
<td>7.3</td>
</tr>
<tr>
<td>Total</td>
<td>16,395</td>
<td>82</td>
<td>5.62</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: NSW Trade and Investment, NUMBER AND SIZE OF SELECTED AGRICULTURAL INDUSTRIES 2011

As at March 2016, there were 20 dairies (as distinct from dairy cattle farms) operating in the 11 LGAs of Central West NSW.

Currently, value adding to dairy in Central NSW is limited, including boutique cheese maker Second Mouse Cheese Company in Orange who source raw milk from local producers, and Jannei Goat Dairy and cheese maker in Lithgow. There are no milk processors in the Central West NSW region, however, in neighbouring Orana, single source boutique milk producer Little Big Dairy is located near Dubbo. Little Big Dairy’s point of difference is “single source” milk produced solely on their family farm. Little Big Dairy produces one and two litre bottles across various categories including full cream, no cream, less cream, premium non homogenised and flavoured milks. Little Big Dairy Company also has cream products and is now investigating yoghurt.

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106 NSW Trade and Investment, Value of Agricultural Production Data 2011

107 NSW Food Authority figures
In Orange, biotechnology company Agritechnology uses dairy products for industrial microbiology applications.

Cottee, a century old Australian family company (best known for the iconic Cottee’s Cordial brand), continues to be an innovator in the sourcing, manufacture, and utilisation of a broad range of naturally-derived dairy ingredients for food, health and industrial markets. Although Cottee’s dairy interests are predominantly outside of the Central West, their links to the region and knowledge capital could represent an opportunity for dairy producers in the Central West.

Other value added dairy products include calcium powder, colostrum, UHT Milk, milk powder concentrate and whey protein concentrate.

The NSW Branch Dairy Goat Society of Australia has 187 members (as at May 2016) including commercial dairies, soap manufactures and cheese makers across the state.

**EXPORT OPPORTUNITIES**

The rapid growth of middle classes in Asia, and their increasing dietary preference for animal protein, will underpin the world dairy sector for years or decades to come. However, according to Austrade’s Premium Food Report, in 2014 to 2015, fresh milk became the fastest-growing category of dairy imports into China, increasing by over 50%. In 2014/2015, 34% of Australian milk production was exported.108

Under the China-Australia Free Trade Agreement (ChAFTA), the 10% to 20% tariffs which currently apply to the dairy sector will be phased out over ten years (around 2026), while the 15% tariff on infant formula will be phased out over four years (around 2020).

The signing of the FTA is likely to fuel increased Chinese investment in the Australian dairy supply chain, both at the production and processing stages. China may be wary of a repeat of the food safety issues which severely impacted the Chinese dairy sector in the past, consequently, securing alternative sources of supply in Australia. At the same time, other major global investors are likely to explore opportunities in the Australian dairy production sector to take advantage of the opportunities offered by the Chinese market and enhanced by the FTA.

One factor which further affects the Australian dairy sector is the lack of protective safeguards such as those which currently apply to the New Zealand’s dairy exports to China. Under the New Zealand FTA, tariffs are applied once a quota is reached, though under the Australian agreement, these safeguards only apply to whole milk powder.

The China-Australia FTA should place Australian dairy on a more level playing field against key competitors in the Chinese market, such as New Zealand (NZ) whose export volume increased eight-fold since securing a China-NZ FTA in 2008.109

Recent changes to China’s e-commerce regulations mean that from April 2016, goods bought and sold online to China will be subject to new duties. Some food suppliers, such as powdered milk providers, will be required to have their product licensed or re-licensed by China’s food and drug regulators. Ensuring Australia’s food safety credentials in dairy is essential in this respect.

These countries will likely continue to exhibit annual growth rates in dairy consumption that are well above the world average. Within the ASEAN region, the fastest rate of growth is expected in Indonesia and Vietnam.110

With per capita dairy consumption rates among these nations currently very low by global standards, the potential for growth is huge. It is expected local milk production in these countries will continue to grow, supported by further private and public investment. However, local farmers face difficulties in increasing milk output significantly, meaning local milk production is unlikely to close the gap between demand and production.111

**INVESTMENT IN DAIRY**

Australia’s largest single site dairy, Moxey Farms, is located between Gooloogong and Forbes in Central Western NSW. In 2015, the consortium Australian Fresh Milk Holdings (AFMH) was formed by the Moxey family, New Hope (a large Chinese agribusiness group), Leppington Pastoral

Other value added dairy products include calcium powder, colostrum, UHT Milk, milk powder concentrate and whey protein concentrate.


111 Ibid
Company (the Perich family) and Freedom Foods joined to form Moxey Farms run nearly four-thousand milking cows which produce 50 million litres of milk each year. The Moxey family continue to operate the business.

The Moxey family, who have been farming for 40 years, made the decision to move from Richmond to Central Western NSW in order to increase their capacity to grow feed. They purchased their Gooloogong property in 1992 and started milking in 1998.

AFMH plans to increase milk production destined for the local and Chinese markets and is expected to inject about $80 million into Moxey Farms and greenfield dairy sites elsewhere.

The China-Australia Free Trade Agreement (ChAFTA) will reduce dairy product import duties to zero and Chinese fresh milk imports grew by 74% in 2015 and increased tenfold between 2010 and 2016.112

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**KEY OBSERVATION**

The Australian Fresh Milk Holdings acquisition shows confidence in the region as a reliable and profitable destination for dairy investment.

**KEY OBSERVATION**

The Central West provides an alternative location for dairy farm industries to expand by relocating from more constrained sites on the NSW coast where the growth of urban and lifestyle developments is causing land use conflicts and inflating farmland prices.
Wool

Over the past two decades, wool production in the Central West has declined in accordance with reducing sheep numbers.\textsuperscript{113} There was 50\% less wool produced in 2010 than in 1992. However, sheep numbers have stabilised and are beginning to rebuild.\textsuperscript{114}

The GVAP of Wool in the Central West was $149\text{M} in 2010–11. The Local Government Areas that contributed most to wool production were Cabonne at $29\text{m} or 19.59\%, Lachlan at $24\text{m} or 16.10\%, Parkes at $22\text{m} or 14.39\% and Forbes at $20\text{m} or 13.41\%.\textsuperscript{115}

Wool forms an important part of the mixed farming operations of the region. Wool is a highly versatile and adaptable enterprise and is produced over a wide variety of landscapes and climates from the cooler and wetter tablelands in the east of the region to the more undulating topography of the slopes and plains in the west. Merino is the predominant breed in the region, with the remainder a mixture of cross bred sheep mainly for meat production.\textsuperscript{116}

Australia’s wool processing industry was once an important part of our national and rural economy. Once the country

\begin{table}
\centering
\begin{tabular}{|l|c|c|}
\hline
LGA & \text{\$ GVAP Shorn wool 2011} & \text{% of total in Central West NSW} \\
\hline
Bathurst & 11,795,286.20 & 7.88 \\
Blayney & 6,396,480.70 & 4.27 \\
Cabonne & 29,333,835.00 & 19.59 \\
Cowra & 14,151,707.00 & 9.45 \\
Forbes & 20,070,341.00 & 13.41 \\
Lachlan & 24,100,668.00 & 16.10 \\
Lithgow & 1,243,297.00 & 0.83 \\
Oberon & 6,079,931.00 & 4.06 \\
Orange & 612,885.00 & 0.41 \\
Parkes & 21,545,247.00 & 14.39 \\
Weddin & 14,386,779.00 & 9.61 \\
\hline
Total & 149,716,456.90 & 100.00 \\
\hline
\end{tabular}
\caption{Central West NSW regional distribution of Shorn Wool GVAP, 2011}
\end{table}

\begin{flushright}
\text{\textit{Source: Department of Trade and Investment/ABS - VALUE OF AGRICULTURAL PRODUCTION DATA}}
\end{flushright}

\begin{flushright}
\text{\textit{Bryton Wool bales. Photo Kate Barclay.}}
\end{flushright}

\textsuperscript{113} RMCG (2016), Central West and Orana Agricultural Industries p29
\textsuperscript{114} Ibid
\textsuperscript{115} Ibid
\textsuperscript{116} NSW Department of Primary Industries (2012) Central West Wool Profile
boasted wool carbonising plants in most states, but now only three remain. Following the collapse of the reserve price scheme in the early ’90s, many wool processors closed, and the rise of China as a processing powerhouse means there are now very few processors left.

**KEY OBSERVATION**

_**Wool processing has almost disappeared from Central West NSW. Niche processors still exist, such as the Nundle Woollen Mill near Tamworth, but wool is sent to Victoria to be scoured before returning to Nundle for spinning. The establishment of the Adagio Alpaca Mill in Orange indicates there are opportunities for SMEs in wool processing and value adding in the region.**_

**ALPACA FIBRE IN CENTRAL WEST NSW**

The Central West is an emerging hub for alpaca fibre growers. According to the Australian Alpaca Association Central Western Region, there are 1,468 alpaca studs in Australia, 466 studs in NSW of which 74 are located in Central West NSW.117

The Central West of NSW now has its own alpaca fibre mill based in Orange — the largest alpaca fibre mill in Australia and the only one of its type in the world. (See Adagio Alpaca Mill Case study for more information.) Alpaca is a dual purpose animal, with potential for meat and hide value adding as well as fibre.

In May 2016 the Australia Alpaca Association received funding from the Federal Government for professional alpaca wool classer training under the Industry Skills Fund.

**EXPORT OPPORTUNITIES**

The long-term prospects for the demand of Australian and NSW wool will hinge mostly on global economic conditions and income growth, and less on the relative volume of wool production compared with the production of other textile fibres or on the relative price of wool compared with these other fibres.

Over the last two decades, China has become the dominant buyer of Australian greasy wool. Despite tougher environmental regulations and rising labour costs, China is expected to remain the main processor of Australian wool and the China Australia Free Trade Agreement (ChAFTA) will (marginally) assist this relationship. However, increasing global demand for food is expected to constrain expansion of wool production in NSW and Australia.118

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117 Email interview with Jennie Menzies, Secretary, Australian Alpaca Association Central Western Region, 18 May 2016

118 Department of Primary Industries (2015) NSW Wool industry and future Opportunities
Broad-acre cropping

Broad-acre cropping is the largest agricultural industry sector in the Central West. Significant broad-acre crops in the Central West include wheat, barley, oats and canola. In 2010, the Central West region produced 11.9% of Australia’s national oats and grain and 5.2% of all cereal crops.\textsuperscript{119}

The region uses a mix of supply chains servicing export, interstate, regional and metropolitan markets. A large proportion of bulk grain export is freighted by rail to ports whereas domestic feed grain is usually delivered using more flexible road deliveries to individual customers.\textsuperscript{120}

Value adding in the broad-acre cropping sector is predominantly done on-farm (rather than post farm gate as is the focus of this report) as farmers and agribusinesses harness science and new technologies to create greater efficiencies and cost competitiveness in farm production. Increasing competition and cost of labour is leading to the development and adoption of new technologies, software, mechanisation and robotics, and “precision agriculture” is creating opportunities for farmers to optimise returns on inputs while preserving resources.

Post farm gate value adding opportunities are becoming increasingly available to the broad-acre cropping sector, notably through e-commerce and biotechnology.

“I believe that in the future we will have grain varieties with enhanced health properties that will attract a premium in the market. We are working on wheat varieties with reduced allergenicity properties. We’re working on new high value options for canola meal. We also think there is a lot of potential in new uses for protein isolated from pulses.”

— Professor Chris Blanchard, Functional Grains Centre, Wagga Wagga

\textsuperscript{119} Regional Development Australia (2014) NSW Central West Export/Import Contribution Study
\textsuperscript{120} RMCG (2016) Central West and Orana Agricultural Industries Report
### Overview of broad-acre cropping in Central West NSW

Figures from Department of Trade and Investment/ABS — VALUE OF AGRICULTURAL PRODUCTION DATA — INTERACTIVE SPREADSHEET unless otherwise stated.

#### Cereals

<table>
<thead>
<tr>
<th>Crop</th>
<th>GVAP 2011 In $</th>
<th>Trends in Central West NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat for grain</td>
<td>$373,544,387.40</td>
<td>Value of cereal crops and other broad-acre crops increased significantly between 2006 and 2011.</td>
</tr>
<tr>
<td>Lachlan Shire</td>
<td>$146,391,594.00</td>
<td>The value of cereal crops and other broad-acre crops increased significantly between 2006 and 2011. following Parkes at $74,034,697.00.</td>
</tr>
<tr>
<td>Parkes</td>
<td>$74,034,697.00</td>
<td></td>
</tr>
<tr>
<td>Barley for grain</td>
<td>$30,585,497.00</td>
<td>Value in Barley for grain followed by Parkes at $24,740,259.00 and Forbes at $13,026,448.00.</td>
</tr>
<tr>
<td>Lachlan Shire</td>
<td>$24,740,259.00</td>
<td></td>
</tr>
<tr>
<td>Parkes</td>
<td>$13,026,448.00</td>
<td></td>
</tr>
<tr>
<td>Oats for grain</td>
<td>$13,317,900.00</td>
<td>The value of oats for grain increased significantly between 2006 and 2011.</td>
</tr>
<tr>
<td>Lachlan Shire</td>
<td>$13,317,900.00</td>
<td>The value of oats for grain increased significantly between 2006 and 2011.</td>
</tr>
<tr>
<td>Parkes</td>
<td>$5,196,102.00</td>
<td>An enterprise in Parkes produces buckwheat flour and kernels and ancient wheats including spelt for the Australian and export markets currently developing a range of high quality ancient wheat baking flours.</td>
</tr>
<tr>
<td>Ancient Grains (e.g. buckwheat and spelt)</td>
<td>No data currently available</td>
<td>An enterprise in Parkes produces buckwheat flour and kernels and ancient wheats including spelt for the Australian and export markets currently developing a range of high quality ancient wheat baking flours.</td>
</tr>
</tbody>
</table>

#### Oilseeds

<table>
<thead>
<tr>
<th>Crop</th>
<th>GVAP 2011 In $</th>
<th>Trends in Central West NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canola</td>
<td>$15,234,739.00</td>
<td>Canola is the most significant oil seed crop in region. The total $ Value of Canola Oil in Central West NSW increased by 445% between 2006 and 2011 from $11,026,698.00 (2006) to $60,038,471.50 in 2011.</td>
</tr>
<tr>
<td>Weddin Shire</td>
<td>$14,460,531.00</td>
<td></td>
</tr>
<tr>
<td>Forbes Shire</td>
<td>$12,345,789.00</td>
<td></td>
</tr>
</tbody>
</table>

#### Legumes/pulses

<table>
<thead>
<tr>
<th>Crop</th>
<th>GVAP 2011 In $</th>
<th>Trends in Central West NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lupins for grain</td>
<td>$4,314,777.00</td>
<td>The total $ Value of Lupins for Grain in Central West NSW increased by 270% between 2006 and 2011 from $2,598,105 (2006) to $9,614,011 in 2011.</td>
</tr>
<tr>
<td>Parkes</td>
<td>$2,767,533.00</td>
<td></td>
</tr>
<tr>
<td>Chickpeas</td>
<td>$830,618.00</td>
<td>The total $ Value of Chickpeas in Central West NSW increased by 634% between 2006 and 2011 from $352,898 (2006) to $2,589,379 in 2011.</td>
</tr>
<tr>
<td>Forbes Shire</td>
<td>$800,404.00</td>
<td>There is a growing Indian market for chickpeas. Pakistan, Bangladesh, and India receiving nearly 80% of all exported Australian chickpeas.</td>
</tr>
<tr>
<td>Parkes</td>
<td>$760,204.00</td>
<td></td>
</tr>
<tr>
<td>Lachlan Shire</td>
<td>$5,196,102.00</td>
<td></td>
</tr>
</tbody>
</table>

#### Cotton

<table>
<thead>
<tr>
<th>Crop</th>
<th>GVAP 2011 In $</th>
<th>Trends in Central West NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>$8,094,510.00</td>
<td>The total $ Value of Cotton in Central West NSW increased by 122% between 2006 and 2011 from $3,645,996 (2006) to $8,094,510 in 2011. Cotton is currently grown in both Lachlan and Parkes Shires.</td>
</tr>
<tr>
<td>Lachlan Shire</td>
<td>$4,207,811.00</td>
<td>Cotton is expanding into non-traditional regions as it is seen as one of the best crops for delivering good results.</td>
</tr>
<tr>
<td>Parkes</td>
<td>$3,886,699.00</td>
<td></td>
</tr>
</tbody>
</table>

#### Other broad-acre crops with potential in Central West NSW

<table>
<thead>
<tr>
<th>Crop</th>
<th>GVAP 2011 In $</th>
<th>Trends in Central West NSW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemp</td>
<td></td>
<td>Hemp fibre crops were legalised in NSW in 2008. Hemp is currently used in Australia as a source of clothing and building products.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>At present, hemp cannot be used in food in Australia as it is prohibited in the Australia New Zealand Food Standards Code.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If hemp is legalised for consumption (hemp seeds are high in nutrients) in Australia it could result in new industry development opportunities.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>There may be potential for hemp industries in the high quality Lucerne and hay growing areas of the Central West such as the Lachlan Valley.</td>
</tr>
<tr>
<td>Mustard</td>
<td></td>
<td>Growers in Forbes, Condobolin and Young are reporting opportunities in mustard seed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hemp fibre crops were legalised in NSW in 2008. Hemp is currently used in Australia as a source of clothing and building products. At present, hemp cannot be used in food in Australia as it is prohibited in the Australia New Zealand Food Standards Code. If hemp is legalised for consumption (hemp seeds are high in nutrients) in Australia it could result in new industry development opportunities. There may be potential for hemp industries in the high quality Lucerne and hay growing areas of the Central West such as the Lachlan Valley.
EXPERIMENTAL OPPORTUNITIES

The ratification of the China Australia Free Trade Agreement (ChAFTA) will deliver benefits to Australian grain growers through the reduction of tariffs and better access to markets in the future. However, little has changed for wheat and canola growers and it appears to be business as usual for cotton, wheat, sugar, rice and oilseed producers.

The removal of tariffs by 3% on barley, 2% on sorghum and 2% on oats as well as on pulses, speciality grains and processed grain products add value to the terms of trade as well as create a competitive advantage over international grain trading competitors.

Grain Growers CEO, Alicia Garden, notes that ChAFTA and the ASA100 show how strong the partnership between China and Australia has become and that Australian grain growers could benefit from these close links.

“Australian agriculture is well-regarded but not well-positioned in China so the initial tariff reductions under ChAFTA plus ongoing work to ensure recognition of our clean, green and safe brand for agricultural products puts Australia on the front foot for the years ahead,” said Ms Garden.

121 GRDC (2012) An Economic Analysis of GRDC Investment in the National Chickpea Breeding Program
122 NSW Department of Primary Industry (2013) Upper Hunter Region Hay and Hemp Profile.

123 “The Australia Sino One Hundred Year Agricultural and Food Safety Partnership (ASA100) aims to promote, develop and advance international trade in Australian agriculture and manufactured food products, with a particular focus on China, for the benefit of the Australian economy and community”. More information available from http://www.asa100.net.au/
124 Ibid
Survey Analysis

As part of the development of this report, an online survey was created in order to acquire insight and data from agribusinesses within the region.

The survey established basic business information including approximate annual turnover, number of staff, location and core business type. It asked participants why their business was based in Central West NSW and the advantages and disadvantages of their location. Participants were also asked to describe any value adding activities they were currently engaged in or planned to engage in. (Please see Appendix for full survey questions).

Surveys were distributed through various food and agribusiness networks including RDA Central West's own database, Agribusiness Today forum members (including regional LLs), Farmers’ Markets networks and through RDA Central West’s social media pages (Twitter and Facebook) and newsletter. 27 surveys were completed and returned for analysis and represented a range of agricultural sectors and businesses including wineries, meat processors, dairies, horticulturists, grain growers, cheese makers, fibre processors, bee keepers and orchardists.

The survey shows that respondents employed an equal number of full-time and part-time workers and most annual turnover was between $200,000 and $1.5 million.

The top 5 reasons respondents identified for being located in Central West NSW were;
1. Family business/farm already located here
2. Climate and geography
3. Proximity to major cities and regional centres
4. Lifestyle
5. Affordability

**KEY OBSERVATION**

*Climate, geography, proximity to major centres, lifestyle and affordability are among the main reasons businesses are located in Central West NSW. These characteristics provide an opportunity for the region to potentially further promote these attributes.*

The top 5 impediments to value adding in Central West NSW were;
1. Access to government grants and concessions
2. Time constraints (more time spent working in the business than on the business)
3. Freight and logistics
4. Access to finance and capital
5. Access to internet services

The top five costs to respondents businesses were;
1. Labour
2. Electricity/energy
3. Fuel
4. Insurance
5. Packaging and freight (equal fifth)

Most respondents in the past two years had either introduced ‘a new or significantly improved product or service to the market’ or ‘a new market’.

74% of respondents did not export and this again presents a potential opportunity for business expansion.

Value adding opportunities perceived by respondents were:
1. Export (17%)
2. Packaging (17%)
3. Products (16%)
4. Markets (11%)
5. Tourism (11%)

**The Agricultural SME Freight Task**

Many small to medium sized agribusinesses and niche producers, including wineries and horticultural producers, report significant difficulties in distributing products directly to clients such as retailers, cafes and restaurants in metropolitan areas such as Sydney and Canberra. These businesses need to get small quantities (for example, one or two cases of wine) directly to high expectation clients in a timely manner. Freight into
Sydney goes to single distribution points but needs to be distributed further to individual clients. Some producers find Australia Post, though very costly, the best direct solution, however Australia Post is not appropriate for products needing cold storage such as cheese, dairy and milk. Many producers in the region drive and distribute their products into metropolitan areas themselves, resulting in high fuel and time costs to the business.

To date, it would appear that no freight business has been able to set up a cost effective businesses model in this region to solve this niche market distribution problem.

Second Mouse Cheese Co., located in Orange are an example of a niche agribusiness experiencing difficulties with distribution.

“It is very difficult to get small batches of product delivered to Sydney clients, and refrigeration is also an issue,” says cheesemaker Kai Woltmann. “I deliver to wholesale clients in Sydney myself when I go down for farmers’ markets twice a month, but a cost effective door to door refrigerated service would make life much easier.”

**KEY OBSERVATION**

*Cost of freight and logistics is a fundamental problem for may agribusinesses in the region, for both bringing goods into the region and for distributing to metropolitan clients.*

/ Popcorn from Mulyan, Cowra. Photo Kate Barclay.
Key Observations

**JOBS & SKILLS**

Although it is one of the most important sectors and employers in the region, jobs are shrinking in agriculture in Central West NSW. If the region is to leverage the value adding opportunities afforded by the predicted growth of the agricultural industry, it will have to consider the consequences and develop strategies to manage shrinking jobs and skills gaps.

**AGRICULTURAL SECTORS**

/ High growth expectation in poultry meat demands over the coming decade presents an opportunity for increased poultry meat production in Central West NSW.
/ Growing export opportunities exist in Central West NSW for the expansion of niche meat and leather production including goat, deer and alpaca.
/ The wine industry in Central West NSW has been through a significant restructuring over the past five years, especially the Cowra Wine Region, which has almost halved in area “under vine”. Now the industry upheaval has settled, the region (including the Orange and Cowra Wine Regions) is well placed to take advantage of the growing middle class Asian wine culture and FTA tariff cuts.
/ Given its proximity to major markets and strong horticultural tradition, Central West NSW may be an attractive location for future protected cropping infrastructure and investment.
/ The Australian Fresh Milk Holdings acquisition shows confidence in the region as a reliable and profitable destination for dairy investment.
/ The Central West provides an alternative location for dairy farm industries to expand by relocating from more constrained sites on the NSW coast where the growth of urban and lifestyle developments is causing land use conflicts and inflating farmland prices.
/ The domestic cider market is a growth industry. Between 2010–2015, the annual growth of cider industry revenue was 13.1%.
/ Post farm gate value adding opportunities are becoming increasingly available to the broad-acre cropping sector, notably through e-commerce and biotechnology.

**EXPORT OPPORTUNITIES**

/ China is a rapidly growing market for Australian horticultural products, with exports worth $111 million in 2014–15 — up from $4 million in 2009–10. Under ChAFTA, all tariffs on horticultural products will be progressively eliminated. This presents new opportunities for the Central West NSW region’s strong horticultural sector, including potential to increase apple and cherry production in the eastern part of the region to tap into the growing fresh fruit market in Asia.
/ The ability to transport produce by air from Canberra to Singapore — and 11 Chinese cities connected through Singapore — is a potential game-changer for agricultural exports from Central West NSW.

**REGIONAL INNOVATION HUBS**

/ Central West NSW is ideally placed to be an Innovation Hub for research and the application of biotechnology in agriculture due to:
/ The region’s diversity of high quality agricultural produce;
/ The region’s proximity and accessibility to major centres;
/ Existing industry confidence in the region with two private enterprise biotechnology ventures already operating;
/ The location of the NSW Department of Primary Industries;
/ The region’s close ties with Charles Sturt University and the Graham Centre for Agricultural Innovation;
/ The region’s attractiveness to higher skilled workers (affordable housing, cost of living, work/life balance, schools and higher educational facilities, medical services and specialists and culture.)
The region’s status as one of seven “centres of regional growth” Australia-wide expected to contribute over $15b to the national economy in 2031.

Given the established linkages in Central West NSW between existing research institutions, government departments and agribusiness, the diversity of agricultural produce in the region, and the potential establishment of a large scale High Pressure Processing and packaging facility in Cowra, Central West NSW should be considered as a region for future investment into a centralised irradiation treatment facility.

BIOTECHNOLOGY

Agricultural sectors in Central West NSW with significant “functional foods” potential include grain and oil seeds, horticulture and dairy.

There is significant value to be realised from agricultural waste streams, currently being done with cherry waste streams in the region and could also be applied to grapes, apples, olives and other stone fruits which are produced in significant quantities in the Central West NSW region.

Research, development and training that can assist Central West NSW producers to supply worldwide demand for sustainable, quality protein and animal feed for both human and animal consumption respectively should be explored.

Biofuels and bioenergy present new opportunities to value add across all agricultural sectors of Central West NSW industries; broad-acre cropping, forestry, dairy, horticulture, beef and intensive livestock.

DIGITAL TECHNOLOGY

Advances in digital technology are creating myriad opportunities for on-farm and post farm gate value adding. There is an urgent need for robust, future-proof and wide-reaching telecommunications capabilities in Central West NSW, specifically the rectification of mobile blackspots and sufficient NBN capacity, without which the agriculture sector will not be able to grow domestically or compete on an international level. Growth in the region is currently stunted by inadequate telecommunications.

Traceability is an increasingly important capability within the supply chain facilitated by advances in digital technology; in order to remain competitive this is an area in which Central West NSW agribusinesses cannot afford to lag behind.

PROCESSING AND PACKAGING

Processing weaknesses in the Central West NSW agricultural supply chain may present opportunities for some niche sectors.

Investment in innovative processing and packaging R&D and infrastructure could create new opportunities for both domestic and export value adding to a broad range of agricultural sectors in the region.

There is significant red meat and pork production in the region but very little value adding to regional meat products due to the lack of processing facilities, in particular for smaller and niche producers. At least six red meat abattoirs in Central West NSW have shut since 2003.

There are few options for meat to be processed locally which are halal and export accredited in or around Central West NSW; this increases costs, (e.g. freight) for producers in the region who wish to take advantage of export opportunities internationally.

BRANDING

A unified approach is needed, in collaboration with existing destination marketing, to regional branding between Local Government Areas, Regional Tourism Organisations and agricultural stakeholders to develop an agreed, authentic, effective regional agricultural brand.

Maintaining and protecting our “clean and green” reputation is critical to the region’s ability to command high global prices for agricultural products. International competition to be “clean and green” means Central West NSW needs to remain vigilant and unified in this space.
COLLABORATION AND CO-OPERATION

There is potential for groups of producers and existing farmers’ markets organisations to lead the expansion of the local food economy in the Central West.

There may be a need for continued advocacy to ensure regional agricultural co-ops are not excluded for eligibility for government grants on the basis of business structure.

Other regions and sectors are collaborating and branding themselves more successfully than Central West NSW. For example, there may be an opportunity for Central West woolgrowers to come together and collaborate like the Kangaroo Island Wool growers.

FREIGHT AND LOGISTICS

Connectivity to market is a key challenge for Central West NSW agricultural SMEs.
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STAKEHOLDERS AND INDUSTRY BODIES CONSULTED FOR THIS REPORT INCLUDE:

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- Igrain
- Little Big Dairy
- Mandagery Creek Venison
- Moxey’s Dairy
- Mulyan
- Rosnay Organics
- Second Mouse Cheese Company
- Windowrie Estate Wines
“The family has been here since the 1880s and I’ve been home on the farm since 2002.

We grow a lot of crops. The main ones are baby spinach, beetroot, asparagus, red onions, popcorn, maize, wheat, canola, chick peas. So, fairly diverse. Diversification for us is very, very important.

The reason we do what we do here stems from the 1940s when the Edgell Cannery was built in Cowra. This farm started to grow a lot of asparagus and vegetables to supply Edgell’s. When the factory closed and the canning industry waned we decided to continue doing what our skill-set was, which was in the vegetable industry. Admittedly, there weren’t a lot of others that went down that path out here, but those who chose to grow vegetables have done well. It gives us comfort to know that we’re not the only ones doing it and I think there is plenty of opportunity for growth.

We have about thirty on staff at the moment. The majority are local and we have a floating contingent of backpackers. At the moment we’ve got about half a dozen backpackers but primarily we draw on a local workforce.

Clean air, beautiful soil, ample water and our vicinity to the major markets of Sydney and Canberra are advantages of being in the Central West. The coastal markets are very close. We have a very temperate climate (in Cowra) so we don’t get the harsh extremes that they can get in other areas, so it gives us a window to produce something that is a premium product quite often in slots where our competitors don’t have that advantage.”

We do things that other people don’t do. You don’t have to do what’s been done before. There are other markets out there. I believe that you should change before you are forced to change, that’s our mantra. Whether or not that applies to everyone obviously is a different question. For us we like doing what is hard because if you do what is hard you are going to find you have less competitors.”
