



final report

Project code: A.CIS.0016

Prepared by: GHD

Date submitted: June 2010

PUBLISHED BY
Meat & Livestock Australia Limited
Locked Bag 991
NORTH SYDNEY NSW 2059

Study of the Australian red meat processing sector and its contribution to national and regional economies

Meat & Livestock Australia acknowledges the matching funds provided by the Australian Government and contributions from the Australian Meat Processor Corporation to support the research and development detailed in this publication.

This publication is published by Meat & Livestock Australia Limited ABN 39 081 678 364 (MLA). Care is taken to ensure the accuracy of the information contained in this publication. However MLA cannot accept responsibility for the accuracy or completeness of the information or opinions contained in the publication. You should make your own enquiries before making decisions concerning your interests. Reproduction in whole or in part of this publication is prohibited without prior written consent of MLA.

Contents

	Page
1	Introduction.....7
1.1	Purpose7
1.2	Scope7
1.3	Study approach and report structure.....7
2	The Australian Red Meat Sector9
2.1	Introduction.....9
2.2	The Australian livestock production sector9
2.2.1	Livestock numbers.....9
2.2.2	Slaughter10
2.2.3	Meat production11
2.2.4	Value of production.....13
2.3	The Red Meat Processing Sector14
2.3.1	Description of the sector14
2.3.2	Beef processing in Australia16
2.3.3	Sheep and lamb processing in Australia.....17
2.4	Current markets for red meat18
2.4.1	Export and domestic consumption18
2.4.2	Employment19
2.5	Description of the value chains adopted for this study.....21
2.5.1	The red meat processing value chain21
2.5.2	Beef - manufacturing.....21
2.5.3	Beef – export grass21
2.5.4	Beef – domestic22
2.5.5	Beef – feedlot (domestic).....22
2.5.6	Beef – feedlot (export).....22
2.5.7	Integrated sheep and lambs.....23
2.5.8	Multispecies unit (service works).....23
2.6	Value chain estimates23
3	Assessing the Impact of the Sector25
3.1	Previous studies.....25
3.2	Economic impact modelling.....25
3.2.1	Introduction25
3.2.2	Economic models26

3.2.3	Data inputs	26
3.2.4	Model assumptions	26
4	National Level Impact of the Red Meat Industry and Processing Sector.....	28
4.1	Overview of the Industry and the Sector	28
4.2	Type Two and Type Three results for the Red Meat Industry	29
4.3	Results for the Red Meat Processing Sector	30
5	State Level Impact of Red Meat Processing.....	33
6	Regional Level Impact of Red Meat Processing	34
6.1	Modelling of regional economic impacts	34
6.2	Case studies and links with regional communities.....	35
6.2.1	Structure of analysis	35
6.3	Southern New South Wales.....	35
6.3.1	Wagga Wagga – Cargill Beef Australia	35
6.3.2	Cootamundra – GM Scott Pty Ltd.....	37
6.4	Colac-Otway - CRF (Colac Otway) Pty Ltd.....	39
6.5	Summary	42
6.6	Signposts for agriculture framework – case studies analysis	42
6.6.1	Human capital	42
6.6.2	Social capital	43
7	Outlook for the Industry	44
7.1	Introduction.....	44
7.2	Current situation.....	44
7.3	Key factors affecting the processing sector	44
7.4	Summary	46
8	Summary	48
8.1	The sector	48
8.2	Economic modelling	48
8.3	Regional impacts.....	49
8.4	Social impacts	49
8.5	Outlook	49
9	References	50

Glossary

ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
AMIC	Australian Meat Industry Council
AMPC	Australian Meat Processor Corporation
Gross Product	Gross product is total gross output or industry revenue (that is turnover) less purchases of goods and services from other industries. It equals wages plus gross profits (including depreciation, interest and direct taxes). It also includes indirect taxes if being calculated at factor cost.
GDP	Gross Domestic Product
FTE	Full Time Equivalents
MLA	Meat and Livestock Australia
NIEIR	National Institute of Economic and Industry Research
Red Meat Processing Industry	Consists of various sectors including livestock production, transport, processing and other allied activities that comprise the red meat supply chain up to the point of wholesale.
Red Meat Livestock Sector	Enterprises that are engaged in supplying livestock to the red meat processing sector.
Red Meat Processing Sector	Businesses engaged in slaughtering livestock (cattle, sheep, goats); boning, freezing, packaging meat; utilising abattoir by-products; and rendering.
SSD	Statistical Sub Division
Type I flow-on effect	Inter-industry flow-on impacts only
Type II flow-on effect	Type I flow-on impacts plus consumption flow-on impacts
Type III flow-on effect	Type II flow-on impacts plus investment flow-on impacts
Value added	Value added is the difference between the gross value of outputs and the value of inputs used by the sector.
Value adding	Value adding is a general description of activities undertaken by the sector to increase utilisation of the product and the amount of processing and transformation of meat products carried out by a business.

Executive summary

The Red Meat Processing Sector

The Australian red meat processing sector consists of businesses engaged in slaughtering livestock (cattle, sheep and goats); boning, freezing, packaging meat; and utilising by-products and rendering.

The red meat processing sector has undergone a period of rationalisation over the past four decades. There were 500 meat processing establishments in Australia in 1972 and this had declined to 223 by 1992 (Industry Commission, 1994). Currently there are approximately 142 red meat processors in Australia that are a member of the Australian Meat Processor Corporation (AMPC, 2009).

The red meat value chain includes the transport of livestock, the costs of materials and services purchased to process livestock, and product handling costs.

There is no single red meat value chain; however, it can be broadly classified by product and market. The three broad categories across the sector are:

- P beef processing;
- P sheep and lamb processing;
- and P multi-species processing.

The red meat processing sector is conducted in rural and regional Australia. Almost 50 per cent of facilities are located in LGAs with a population of less than 20,000 people and 80 per cent in LGAs with less than 50,000 people.

The Value of the Sector

The economic modelling carried out as part of this study estimates that over the past 5 years the direct contribution of the red meat processing sector to the national economy was:

P 37,800 jobs annually; and

P \$3.7 billion to gross domestic product per annum.

Accounting for economic links and expenditures undertaken by processing businesses, the total annual employment that is reliant on the red meat processing sector is 64,550 national full time equivalent employment positions¹. The impact on gross product increases to \$6.13 billion in 2008 prices, and the contribution to total economic activity represents 0.7 per cent of gross product across Australia.

¹ This is a Type Three multiplier effect.

Regional and Social Impacts

The analysis of information provided by two case study regions reveals the importance that these operations have, even in larger regional cities. For example in the Southern New South Wales region manufacturing employment that is linked to the red meat processing sector is 24.1 per cent.

In the case study areas visited, meat processing is generally the largest employer in the manufacturing sector of the economy.

In both cases there are significant local allied businesses that have developed in conjunction with the processing operations.

All case study processors have significant training operations and have based management operations in regional areas. These provide an opportunity for balanced employment across employment types. Human resources management is a key focus of these operations as there is competition for mobile workers in the form of agricultural activities and, in some cases, mining.

The processing businesses have close links to the community through corporate activities for charities and sporting associations, as the workforce represents a large proportion of the urban population. In many places the businesses have also been at the forefront of the upskilling of migrant workers.

Outlook and Issues

There are a number of threats and opportunities facing the red meat processing sector. Each processor can respond to these factors via a range of business decisions that can result in changes in the way their capital is utilised.

Broadly speaking the policy responses available for the industry and other stakeholders include:

- P Avoidance of unnecessary structural adjustment by reducing processing costs and maximising flexibility;
- P Ensure that markets and margins are maintained by demand creation for processed products; P Encourage innovation and product development; and
- P Prepare adequately for industry wide structural adjustment if current conditions experienced in the sector are maintained for a sustained period.

1 Introduction

1.1 Purpose

GHD Hassall, in association with Arche Consulting and the National Institute of Economic and Industry Research (NIEIR), was contracted by Meat and Livestock Australia (MLA) to provide an objective analysis of the Australian red meat processing sector and its contribution to national and regional economies.

1.2 Scope

The scope of the study was outlined in the original project brief and subsequent meetings with the project steering committee. The Australian red meat processing sector consists of businesses engaged in slaughtering livestock (cattle, sheep, goats); boning, freezing, packaging meat; and utilising abattoir by-products and rendering. These businesses generally operate as single species plants although there are mixed plants present in the sector. The study assesses the impact of the red meat processing sector on the national, state and local economies, with both economic and social impacts considered. The social impacts are largely related to employment and training.

The study highlights the multiplier effect of the sector on ancillary industries (e.g. transport, equipment manufacturers, cold storage, banking etc), including direct and indirect employment.

This information can serve as a basis for discussion of issues impacting on the long term viability of the sector and identification of the negative consequences of insufficient action to address sector challenges.

1.3 Study approach and report structure

In order to assess the value of the red meat processing sector to regional and national economies, the following approach was undertaken:

- P A desktop review of relevant materials to develop a comprehensive overview of the red meat processing industry and to inform the study;
- P The value chains associated with the red meat processing sector were identified in collaboration with the project steering committee. The final value chains chosen for this study are described in Section 2.5;
- P A questionnaire was distributed (Appendix C) to a number of representative processors of each value chain. Responses were aggregated in order to obtain indicative representative purchasing, processing and other operating costs for each value chain. Indicative figures have been generated in order to preserve the anonymity of the respondents;
- P Average throughput numbers for each value chain were generated at both a state and national level (Appendix E);
- P A case study approach was used in order to supplement data from the questionnaires and to allow a qualitative and quantitative assessment of the red meat processing sector to be undertaken. The case studies are used to further highlight the links between the meat processing sector as a local employer and document the impact on ancillary industries. The two case study regions are discussed further in section 6.2; and

Study of the Australian red meat processing sector and it's contribution to national and regional economies

P Information was provided to NIEIR for analysis using established models of regional and national economies.

An overview of the Australian red meat industry is provided in Chapter 2. Chapter 3 discusses the methods used to assess impacts of the sector. Chapters 4, 4.3 and 6 present the economic modelling results at a national, state and regional level. Two regional case studies (Southern New South Wales; and Colac-Otway, Victoria) are further discussed in Chapter 6. Chapter 7 explores some of the challenges facing the industry and the key priorities for possible future action. Finally, a summary of the analysis is presented in Chapter 8.

2 The Australian Red Meat Sector

2.1 Introduction

The red meat processing sector is a key component of the livestock value chain that commences with the livestock production sector and is completed with the consumption of meat and meat products in both domestic and export markets.

The beef cattle and sheep industries have historically been important contributors to the national and regional economies and meat processing is one of Australia's largest rural based industries (Industry Commission, 1994).

2.2 The Australian livestock production sector

2.2.1 Livestock numbers

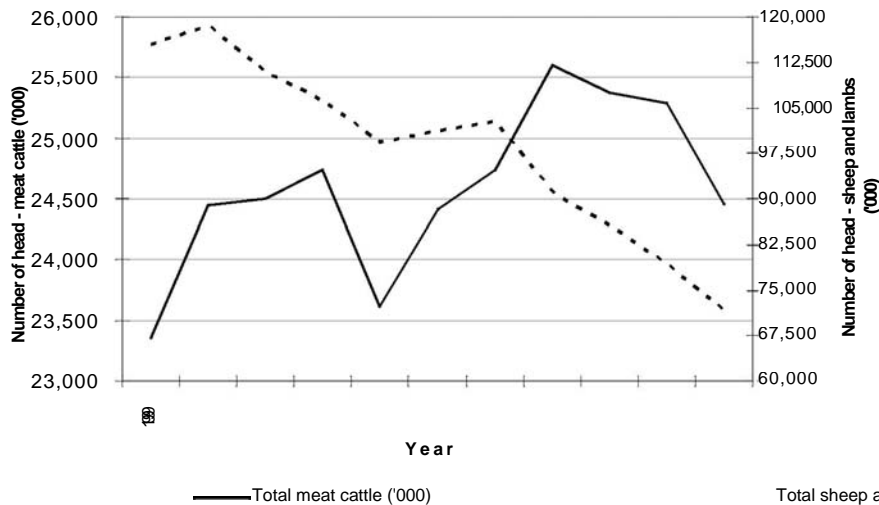
Trends in meat cattle and sheep and lamb numbers in Australia over the past decade are shown in Figure 1. Livestock numbers vary due to many factors including seasonal and market conditions. Depending on the region, farmers can substitute between grain and livestock production based on their relative advantages.

Meat cattle numbers are currently around 24.5 million, with Queensland accounting for 42 per cent of total meat cattle numbers. Meat cattle numbers have fluctuated over the past decade. The general increase in cattle numbers over the past decade has been in response to a historically low Australian dollar and strong international demand. The increase in meat cattle numbers can also be attributed to a shift to lotfeeding where cattle can be finished in order to meet the requirements of the customer.

Total sheep and lamb numbers have declined from 115 million in 1999 to less than 72 million in 2008 2009 and are at their lowest level in more than a century (ABS, 2010). In 2008-09 Victoria accounted for 38 per cent of total sheep and lamb numbers. The prolonged drought over the past decade and (until recently) declining prices for wool are the main factors for declining sheep and lamb numbers.

Study of the Australian red meat processing sector and its contribution to national and regional economies

Figure 1 Total meat cattle and sheep and lambs in Australia ('000 head)



Source: Australian Bureau of Statistics (2009), Principal Agricultural Commodities, Australia, Cat. No. 7111.0.

2.2.2 Slaughter

Australian red meat slaughter data are publicly available for adult cattle, bulls, bullocks, steers, calves, sheep and lambs. Data on goat production and slaughter is limited. However, MLA Fast Facts Goat Meat Industry (2004, 2005, 2007) suggests that goat slaughter was of the magnitude of 1.26 million throughout 2004/05 and 1.12 million in 2006/07.

Table 1 and Table 2 display livestock slaughters in the cattle and sheep industries from 2004 to 2009 at both the state and national levels. Cattle slaughter numbers have remained relatively constant while sheep and lamb slaughter numbers have increased over time.

Table 1 Total cattle and calves slaughtered ('000 head)

State	2004	2005	2006	2007	2008	2009
Queensland	3,690	3,672	3,892	3,761	3,560	3,561
New South Wales	1,857	1,793	1,910	1,999	1,981	1,964
Victoria	2,147	1,929	2,017	2,113	2,154	1,945
Western Australia	488	487	438	473	514	453
South Australia	356	342	344	340	291	348
Tasmania	259	237	247	269	266	254
Northern Territory	6	6	6	6	6	6
Total Australia	8,803	8,466	8,854	8,960	8,771	8,531

Source: Meat and Livestock Australia and Australian Bureau of Statistics: Calendar Year Australian adult cattle slaughter by state, bull, bullock and steer slaughter, calf slaughter, cow and heifer slaughter, Calf and cattle slaughter. Cat. No.7218.0.55.001.

There is wide variation in slaughter numbers between states, with Queensland the major state for cattle slaughters and Victoria the primary state for sheep and lamb slaughters. These differences largely reflect livestock populations in the respective states.

Study of the Australian red meat processing sector and its contribution to national and regional economies

Table 2 Total sheep and lambs slaughtered ('000 head)

State	2004	2005	2006	2007	2008	2009
Queensland	1,162	1,189	1,237	1,352	1,097	938
New South Wales	7,574	7,714	8,572	7,976	9,697	8,148
Victoria	9,771	10,961	12,468	12,900	12,362	11,916
Western Australia	4,621	4,790	4,973	5,186	5,446	4,227
South Australia	3,958	4,418	4,491	4,937	4,959	5,187
Tasmania	734	793	856	845	798	642
Total Australia	27,819	29,864	32,597	33,196	32,359	31,058

Source: Meat and Livestock Australia and Australian Bureau of Statistics: Calendar Year Australian lamb slaughter and sheep slaughter. Cat. No.7218.0.55.001.

2.2.3 Meat production

The volume of meat produced in Australia is provided in Table 3 and Table 4. Total red meat produced is about 2.8 million tonnes, with Queensland contributing around 37 per cent of that total. Both NSW and Victoria contribute about 20 per cent each of total red meat production.

Table 3 Tonnes of beef and veal produced by state per year

State	Meat	2004 - 2005	2005 - 2006	2006 - 2007	2007 - 2008	2008 - 2009
Queensland	Beef (t)	1,046,410	1,054,198	1,106,975	1,040,252	1,010,679
	Veal (t)	3,451	2,994	2,543	2,041	1,864
New South Wales	Beef (t)	440,720	411,202	453,065	451,163	457,797
	Veal (t)	12,941	13,288	15,110	11,917	11,586
Victoria	Beef (t)	363,226	331,311	370,471	375,860	391,392
	Veal (t)	11,393	10,011	11,655	12,211	12,667
Western Australia	Beef (t)	131,407	113,318	114,434	121,412	123,941
	Veal (t)	250	250	249	277	291
South Australia	Beef (t)	93,049	83,547	90,136	80,949	79,823
	Veal (t)	176	149	157	148	178
Tasmania	Beef (t)	56,859	54,807	59,580	56,603	55,515
	Veal (t)	886	809	815	1,024	1,106
Total Australia	Beef (t)	2,132,810	2,049,521	2,195,713	2,127,259	2,119,147
	Veal (t)	29,147	27,551	30,579	27,667	27,692

Source: Livestock Products, Australia, June 2009, Australian Bureau of Statistics, Cat. No. 7111.0.

Table 4 Tonnes of mutton and lamb produced by state per year

State	Meat	2004 - 2005	2005 - 2006	2006 - 2007	2007 - 2008	2008 - 2009
Queensland	Mutton (t)	18,899	19,102	19,854	16,643	15,144
	Lamb (t)	5,564	5,457	6,048	8,706	6,842
New South Wales	Mutton (t)	77,517	78,795	82,552	67,514	69,797
	Lamb (t)	82,550	84,763	88,855	94,386	92,852
Victoria	Mutton (t)	68,026	70,562	74,875	74,159	65,952
	Lamb (t)	135,948	153,449	184,913	190,281	178,220
Western Australia	Mutton (t)	43,842	45,939	53,553	61,692	47,185
	Lamb (t)	49,122	58,080	50,610	48,877	53,754
South Australia	Mutton (t)	22,721	24,098	32,962	31,791	32,350
	Lamb (t)	72,157	69,636	71,871	82,718	81,667
Tasmania	Mutton (t)	6,351	5,294	7,192	6,650	4,916
	Lamb (t)	8,950	10,452	10,286	10,423	9,610
Total Australia	Mutton (t)	237,356	243,791	270,988	258,450	235,344
	Lamb (t)	354,290	381,837	412,583	435,391	422,945

Source: Livestock Products, Australia, June 2009, Australian Bureau of Statistics, Cat. No. 7111.0.

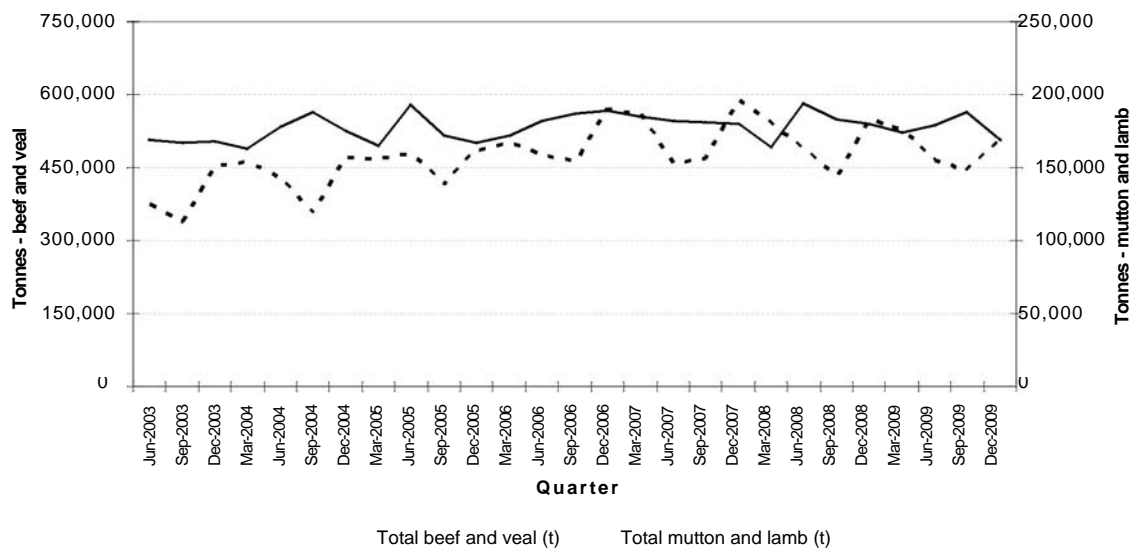
Over the past 5 years total red meat production (excluding pork) has averaged 2.8 million tonnes per annum. The variation in annual production is low; since 2004/05 the maximum variation around the average has been 3.8 per cent.

Meat production is reflective of seasonal climatic and marketing conditions (Figure 2). For beef and veal, the March quarter generally has lowest production while the June and September quarters are periods of higher output. For mutton and lamb, the September quarter has the lowest level of output before production rises quickly in the December quarter, plateaus out in March and then trends downward during the June quarter.

The seasonality of meat production is important as it influences the utilisation rate within abattoirs and impacts on employment and other input demand and supply. Seasonal variations provide a window for processing plants to complete repairs and maintenance.

Study of the Australian red meat processing sector and its contribution to national and regional economies

Figure 2 Seasonal beef and veal, mutton and lamb produced in Australia



Source: Livestock Products, Australia, June 2009, Australian Bureau of Statistics, Cat. No. 7215.0.

2.2.4 Value of production

For 2006-07 the gross value of red meat livestock slaughters in Australia was about \$10.1 billion. Table 5 indicates that Queensland was the largest contributor of all states, producing over \$3.9 billion of gross value, followed by New South Wales and Victoria, which produced about \$2.1 billion each². These figures relate to livestock slaughters for human consumption and do not consider value on a carcase weight equivalent basis, or the value of co-products³.

Table 5 Value of red meat slaughters, 2006 – 2007*

Location	QLD	NSW	VIC	WA	SA	TAS	NT	ACT	Australia	
Total gross	\$3,861	\$2,091	\$2,071	\$975		\$594	\$211	\$258	\$6	\$10,067

value (\$ m)

* Red meat refers to beef, sheep and lamb.

Source: The Australian Bureau of Statistics, Agricultural Commodities: Small Area Data, Australia, 2006-07. Cat.No. 7125.0 for NSW, QLD, SA, WA, VIC, TAS, NT and ACT.

² The total value of red meat slaughters refers to the total value placed on recorded production at wholesale prices realised in the marketplace.

³ Co-products account for approximately 11% of the value of a slaughtered animal. Within the co-products category, skins and hides account for approximately 6%, offal 4% and other rendered products 1%. Meat accounts for the remaining 89% of the value of a slaughtered animal (MLA 2009).

2.3 The Red Meat Processing Sector

2.3.1 Description of the sector

The Australian meat processing sector consists of businesses engaged in slaughtering livestock (cattle, sheep and goats); boning, freezing and packaging meat; and utilising by-products and rendering.

The sector has undergone a period of rationalisation over the past four decades. There were 500 meat processing establishments in Australia in 1972 and this had declined to 223 by 1992 (Industry Commission, 1994). In February 2010 there were 142 red meat processing establishments in Australia that are a member of the Australian Meat Processor Corporation (AMPC, 2010). This trend likely reflects a variety of factors such as: industrial relations reform, which included the removal of the tally system; the move towards larger-scale, multiple shift operations; concentration of ownership, with increasing investment from overseas; competition for livestock from live exporters; supermarkets' tendency to develop exclusive supply agreements with larger operators (thereby placing pressure on smaller processors); and the costs associated with meeting regulatory requirements.

Table 6 highlights the regional nature of the business. Almost 50 per cent of facilities are located in LGAs with a population of less than 20,000 people and 80 per cent in LGAs with less than 50,000 people.

Table 6 Meat processing facilities by population of locality*

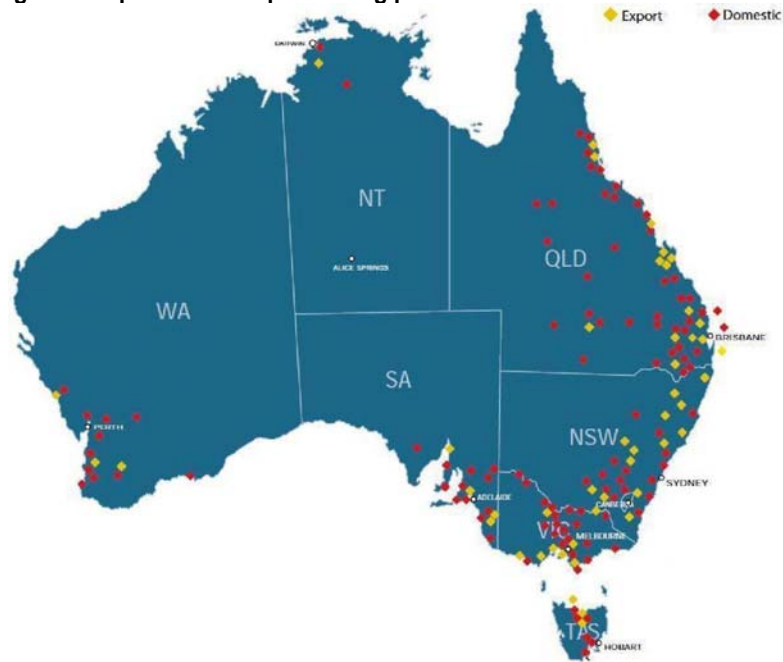
Population	QLD	NSW	VIC	WA	SA	TAS	Total
0 – 10,000	21	6	3	3	8	2	43
10,001 – 20,000	11	4	1	6	3	1	26
20,001 – 50,000	5	11	20	5	2	1	44
50,001 and above	14	4	11	0	0	0	29
Number of processors	51	25	35	14	13	4	142

* Population of relevant LGA. Note that there were an additional 69 smaller processors who are not AMPC members but who pay AMPC levies. They are not included in the above Table as they include (for instance) wholesale butchers and teaching establishments that only slaughter a few animals per week.

Source: Based on AMPC Active Members by region as at February 2010.

Over the last decade or more the processing industry has tended to move to more focussed business operations with declining numbers of multi-processing plants, and a gradual disappearance of local government owned service processing plants.

Figure 3 Map of red meat processing plant locations



Source: AMPC (2009).

In 2007 the top 25 largest red meat processors accounted for approximately 79 per cent of national production and operated 51 sites. The top 5 red meat processors accounted for approximately 45 per cent of national production (MLA 2008).

In the domestic market the increasing market share of the supermarkets and the emphasis on the reduction of supply chain costs has driven a polarisation of processors into those that are part of the supermarket supply chain and those processors servicing other markets with only intermittent (spot) supply into the supermarket sector. The developing relationship between processors and supermarkets has generated a greater level of processing down to a retail-packed product level.

Export oriented processors have tended to specialise by country of destination and market, in turn tending to influence producers (generally by price mechanisms) into supplying the types of livestock they require. While processors may tend to focus on particular markets (especially North Asia), all export processors are reliant on the US market for the disposal of manufacturing and trim product.

Some processors are also retaining ownership of their products beyond the farmgate, by marketing under their own brands.

2.3.2 Beef processing in Australia

Some typical characteristics of the beef processing industry are presented in Table 7.

Table 7 Characteristics of the beef processing industry

Domestic cattle processor	<p>Domestic butcher supply.</p> <p>Often a multi species plant although this is a diminishing trend – particularly closer to domestic centres.</p> <p>Often provide a service kill for local butchers and some producers.</p> <p>Largely abattoir operators with limited downstream processing facilities.</p> <hr/> <p>Supermarkets supply chain.</p> <p>Single species focus.</p> <p>Grass fed steers and grass/grain yearling.</p> <p>Often part of an integrated supply chain – plant registered for export to maximise aggregated returns for cattle.</p> <p>Integrated boning rooms and may be linked to retail processing facilities.</p> <p>Generally closer to large population centres.</p>
Manufacturing meat processor	<p>Dependency on dairy industry for supply – limited number of plants in Australia.</p> <p>May be hot boning plant minimising capital costs of plant.</p> <p>Emphasis on minimising labour to provide cheap commodity product.</p> <p>Dependent on market access to US with returns influenced by US pricing and exchange rates.</p>
Export processor for multiple markets	<p>Processors kill a range of cattle for various markets, including manufacturing meat to the US.</p> <p>Often supply a range of cuts and trim to local food service companies and supermarkets. General butcher markets may also be serviced through distributors and wholesalers.</p> <p>Normally have abattoir and boning rooms as well as limited further processing facilities.</p>
Dedicated processor of export grain fed ox	<p>Processors focusing on the north Asia markets with medium / long fed Jap Ox is increasing with benefits accruing from the focused nature of the business model.</p> <p>The variety of cuts increases the amount of labour employed post abattoir.</p>

Secondary industries that are supported by beef processing include:

- P Smallgoods processing;
- P Fast food industry;
- P Hide processing;
- P Animal and pet foods;
- P Pharmaceutical products;
- P Tallow; and
- P Meat meal.

2.3.3 Sheep and lamb processing in Australia

Table 8 provides some typical characteristics of the ovine processing industry.

Table 8 Characteristics of the sheep processing industry

Lamb Processing	Domestic butcher supply through multi species works or dedicated processors. A significant amount of the domestic trade is still delivered in carcass form. Supermarket linked processors have boning and cutting rooms to breakdown products and further process into retail products.
Sheep Processing	Tend to be export focused and delivering cuts to a variety of markets. Can complete boning out to pack mutton as a manufacturing meat, also used in local small goods processing.

Secondary industries that are supported by ovine processing include:

- P Smallgoods processing;
- P Wool processing;
- P Skin processing;
- P Pet food;
- P Tallow; and
- P Meat meal.

2.4 Current markets for red meat

2.4.1 Export and domestic consumption

In 2008-2009, 65 per cent of Australian beef and veal production (by volume) was exported, 45 per cent of lamb and 77 per cent of mutton.

Table 9 Export and domestic consumption, 2008-2009

Meat	Total Australian production (t)	Export consumption		Domestic consumption	
		Tonnes (t)	Percentage of production (%)	Tonnes (t)	Percentage of production (%)
Beef and veal	2,146,839	1,395,445	65%	751,394	35%
Lamb (t)	422,945	190,325	45%	232,620	55%
Mutton (t)	235,344	181,215	77%	54,129	23%
Total	2,805,128	1,766,985	-	1,038,143	-

Source: Livestock Products, Australia, June 2009, Australian Bureau of Statistics, Cat. No. 7111.0, MLA Fast Facts Australia's Beef Industry 2009, and MLA Fast Facts Australia's Sheepmeat Industry 2009.

Table 10 provides the top three destinations for Australian beef, lamb and mutton.

Japan, the US and Korea dominate the export market. The US accounts for almost a quarter of Australia's export lamb production and the Middle East is the largest destination for mutton.

Table 10 Australia's top three red meat export destinations, 2008

Beef	%	Lamb	%	Mutton	%
Japan	37.5%	United States	24.5%	Middle East	33.4%
United States	29.2%	North Asia	20.9%	North Asia	15.3%
Korea	11.7%	Middle East	19.5%	South-East Asia	10.5%

Source: MLA Fast Facts Australia's Beef Industry 2009, and MLA Fast Facts Australia's Sheepmeat Industry 2009.

2.4.2 Employment

Approximately 31,000 people were employed in the meat processing sector in 2006-07, as shown in Table 11 (ABS, 2009) and Table 12 (ABARE, 2009). This is based on the employment in the ABS categories *Meat processing*, *Meat and meat product manufacturing*, and *Cured meat and smallgoods manufacturing*.⁴

Table 11 Employment in the Australian meat processing sector

Year	2001–02	2002–03	2003–04	2004–05	2005–06	2006-07
Employees ('000)	29.9	31.7	28.6	29.3	30.5	31.0

Source: Australian Bureau of Statistics Manufacturing Industry, Australia Industry Class 2005-2006 and 2006-2007. Cat. No. 8221.0

Unsurprisingly, the majority of people are employed in Queensland, New South Wales and Victoria, where the bulk of meat processing takes place.

The employment data presented in Table 12 was collected as part of the 2006-07 ABS Economic Activity Survey. All businesses (including non-employing businesses) on the ABS Business Register at the time of selection, and whose industry is classified to ANZSIC Division C Manufacturing, were eligible for the survey.

A sample of 6,368 manufacturing businesses was asked by the ABS to provide employment details, mainly via mail out questionnaires. Businesses were also asked to supply key details of their operations by state and territory, enabling the production of the state/territory estimates. The survey had a 93% response rate.

Given that 'meat processing' is only one component of 'Manufacturing', it is recognised that the reported estimates may not be an accurate reflection of the actual employment associated with the meat processing industry.

The employment estimates provided by the ABS survey also relate to the last pay period ending in June 2007 and as such, do not reflect fluctuations in employment during the survey year.

Finally, due to the estimates being based on a sample survey, the reported figures have the potential for sampling error (i.e. the sample is not representative of the population) and non-sampling error (i.e. due to inaccuracies in collecting, recording and processing the data).

⁴ Following 2006-07, ABS data collection changed from being on an annual basis to reporting Census statistics every 5 years.

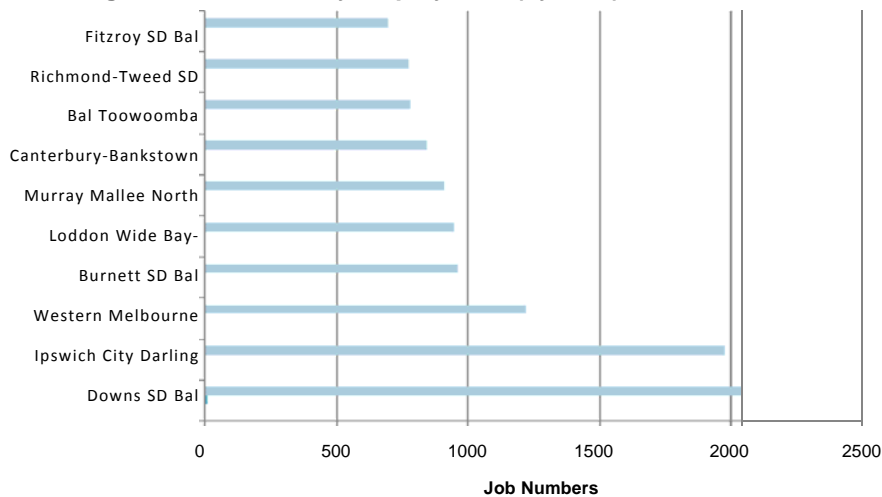
Table 12 Employment in meat processing - by state, 2006-07

State	Meat processing	Percentage of total employment
Queensland	11,752	38%
New South Wales	7,307	24%
Victoria	4,649	15%
Western Australia	2,596	8%
South Australia	2,780	9%
Tasmania	252	1%
Total Australia	31,026*	

*Includes Northern Territory and the Australian Capital Territory. Source: ABARE (2009).

An analysis of the 2006 ABS Census reveals the regional nature of the meat processing sector. Figure 4 highlights that 8 of the top 10 areas for meat processing employment are located in rural and regional Australia.

Figure 4 Regional meat industry employment (by SSD), 2006



Source: 2006 Census of Population and Housing. Place of Work by IND06P Industry of Employment.

2.5 Description of the value chains adopted for this study

2.5.1 The red meat processing value chain

The value chain is a quantitative and qualitative description of the red meat processing industry, which provides a representation of:

- P The physical flow of the livestock;
- P The costs of materials and services purchased from outside the chain;
- P Transport and handling costs; and
- P Revenue accruing from the sale of the products.

The value chain includes the purchasing of stock either directly from the farm gate or from a saleyard, and quantifies the costs associated with each event in the chain, up to and including the stage where the product leaves the processing facility and is transported either to the wharf or the wholesaler. The value chain does not cover additional value adding such as processing into retail cuts.

There is no single red meat value chain; however, it can be broadly classified by product and market. A diagram of the relevant inputs and outputs for the processing industry is provided in Appendix B.

The three broad categories that have been specified in this report are

for: P beef processing;

P sheep and lamb processing; and

P multi-species processing.

Seven value chains were described for this study: five beef; integrated sheep and lamb; and a multispecies unit (service works). There are a number of distinctly different processing pipelines for beef product. The five different operations have been detailed for beef depending on products (manufacturing versus cuts), link to feedlots and markets (export versus domestic).

A questionnaire was distributed (Appendix C) to a number of representative processors from each value chain. Responses were aggregated in order to obtain indicative representative purchasing, processing and other operating costs for each chain.

2.5.2 Beef - manufacturing

The beef - manufacturing value chain primarily comprises the slaughter of dairy cows and bulls with a dressed weight of 170-220 kg. Product is mainly for export as manufactured beef and hamburger meat. The prices for manufactured beef are determined by large processors and Australian processors are able to sell lower value cuts into manufacturing markets. Most processing plants in Australia supply manufactured beef; however there are a few specialised plants who serve the manufacturing markets.

2.5.3 Beef – export grass

Comprising mainly of the processing of young cattle (0-6 teeth), these processors are located predominantly in Queensland and New South Wales in the higher rainfall regions where cattle are able to be finished off on highly fertile pastures. The average dress weight is 270 kg – 300 kg, with 300 kg dress

weight being the limit for export to Europe. Due to food-safety regulations, the EU does not import beef from cattle which have been injected with hormones.

The majority of grass fed beef is exported (around 85 per cent of total production), with key markets including Europe, the United States, Korea and Japan. While the EU is one of Australia's main export destinations for grass fed beef, the high cost and timeframes associated with maintaining an EU licence have resulted in a number of processors concentrating on the United States and Asian markets.

2.5.4 Beef – domestic

The beef-domestic value chain refers to the processing of young cattle (0-4 teeth), mainly for domestic supermarkets, with an average dressed weight of 220 kg. The two main markets for domestic beef are supermarkets and wholesalers. Wholesalers serve the markets for butchers and can offer butchers the required quantity and quality of specified cuts.

The majority of beef cattle for the domestic market, particularly those for supermarkets, are either purchased from saleyards or as store cattle and are then finished off in a domestic feedlot in order to obtain consistency of product for consumers.

This value chain includes a Meat Standards Australia (MSA) licence fee.

2.5.5 Beef – feedlot (domestic)

These processing facilities have a fully integrated feedlot and abattoir and serve the domestic market. Cattle spend, on average, between 70 and 90 days on feed and are purchased at around 317 kg liveweight. Daily feed intake is estimated at 8.7 kg per day with an average daily gain of 1.64 kg per day. Cattle are processed at around 448 kg liveweight (200 kg – 225 kg dress weight).

The shorter number of days on feed reduces the amount of grain to be purchased and allows for a faster turnover in order to meet domestic demand.

Feedlots are located in close proximity to both cattle and grain suppliers, with the main regions being south-east Queensland, the northern tablelands and the Riverina region of New South Wales. These feedlots are also located in areas of consistent average rainfall, as the watering requirements for the feedlot and processing plants are quite substantial.

This value chain accounts for 30 per cent of the Australian feedlot industry. It is assumed that processing costs are the same as for domestic beef.

2.5.6 Beef – feedlot (export)

The beef - feedlot (export) value chain has a fully integrated feedlot and abattoir and serves the various export destinations. Cattle are purchased at 425 kg liveweight and spend between 100 – 150 days on feed. Daily feed intake is around 10.6 kg per day with an average daily gain of 1.64 kg. Cattle are generally finished off at around 630+ kg liveweight.

A sustained increase in grain prices tends to limit the length of time for which cattle are fed. An increase in grain prices can result in producers reducing the number of days on feed and finishing cattle for the domestic market instead. An increase in the value of the Australian dollar also impacts on the demand for beef products.

Feedlots have substantial costs in terms of effluent and environmental management and a number of programs have been established under an industry code of environmental practice in order to reduce, reuse, and/or recycle waste products.

Australia has experienced sustained growth in the export feedlot beef sector as global demand has increased. The exclusion of United States beef amid BSE concerns has allowed Australia to further opportunities to expand into the Japanese market.

These processing plants account for 70 per cent of the Australian feedlot market. It is assumed that processing costs are the same as for export grass.

2.5.7 Integrated sheep and lambs

This value chain involves the processing of both sheep and lambs in an integrated plant. Lambs are primarily for the domestic market while mutton is primarily exported. The top three export destinations for Australian lamb products are the United States, North Asia and the Middle East. The top three export markets for mutton are the Middle East, North Asia and South-East Asia. Indicative dress weights are 19kg for lambs and 21kg for mutton.

Over 60 per cent of sheep and lamb slaughters occur in NSW and Victoria as processing facilities are located within close proximity to the main sheep and lamb producing regions.

2.5.8 Multispecies unit (service works)

This service unit comprises the slaughter of a combination of beef and sheep/lambs plus other species. These units are often small in size and serve geographic areas and local butcher supply chains. Most of these service works receive a service fee rather than a trading fee, with profitability being more reliant on controlling costs from the service fee. There is also flexibility in the labour that is employed as the service works have to cater for the product that enters the plant.

2.6 Value chain estimates

Estimating dollar costs across components of a value chain is difficult as they are, by definition, a synthesis of many different situations and circumstances. The estimates provided in Table 13 and Table 14 are used as the basis for modelling indirect impacts in the economy. There will be significant variations between operations and years.

Study of the Australian red meat processing sector and its contribution to national and regional economies

Table 13 Indicative line item costs for beef value chains (per head), 2009

	Beef: Manufacturing	Beef: Export Grass	Beef: Domestic	Beef: Feedlot (Domestic)	Beef: Feedlot (Export)
Purchase Cost	\$627.56	\$832.26	\$657.76	\$688.76	\$1,160.76
Feedlot Costs				\$193.47	\$365.19
Transport Cost	\$26.99	\$20.00	\$15.10	\$20.00	\$20.00
Processing Cost	\$143.68	\$242.22	\$183.95	\$186.95	\$241.22
Post-Processing Cost	\$23.80	\$32.39	\$23.37	\$23.37	\$32.39
Additional Costs	\$30.75	\$33.38	\$32.20	\$32.82	\$32.82
Total Costs per Head	\$852.78	\$1,160.25	\$912.38	\$1,145.37	\$1,852.38
Margin per Head	\$12.79	\$17.40	\$13.69	\$17.18	\$27.79
Total Costs plus Margin	\$865.57	\$1,177.65	\$926.07	\$1,162.55	\$1,880.17

The multi-species estimates have been derived by using a weighted average of the information received and a typical breakup of the mix of throughput in this type of plant.

Table 14 Indicative line item costs for sheep/lamb and multispecies value chains (per head), 2009

	Integrated	
	Sheep and Lambs	Multi-species
Purchase Cost	\$64.21	\$114.39
Feedlot Costs		
Transport Cost	\$3.50	\$8.70
Processing Cost	\$24.98	\$57.94
Post-Processing Cost	\$2.63	\$15.39
Additional Costs	\$3.48	\$5.38
Total Costs per Head	\$98.80	\$201.80
Margin per Head	\$1.48	\$3.03
Total Costs plus Margin	\$100.28	\$204.83

It should be noted that the margins are between 2 per cent and 2.5 per cent, and differences do not indicate higher long-term margins of one value chain over another. It should be noted that the red meat processing sector has low margins per head and relies on throughput and high utilisation to generate returns.

3 Assessing the Impact of the Sector

3.1 Previous studies

A number of previous studies have been undertaken that examine the economic contribution of the meat industry on national and regional economies. In particular, The American Meat Institute has compiled a report titled '*The Meat and Poultry Industry Economic Contribution Study: 2009*' in which the direct and indirect economic impacts of the US meat and poultry production industries, meat distribution and retailing were assessed.

The Australian Bureau of Agricultural and Resource Economics (ABARE) has also recently released a research report titled '*The value of the red meat industry to Australia (June 2009)*'. This report identified 'the red meat sector as being vital to Australian agriculture' and as 'a large contributor to the value of agricultural production and exports' accounting 'for a significant proportion of rural and regional employment'.

These recent studies have been based on secondary data or are focussed on a regional level. This study reviews the estimates of indirect impacts of the sector on the economy and provides up to date estimates of the impacts of the Australian red meat sector at a national level. It also provides additional information on the role of the sector in regional Australia, in the form of social case studies.

3.2 Economic impact modelling

3.2.1 Introduction

Regional economic impact assessment examines the effect of a project, firm or industry on an economy in terms of a number of specific indicators such as gross regional output, value-added, income and employment. These indicators can be defined as follows:

P Gross regional output – the gross value of business turnover;

P Value-added – the difference between the gross value of business turnover and the costs of the inputs of raw materials, components and services bought in to produce the gross regional output;

P Income – the wages paid to employees including imputed wages for self employed and business owners; and

P Employment – the number of people employed (including full-time and part-time).

The project, firm or industry assessed may currently exist within an economy. Alternatively, an assessment may quantify the impact on a local economy arising from a potential change to a project, firm or industry. The impact can be measured at various scales, ranging from a township to the entire nation (Powell et al. 1985).

For this study, the economic impact of the red meat processing industry is assessed at national and state levels, and for two case study regions.

These assessments illustrate the role of industry expenditure and employment within regional and rural Australia, and highlight some of the differences between the states of Australia.

3.2.2 Economic models

This assessment was carried out using NIEIR's state and regional models. Each model was combined with information that represented the red meat industry's demand for goods and services from outside the region. The use of the model to assess the contribution of the red meat industry to economic activity was carried out separately for three red meat sectors:

P Beef;

0 Sheep and lamb; and P

Multi-species.

3.2.3 Data inputs

The value chains that were specified for each processing category are used to ascertain indicative expenditure and also whether this expenditure was regional.

Average throughput numbers for each value chain were generated at both a state and national level and were agreed upon by the Project Steering Committee (Appendix E).

3.2.4 Model assumptions

The cost and profit estimates of the processed (i.e. excluding live red meat exports) red meat industry in Australia, by State and selected regions, were used to assess the contribution of the industry to economic activity in terms of gross product and employment. The results of this study are aggregated into one-digit ANZSIC industries.⁵

The assessment involved breaking down the total direct expenditure by each value chain of the red meat industry into the following categories:

- (i) value of livestock slaughtered;
- (ii) transport costs;
- (iii) feed costs;
- (iv) labour costs for meat processing;
- (v) material input and service costs for meat processing;
- (vi) taxes, charges and levies;
- (vii) depreciation costs; and
- (viii) capital return.

These broad cost categories were allocated to more detailed supporting industries at a State level by using the 'Meat industry' column in the Australian Bureau of Statistics 2002 (updated to 2006 by NIEIR) *National Input-Output Tables*.

When running the models, it is assumed that there is adequate labour and capital capacity to meet demand. When assessing economic impacts of changes in the economy (e.g. a new processing plant in a region), issues such as the ability of the economy to absorb the new demand should be considered. If

⁵ Division C Manufacturing, Subdivision 21; Food, beverage and tobacco manufacturing; 211: Meat and meat product manufacturing; 2111: Meat processing.

full employment prevails, crowding out for new investments should be considered. That is, if an economy was fully employed in capital and labour then new employment-creating initiatives would tend to re-allocate labour away from existing activity. However, in terms of evaluating the contribution of existing demand where the supply chain has the capacity already in place, the assumption of adequate labour and capital capacity is appropriate. In any case, the Australian economy in 2009 was not in a situation of full employment.

There are three categories of flow-on effects namely:

- (i) Type One – inter-industry flow-on impacts only;
- (ii) Type Two – consumption flow-on plus inter-industry flow-on; and
- (iii) Type Three – Type Two plus investment flow-on.

Type One flow-on effects only capture the impact that the industry supply chain has on the economy. The direct value-added of the red meat industry is simply the wages and gross surplus (profits) of the industry. However, the goods (e.g. feed) and services (e.g. transport) purchased by the red meat industry will create value-added in other industries. Hence, Type One flow-on effects for value-added estimates the total value added in the economy, created by the red meat supply chain, including the direct value added of the red meat industry itself.

Type Two analysis adds to the supply chain effects the private consumption flow-on effects of the income generated by the red meat supply chain. The consumption effect includes the impact on expenditure of the real household income generated by the red meat processing supply chain, plus the flow-on effects for real household consumption expenditures. These flow-on effects reflect the employment and income generated by expenditure of red meat industry-driven household income.

Type Three analysis is the same as the Type Two analysis, with the exception that it includes the investment expenditures generated by the red meat industry. This is set equal to the depreciation expense. As the modelling takes a static view of the red meat industry, there is no justification for assuming positive net investment. The only justification for Type Three impacts is to assume that the replacement investment is required to keep a given level of output sustainable in the long-run.

The multipliers used to examine the red meat processing sector are expressed in terms of gross product (i.e. total gross output or industry revenue - that is turnover - less purchases of goods and services from other industries). Multipliers can also be expressed in terms of gross output. Some studies express multipliers this way but it is misleading as the result for one industry double-counts the outcome that forms part of the gross output increase for all other industries.

4 National Level Impact of the Red Meat Industry and Processing Sector

4.1 Overview of the Industry and the Sector

It is estimated that over the past 5 years, the red meat processing sector contributed the following to the national economy:

P 37,800 jobs annually; and

P \$3.7 billion to gross domestic product per annum.

This estimate is in line with other estimates as it is based on ABS statistics. It is based on typical throughput over this period. The estimate is slightly above that of the 2006 Census, which is a point estimate of the jobs associated with the industry.

These figures relate to the economic activity generated between the farm gate and product leaving a processing plant to a wholesaler or exporter.

The red meat processing sector is a part of the wider industry. It is estimated that over the past 5 years, the red meat industry (livestock and processing sectors) contributed the following to the national economy:

P 155,310 jobs annually; and

P \$14.4 billion to gross domestic product per annum.

The red meat industry contribution to gross domestic product represents 1.5 per cent of total Australian gross product. These Type One results represent the economic impact of the supply chain associated with the red meat industry.

Employment across the industry supply chain is 155,000 full time equivalents (Table 15). Total activity associated with processed red meat production contributes 275 million hours of employment, with 73 per cent generated by the beef cattle and calves industry.

It is apparent that the Red Meat Industry as a whole has significant linkages and impacts on other industries in the economy. Table 15 highlights these links. Red meat production accounts for 33.5 per cent of the activity in the Agricultural, Forestry and Fishing industry.

Red meat processing is also significant when compared against manufacturing in Australia. It represents 3.2 per cent of manufacturing gross product. The contribution to other sectors of the economy is less significant.

Overall, the red meat industry represents 1.5 per cent of Australia's gross product.

Study of the Australian red meat processing sector and its contribution to national and regional economies

Table 15 Australia wide red meat industry sector Type One multiplier

Industry	Total employment in FTE	Gross product in 2008 \$m	Red meat industry contribution to gross product by industry %
Agriculture, forestry & fishing	84,040	7,087	33.50%
Manufacturing	33,640	3,307	3.20%
Wholesale trade	4,980	523	1.20%
Retail trade	4,640	241	0.40%
Transport, storage	4,200	603	1.40%
Property & business services	11,790	1,038	0.80%
Other	12,020	1,547	0.38%
	155,310	14,345	1.5%

4.2 Type Two and Type Three results for the Red Meat Industry

Table 16 shows the employment for the categories of processing operations across the red meat industry.

Table 16 Total employment for the red meat industry (modelled FTE)

	Sheep and lambs	Multi-species	Cattle and calves	Total
Type One	25,620	15,840	113,840	155,300
Type Two multiplier (inter-industry flow-on and household consumption)	38,490	24,120	167,960	230,570
Type Three multiplier (inter-industry flow-on, consumption and investment)	39,580	24,810	171,910	236,310

Table 17 shows the gross product results for the categories of processing operations across the red meat processing sector.

Table 17 Total gross product (2008 \$m at factor cost)

	Sheep and lambs	Multi- species	Cattle and calves	Total
Type One	2,412	1,545	10,388	14,345
Type Two multiplier (inter-industry flow-on and household consumption)	3,491	2,257	14,942	20,690
Type Three multiplier (inter-industry flow-on, consumption and investment)	3,584	2,317	15,281	21,182

There are approximately 236,000 national full time equivalent employment positions that are reliant on the red meat industry (that is, the Type Three multiplier effect). The impact on gross product increases to \$21.2 billion in 2008 prices, and the contribution to total economic activity represents 2.3 per cent of gross product across Australia.

The difference between Type Two and Type Three results is not large as the extra expenditure generated is not large. The industry impacts increase beyond the direct employment and gross value generated are driven by consumption flow-on effects.

4.3 Results for the Red Meat Processing Sector

The assessment of the role of the sector in the economy is complicated as the value chain is closely integrated. Modelling assumptions are required to isolate the impacts of the sector to obtain an estimate of the additional value that is generated by its activities. The industry results assume the processing sector to be the end point of the supply chain.

The assessment of the role of the red meat processing sector in the economy is complicated as production and processing are closely linked. The assessment of the economic activity generated by the sector in isolation requires delineation along the value chain. Any significant change to the sector has impacts on the production sector and requires adjustment.

This kind of assessment requires articulation of responses. In some regions a move toward live export may be possible but this is not an option for the industry as a whole. The analysis carried out here provides a baseline and description of the economic contribution of the meat processing sector over the last 5 years.

Table 18 shows the employment for the categories of processing operations across the red meat processing sector.

Table 18 Total employment for the red meat processing sector (modelled FTE)

	Sheep and lambs	Multi- species	Cattle and calves	Total
Type One	7,376	4,988	25,435	37,798
Type Two multiplier (inter-industry flow-on and household consumption)	11,524	7,901	39,393	58,817
Type Three multiplier (inter-industry flow-on, consumption and investment)	12,620	8,590	43,350	64,550

Table 19 shows the gross product results for the categories of processing operations across the red meat processing sector.

Table 19 Total gross product for the red meat processing sector (2008 \$m at factor cost)

	Sheep and lambs	Multi- species	Cattle and calves	Total
Type One	722	499	2,479	3,701
Type Two multiplier (inter-industry flow-on and household consumption)	1,101	771	3771	5,642
Type Three multiplier (inter-industry flow-on, consumption and investment)	1,194	830	4,110	6,134

There are 64,554 national full time equivalent employment positions that are reliant on the red meat processing sector (that is, the Type Three multiplier effect). The impact on gross product increases to \$6.13 billion in 2008 prices, and the contribution to total economic activity represents 0.7 per cent of gross product across Australia.

Table 20 illustrates links between the red meat processing sector and the economy, through consumption and investment.

Table 20 Type three multipliers assuming a distinct red meat processing sector

	Employment - full time equivalent	Total Gross product (2008 \$m at factor cost)
Agriculture, forestry & fishing	1,417	121.5
Mining	101	56.9
Manufacturing	29,526	2,896.2
Electricity, gas & water	516	204.3
Construction	2,474	164.9
Wholesale trade	2,119	221.4
Retail trade	6,405	331.5
Accommodation, cafes & restaurants	2,299	105.4
Transport, storage	896	129.6
Communication services	775	136.8

Study of the Australian red meat processing sector and it's contribution to national and regional economies

Finance & insurance	1,609	332.6
Ownership of dwellings	-	237.2
Property & business services	6,892	604.6
Government	344	45.5
Education	2,342	150.4
Health & community services	2,151	157.5
Cultural & recreational services	1,558	76.2
Personal & other services	3,130	161.1
Total	64,554	6,133.6

This analysis illustrates the strategic value of the industry to an economy and highlights issues where a region may lose processing capacity. If the industry was diminished in size and red meat producers had a reduced opportunity to market (i.e. there was a limited capacity to export live) then the impact of the loss could have implications beyond the 64,554 FTE that are dependent on the red meat processing sector.

The multipliers in Table 21 are for national gross product impacts on the economy divided by the total direct expenditures generated by the red meat industry. For the gross multiplier, the total expenditure, including the direct import component, is used.

Table 21 Multipliers for the red meat processing sector⁶

	Sheep and lambs	Multi-species	Cattle and calves	Total
Type Two multiplier (inter-industry flow-on and household consumption)				
Gross national multiplier	1.66	1.66	1.63	1.64
Type Three multiplier (inter-industry flow-on, consumption and investment)				
Gross national multiplier	1.80	1.80	1.78	1.79

The multipliers are expressed in terms of gross product. If the multipliers were expressed in terms of gross output then they would be approximately doubled (that is, between 3.0 and 3.5), as gross product across all industries is approximately one half of gross output.

The multipliers that NIEIR have obtained for the red meat processing sector are in the middle of the range expected given the methodology adopted. It should be noted that over the last 30 years the standard multipliers for the Australian economy have fallen from 2.2 - 2.6 to around 1.5 - 1.8 as the import penetration into the economy has increased on a sustained basis.

⁶ The multipliers are expressed in terms of gross product. Gross product is total gross output or industry revenue (that is turnover) less purchases of goods and services from other industries.

5 State Level Impact of Red Meat Processing

Red meat processing operations are concentrated in the eastern seaboard states of Victoria, New South Wales and Queensland. The scale of meat processors also tends to be larger in these states. This is reflected in the estimates of the share of employment in the processing sector and the contribution of the sector to gross product.

The State level results reflect interstate trade flows. Thus, the larger States of New South Wales and Victoria which do not have the largest direct impact of the processed red meat industry, benefit from the exports of goods and services to the smaller States to support the economic activity generated by the processed red meat industry in these States. The modelling highlights the links between economic activities generated in Queensland processing locations that flow to other states. This is a consequence of the structure of the national economy.

Table 22 State level employment and gross product Type One results⁷

	Total employment in FTE equivalent in thousands	Total employment in FTE (% of Australian total)	Red meat processing contribution gross product in 2008 \$m	Red meat processing gross product (% of Australian total)
NSW	8,900	24.0%	902.13	24.4%
Vic	10,800	29.1%	1,078.72	29.2%
Qld	11,500	31.0%	1,025.38	27.8%
SA	2,700	7.3%	256.79	7.0%
WA	3,100	8.4%	334.37	9.1%
Tas / NT / ACT	900	0.3%	93.91	2.5%
	37,900	100%	3,691.30	100%

In terms of the Type One results (Table 22), Queensland and Victoria have the highest number of FTEs in the red meat processing sector (at 31.0 per cent and 29.1 per cent respectively). However, Queensland does not generate the highest benefit in terms of gross product. Victoria receives 29.2 per cent of the national gross product generated by the Australian processed red meat sector, Queensland 27.8 per cent and NSW 24.4 per cent.

⁷ There are some rounding errors when comparing state level results.

6 Regional Level Impact of Red Meat Processing

6.1 Modelling of regional economic impacts

The regional analysis has been carried out for two regions:

- (i) Junee, Wagga Wagga, Cootamundra (NSW); and
- (ii) Colac-Otway (Victoria).

These regions have been chosen as they are typical of the type of processing plants across Australia and they represent two distinct supply chains:

P The Southern Riverina area encompasses two processing plants, one focussed on beef and one focussing on sheep/lambs; both plants deliver product to the domestic and export markets.

P Colac-Otway is a domestic operation focussed mainly on lamb.

The economic impact assessment is based on input-output tables and associated models constructed in accordance with the methodology outlined in previous chapters⁸. The methodology is specifically designed to not over-estimate the impact of an industry on the local economy. The database for the model is taken from the five LGAs required for the analysis, which is available in the NIEIR YourPlace data base.

The methodology for the regional analysis is exactly the same for the State analysis, except that only Type One and Type Two impacts are calculated.

Table 23 Impact of processed red meat industry on regions

	Type One multiplier		Type Two multiplier	
	Gross product (2008 \$m)	Derived Employment (number) ¹	Gross product (2008 \$m)	Employment (number)
Junee, Wagga Wagga, Cootamundra	141.8	1,006	148.1	1,125
Colac	29.70	360	30.8	395

1. Note that this employment number is derived from the throughput data and industry wide value chains so that individual plant information remains confidential.

For the case study in the Southern New South Wales region, the importance of the red meat processing sector is again highlighted by the high proportion of manufacturing that is linked to the sector (31.2 per cent).

For Colac-Otway, the total direct employment generated by the processed red meat industry represents 24.4 per cent of the manufacturing jobs in the region.

⁸ Publicly available in NIEIR's YourPlace – Regional Input-Output Tables.

6.2 Case studies and links with regional communities

Case studies were prepared in order to enable qualitative as well as quantitative assessment of the contribution of the red meat processing sector. The case studies used the information gathered in the first stage of data collection to highlight the links between the meat processing sector as a local employer and to document the impact on ancillary industries including equipment manufacturing, trucking, shipping, carton manufacturing, cold storage, banking and insurance.

The case study locations chosen were:

P Southern New South Wales comprising the local government areas of Wagga Wagga, Junee and Cootamundra; and

P Colac-Otway, Victoria.

6.2.1 Structure of analysis

Signposts for Australian Agriculture (Signposts) 'is a partnership between industry, government and research organisations and was designed to provide access to economic, social and environmental (or biophysical) data specific to an industry and geographical area to inform policy development, strategic decision making and future research priorities.' The Signposts framework has been used in this report in order to assess the contribution of the red meat industry to its own assets and on the assets held by others. This framework reports the contribution the agricultural industry has on ecologically sustainable development. The Signposts component tree for the beef industry has been adopted for this report and can be found in Appendix A.

6.3 Southern New South Wales

Two significant processing plants in the Riverina, at Wagga Wagga and Cootamundra, were involved in this study.

6.3.1 Wagga Wagga – Cargill Beef Australia

Wagga Wagga is a large inland city that has multiple economic drivers and no dependence on any mining stimulus. There's a large military presence, education (Charles Sturt University), health and other community services for a wider region of over 200,000 people, and has seen steady population growth. Wagga Wagga is located on the Murrumbidgee River midway between Sydney and Melbourne.

Cargill Beef Australia (Cargill) was founded in 1991. It has operations located in New South Wales, with processing operations in Wagga Wagga and Tamworth and a feedlot at Stockinbingal. Cargill services customers in the domestic retail, food service, distribution, hotel and restaurant and institutional sectors of the market.

Cargill Beef Australia also services the export markets of Japan, Korea, Taiwan, China, Hong Kong, United States and Canada.

The Wagga Cargill plant was multi-species in the early 1990s. It was decided to move to a specialised plant in 1991 with the foundation of Cargill Beef. Cargill Beef is rated the 5th largest meat processor in Australia with an estimated throughput of 152,000 tonnes carcass weight across its two plants (MLA 2008). This represents 5.29 per cent of the 2007 kill.

Grain fed product is targeted towards Asia and the Australian high end food service sector. There has been a recent addition to the capacity of the Wagga plant to increase the manufacturing type output.

Currently, the Wagga plant has a throughput of 600,000 head per annum. The company has its own buyers who source 80 percent of the stock purchased with the remainder (20per cent) sourced through agents. Cattle for the processing plant are sourced from across NSW and Victoria. The feedlot will draw cattle from a radius of 800 km. Cattle are also sourced from independent feedlots at Charlton in northern Victoria and Gundamine near Eugowra in the Central West.

Employment

Cargill is a significant employer in the Wagga Wagga area. Up until recently there has been a heavy emphasis on local employment. Wagga is the head office of the Cargill Beef operation. Many of the IT and accounting operations are located in Wagga.

Approximately 95per cent of the workforce could be classed as local. Over the past two years in a tight labour market there was a shift towards sourcing staff outside of the area. This included approximately 100 migrant labourers. This need has diminished in very recent times as employment has dipped across the region. Turnover is generally 30 per cent.

The spike in demand for workers coincided with an initiative to increase productivity by 20 per cent using changes in shift configurations. This required the employment of 130-150 additional workers. Labour is a significant cost for the company. The approximate break-up of direct employment is:

Management and administration	60 (8%)
Processing floor	650 (85%)
Value adding	40 (5%)
Co-products (offal, skins)	10 (1%)
Other (Yards, QA and maintenance)	6 (1%)

Training

The management and processing workers are involved in training programs. The processing training has 4 grades. These grades are linked to equipment and also job descriptions. The training is run through MINTRAC⁹.

Expenditure

The majority of the expenses of Cargill are direct to the local economy. The most significant local expenditures are:

- ρ Labour;
- ρ Fuel;
- ρ Transport (Toll); ρ
- Travel (Rex); and ρ
- Packaging (Visy).

Administration and accounting are carried out internally. Other costs that are sourced locally include training, injury management and any medical costs.

⁹ MINTRAC is a company, owned by the Meat Industry, which represents the industry on training matters.

Other options for the workers who are employed at Cargill are mines and local service operations, particularly the hospital and the university. The company uses three recruitment agencies in Wagga to source staff. The largest of these is Workforce on Tap (phone number). Cargill Beef is responsible for the freight and costs until their product is transferred to ship for export.

Corporate

Cargill Beef have an active corporate responsibility program. The activities that are supported by the company include health, education and environmental initiatives. Charities that are directly funded include Country Hope, Riding for the Disabled and Wagga Wagga Base Hospital. The support consists of direct funds between \$150,000 and \$200,000 annually, and in-kind contributions. Approximately 1,000 hours a year are 'donated' though employees working for a few hours per month on company time.

Cargill is involved with wider community organisations such as the Chamber of Commerce and also is involved with Charles Sturt University with sponsorship of the university team to attend the Australian Intercollegiate Meat Judging Competition (IMJC).

6.3.2 Cootamundra – GM Scott Pty Ltd

Cootamundra is a regional town located 375 km south west of Sydney. The town is a service centre for a predominately agricultural region. Key agricultural industries in the region are cropping, sheep and cattle. There has been a move towards lamb production in recent years as the area is suited to its production and relative prices have favoured meat production over wool from merino sheep. The population of the shire is 7,315 people (ABS 2009). There are approximately 3,096 people in the workforce of Cootamundra. The two largest sectors of employment are the agriculture and retail industries.

GM Scott Pty Ltd is based in Cootamundra. GM Scott began managing the abattoir in 1982. It is currently supplying the domestic market, though the company is in the process of obtaining Tier 1 export accreditation. There has been an increase in operations with the addition of a boning room in 2006. The plant is multi-species. It can processes 28,000 cattle, 50,000 sheep, 5,000 goats and 1.2 million lambs annually.

The focus is supplying the domestic market through Woolworths, local butchers for cattle and offal to the Sydney market. A significant proportion the throughput is Halal and services the Sydney market. The company sources lambs from across the southern NSW and northern Victoria. Company buyers supply 20 per cent of throughput and 80 per cent are sourced through contract buyers.

Employment

GM Scott currently has approximately 135 full time equivalents employed in the business at Cootamundra. Employees are works under a workplace agreement which base wages on classifications linked to skills. The approximate break down of the staff by role is:

Management and administration	22 (17%)
Processing floor	
Beef	15 (11%)
Sheep	60 (45%)
Value adding	15 (11%)
Co-products (offal, skins)	12 (9%)
Other (QA and maintenance)	8 (6%)

It is interesting to note the range of ages of the employees at the processing plant. There are openings for new workers and many of the skilled operators have worked within the business for many years. An approximate break down of the workforce at GM Scott by age category is shown below:

15-20 years	5%
21-25 years	20%
26-35 years	40%
36-50 years	15%
+51 years	20%

Staff turnover is relatively low for the industry. The operation has a focus on permanent staff and uses any casual openings as a strategy to fill permanent vacancies when they arise. The company has tailored training schemes and the annual training budget is approximately \$40,000 per year.

The recent investment in the boning room, which is one of five that are linked to Woolworths, resulted in an additional 46 processing floor positions and 6 administration positions.

Community Links

GM Scott has significant links with the community via sponsorship of local sporting clubs. The company also has arrangements with local businesses to supply repairs and maintenance, training and employment services.

6.4 Colac-Otway - CRF (Colac Otway) Pty Ltd

Region

Colac is located in the state of Victoria about 150 km southwest of the state capital of Melbourne. Colac has a population of 12,000 and is part of the Colac Otway Shire with a population of 21,000. The area is part of the Great Ocean Road which includes many tourist attractions. Agriculture (particularly dairy, beef, sheep) forestry and fishing are the predominant primary industries with processing of primary produce also contributing to the region's economy.

The Shire's manufacturing base (13 per cent of the Shire's workers are employed in manufacturing) is sustained by a strong competitive advantage associated with the region's natural environment and resources, excellent transport access and services, and the range and quality of its support infrastructure.

CRF (Colac Otway) Pty Ltd is a lamb and veal processing facility based at Colac.

History

CRF was founded in 2000 by local investors who were committed to establishing a technologically advanced and sustainable food processing facility in Colac. The plant is on the site of a previous processing facility and includes latest technology that allows improved integration of components to achieve processing efficiencies.

The company has a strategic alliance with Coles to process a significant proportion of its lamb requirements for the eastern states but is constantly looking for business opportunities to complement this alliance.

The plant employs about 400 staff which makes it the single largest employer in the Shire. Additional employment is generated by contractors supplying services such as cleaning, transport, waste disposal and maintenance.

The plant processes about 1.4 million lambs and 70,000 calves per year.

Operation

The plant sources its livestock from a range of locations depending on the seasonal supply of lambs. The logistics of supply are determined jointly between Coles and CRF (between 7,000 and 7,500 lambs are processed per day) with most animals sourced within a 400 km radius of the plant (i.e. Victoria and parts of South Australia).

About 50 per cent of lambs are purchased on-farm with the remainder from saleyard auctions, although the proportions vary with season and market changes. Stock are transported to the plant by road.

The plant consists of four integrated operations:

- processing floor;
- further processing (boning, retail cuts);
- co-products; and
- cold store and distribution.

It processes about 30,000 tonnes of meat (carcase weight equivalent) per year with most of this for domestic consumption. About two thirds of the lamb is further processed (retail cuts, boned) and transported as boxed meat with the balance transported in carcase form.

The plant also processes co-products including:

- skins: salted on site and then exported;
- selected offal (small intestines or runners): limited further processing and exported for human consumption; and
- other, including offal: transported off site to another company for pet food manufacture, blood and bone meal etc.

All products are transported by road with domestic produce mainly destined for Melbourne, Brisbane and Adelaide. Export produce is freighted to the wharf in Melbourne for shipping.

Work force

CRF's 400 strong workforce is comprised of many nationalities and includes overseas skilled workers (from China and Sudan) under the government's temporary *457 visa program*. CRF utilises an employment agency (Colac Otway Workforce) to provide its casual employment needs and to assist with training. Colac Otway Workforce is responsible for organising accommodation for the visa holders and their families and ensures that family members have access to a range of schooling, community and adult education services.

About 70 per cent of staff are male and 30 per cent female and the integrated nature of the processing plant means that a range of managerial and technical skills are required. The approximate break-up of direct employment is:

Management and administration	17%
Processing floor	31%
Value adding	35%
Co-products (offal, skins)	11%
Other (QA and maintenance)	6%

CRF is also responsible for indirect employment through a range of contractors. Some of its major contractors and estimated staff numbers (FTEs) exclusively servicing CRF are as follows:

Colac Otway Workforce (labour hire)	4.5
Colac Cleaning and Property Services	16
Wheadons Transport	50

Staff training and development

CRF has a dedicated training manager to ensure basic and additional training needs are provided. A major component of training at CRF revolves around the introduction of organisational culture changes based on “LEAN”¹⁰ thinking principles. This is being progressed through development of small teams (6 – 8 people) with a team leader and a goal to involve and empower team members. The company considers that its new employment culture has reduced staff turnover which has provided significant commercial advantages.

Staff training is based on a needs-analysis completed each year by the training manager which is summarised in a training matrix. The matrix includes more than 60 different training activities available to selected staff.

The company requires production workers to have a basic understanding of hygiene and occupational health and safety procedures are applied. As a result, all production workers are required to complete an induction course (Certificate II Meat Processing) while those seeking higher level duties need to complete Certificate III training.

Currently 51 employees are enrolled in Certificate III Meat Processing training through the South West Institute of TAFE. A TAFE employee is located full time at CRF to provide the training and the cost of all training is provided by CRF.

In addition to Certificate training, CRF also organises training for administrative staff and funds a range of higher level training including apprenticeships, tertiary and post-graduate courses. Four apprenticeships have either recently been completed or in progress in such trades as Electrotechnology Systems. Eleven staff are enrolled or have recently completed post graduate studies, with two of these at Masters level (Master of Business, Master of Environment).

Contribution to the economy and community

Being the largest single employer in Colac means that the plant provides significant benefits to the local region beyond the direct employment of staff. Sectors such as real estate, school and adult education, health and cultural providers all benefit from the multi-cultural staff at CRF.

The company considers it has a responsibility to the local community and as such sponsors a range of sporting and cultural activities. It also contributes to development strategy in the region through representation on local government and semi-government committees.

The staffing structure of ancillary businesses is heavily dependent on CRF. Examples include the following four local businesses:

- Wheadons Transport: employs about 100 staff in total and estimates that CRF provides 50 per cent of its business. This Colac-based firm completes the majority of livestock and product transport for CRF or its strategic alliance with Coles.
- Colac Cleaning Services: employs about 50 staff with 16 of these required for CRF work. The firm operates the laundry at CRF and also cleans the processing plant to comply with AQIS standards.

¹⁰ The LEAN approach stems from experiences in Japan where superior manufacturing performance has been attributed to business methods using less of everything - human effort, capital investment, facilities, inventories and time - in manufacturing, product development, parts supply and customer relations.

- Colac-Otway Workforce: has 14 staff located in Colac, Geelong and Melbourne and estimates that 30 per cent of its business comes from CRF. One staff member is located at CRF full time to manage recruitment and Human Resource processes.
- Western Waste Management: has 14 staff located in Colac and estimates that the CRF business provides about 7 per cent of the company's turnover for transport of general rubbish and compost material.

6.5 Summary

In the case study areas visited during this study, meat processing is generally the largest employer in the manufacturing sector of the economy.

In all cases there are significant local allied businesses that have developed in conjunction with the processing operations.

All case study processors have significant training operations and have located management operations in regional areas. These provide an opportunity for balanced employment across employment types. Human resources management is a key focus of these operations as there is competition for mobile workers in the form of agricultural activities and, in some cases, mining.

The businesses have close links to the community through corporate activities for charities and sporting associations as the workforce represents a large proportion of the urban population. In many places, the businesses have also been at the forefront of the up-skilling of migrant workers.

6.6 Signposts for agriculture framework – case studies analysis

The results of modelling for the project provided the economic and employment data for the red meat processing sector at national, state and regional levels. The above case studies show that the sector provides outcomes that are additional to the quantified direct economic and employment statistics, and these outcomes can be considered as both 'human capital' and 'social capital'. A qualitative summary of each of these is provided below.

6.6.1 Human capital

Capacity of the workforce to support the Industry

Technical skills

Each of the case study plants has a significant input into training staff which ensures that skills of individuals are at levels that support the exacting requirements of the industry. Plants have dedicated training managers who complete needs-analyses of employees to determine future training requirements. Training is available to processing and administrative/managerial staff and outcomes are reflected in improved productivity.

Health/age/lifestyle

Employees are provided opportunities to continue training within the industry and thus attain increased responsibility and income. This approach enables employees to remain in the workforce and achieve improvements in lifestyle commensurate with their increased roles and responsibilities.

Capacity of industry networks and relationships to support the industry

A particular example of networks to support the industry was provided by CRF Colac where process workers are organised into small teams with a goal for members to be involved in decision making that leads to empowerment of team members. This networking approach builds relationships which the company considers has significant commercial outcomes.

6.6.2 Social capital

National community

Employment

The red meat processing sector is an important contributor to the national social capital as 64,550 employment positions are reliant on the sector (that is, the Type Three multiplier effect). The sector plays a significant role in regional economies across Australia and is, in many cases, the most significant employer in the manufacturing sector of a local economy.

National culture and identity

In addition to the actual employment generated, the sector also employs a significant proportion of multicultural staff. The employment of lower skilled workers has a positive impact in the regions. In many places the businesses have been at the forefront of the up-skilling of migrant workers.

Regional communities

Regional social capital

Regional communities benefit from the support that processors provide to the communities in which they operate. This support includes sponsorship of sporting teams and other cultural events. The training opportunities offered to staff are significant and many professional services such as employment providers, accountants and training institutions have significant dependence on processing facilities. In addition, the services required by staff and their dependents lead to improvements in infrastructure within the local communities.

7 Outlook for the Industry

7.1 Introduction

A workshop was held with representatives of AMIC, MLA, the Project Steering Committee and the GHD Hassall project team to identify the key challenges facing the red meat processing sector and to consider potential responses to these. The results of the workshop are summarised in this chapter.

7.2 Current situation

The analysis of the contribution of red meat processing to national and regional economies examines the impact of the sector on the Australian economy over the past 5 years.

The review of processor locations and the information provided by the case studies highlight the concentration of processing activities in specific states. Importantly, across all states the sector is embedded with regional cities and towns.

It is important to note that the current structure of the sector, with many medium sized businesses that have a regional footprint, means that the consequences of sector-wide changes may differ for specific regions or towns.

The red meat processing sector has low margins per head and relies on throughput and high utilisation to generate returns. The sector is currently globally competitive and has a strong reputation in international markets; in particular, for the health and hygiene standards associated with livestock production and processing.

The livestock sector has an excellent production base with extensive grazing land and the ability to produce a quality product all year round, particularly following the integration of the feedlot sector over the past decade.

Many in the sector have the flexibility to respond to changing requirements from customers, both domestically and in export markets. Strong relationships with overseas buyers enable the sector's participants to be proactive.

7.3 Key factors affecting the processing sector

The fortunes of the red meat processing sector are very dependent on relative changes in livestock and meat prices, and to a lesser extent throughput. These factors have a strong influence on trading margins, i.e. the difference between meat revenue and livestock costs. The other two key drivers of processor performance are processing costs and co-product returns.

The sector is categorised by high fixed capital costs and in the short to medium term, high labour costs. Anecdotally, there has been a move over the past 5 years towards increasing capacity utilisation by tailoring production shifts and placing an emphasis on value adding.

The pressure that arises from high livestock costs and the associated reduction in the trading margin is difficult for a business to alter. Livestock and meat prices are transparent and there is a high degree of competition amongst buyers.

Study of the Australian red meat processing sector and its contribution to national and regional economies

The response from businesses in the sector is to improve performance at an enterprise level. Any policies that can facilitate a firm acting to increase efficiency may accelerate structural adjustment within the sector.

Table 24 provides a list of the most important factors that affect the sector and presents possible responses to these.

Table 24 Factors that affect the red meat industry

Factors	Responses/Consequences
<p>Reduced supply and livestock costs:</p> <p>Production of animals for both the beef and sheepmeat processing sectors has declined as a result of the following.</p> <p>P Drought;</p> <p>P Live exports;</p> <p>P Re-stocking; and</p> <p>P A shift to other enterprises (grains).</p> <p>Particularly in the sheepmeat sector, it is unlikely that numbers will increase in the near future and may even decline as producers retain stock to build numbers from historical lows.</p>	<p>Decreased number of processing shifts, days and/or weeks worked which would:</p> <p>P Reduce overall employment;</p> <p>P Reduce economies of scale; and</p> <p>P Reduce medium term investment, including R&M.</p> <p>Some plants will close and this would reduce impacts on remaining plants, but there would be loss of employment and economic activity in processor locations (refer to Section 2.3.1 regarding the regional nature of the sector). This would likely lead to reduced community services.</p> <p>Plant closure would also reduce competition.</p>
<p>Markets and Meat Revenue:</p> <p>Many market factors are beyond the direct control of the sector and individual businesses, and include:</p> <p>P Exchange rates (e.g. an appreciating A\$ reduces the competitiveness of Australian meat exports and can result in more product being directed to the domestic market);</p> <p>P Foreign demand (e.g. Brand Australia potentially undermined if processing live animals in Indonesia and selling as Australian produce);</p> <p>P Domestic demand; and</p> <p>P Tariff and non-tariff barriers to trade (e.g. non-tariff barriers, particularly of a technical nature, have increased as a result of the global financial crisis).</p>	<p>Possible responses include:</p> <p>P Reduce unit cost of production through innovation, efficiencies, cost cutting;</p> <p>P Promotion – to try to improve market share;</p> <p>P Value-adding (e.g. Australia is not price competitive in some international markets, however its reputation for health, hygiene and traceability helps to maintain margins); and</p> <p>P Remove barriers to trade.</p>

<p>Costs of Processing Operations:</p> <p>The major factors that impact on the cost of operations include:</p> <ul style="list-style-type: none"> P Labour (e.g. risk of live exports displacing Australian processing jobs; labour regulations have reduced flexibility); P OH&S and compliance costs; P Capital requirements; P Regulatory (food safety, environmental, payroll tax disincentive, income tax); and P Transport and ancillary infrastructure (e.g. due to the relatively low volumes involved, Australia is unable to negotiate competitive shipping rates. In addition, there is an international push towards 40ft shipping containers which, when full, have the potential to exceed Australian road weight limits). <p>The magnitude of these costs is substantially less for some of Australia's key competitors, due to differences in these countries' regulations and standards.</p>	<p>Possible responses include:</p> <ul style="list-style-type: none"> P Improve training of staff to reduce turnover and OH&S issues; P Increase R&D to gain efficiencies - automation to reduce dependence on labour; P Improve availability / access to overseas labour; P Investment allowance; and P Review of regulatory requirements to ensure evidence-based outcomes and consistency between government levels.
---	--

7.4 Summary

There are a number of threats and opportunities facing the red meat processing sector, as outlined in Table 24. Each processor can respond to these factors via a range of business decisions that can result in changes in the way their capital is utilised. These business decisions will directly impact ancillary businesses (and consequently employment), and depending on the nature of the decisions, could result in long term structural changes to local and regional economies.

The recently released *Meat Industry Strategic Plan (2010-2015)*¹¹ provides a strategic basis from which industry may address these issues. Using the plan as an assessment framework could allow an articulation of impacts and the assessment of possible actions from different parts of the wider red meat industry.

Broadly speaking the policy responses available for the industry and other stakeholders include:

- P Avoidance of unnecessary structural adjustment by reducing processing costs and maximising flexibility;
- P Ensure that markets and margins are maintained by demand creation for processed products;

¹¹ Red Meat Advisory Council Limited, 2009.

P Encourage innovation and product development; and

P Prepare adequately for industry wide structural adjustment if the current conditions experienced in the sector are maintained for a sustained period.

Commonwealth and State government policies potentially impact on the responses and consequences to the many issues confronting the red meat processing industry outlined in Table 24. The industry provides benefits to the economy beyond processing *per se* as demonstrated with employment (see Table 18) in which inter-industry flow-on, consumption and investment result in 64,550 FTEs (Type Three multiplier) compared to 37,798 (Type One).

Possible government responses could include:

P Investment in road, rail and port infrastructure to improve efficiency of product movement;

P Contribution to research, development and training to increase efficiencies and improve OH&S performance;

P Assist to improve export market access conditions for Australian product;

P Provide certainty within the regulatory environment (food safety, environmental) for investment decisions; and

P Ensure flexibility in labour policies to enable a more stable employment environment.

8 Summary

8.1 The sector

The Australian meat processing sector consists of businesses engaged in slaughtering livestock (cattle, sheep and goats); boning, freezing, packaging meat; and utilising by-products and rendering.

The red meat processing sector has undergone a period of rationalisation over the past four decades. There were 500 meat processing establishments in Australia in 1972 and this had declined to 223 by 1992 (Industry Commission, 1994). Currently there are approximately 142 red meat processors in Australia that are a member of the Australian Meat Processor Corporation (AMPC, 2009).

This trend likely reflects a variety of factors such as: industrial relations reform; the move towards larger-scale operations; concentration of overseas ownership; competition for livestock from live exporters; supermarkets' developing exclusive supply agreements with larger operators; and the costs associated with meeting regulatory requirements.

This study reviews the estimates of indirect impacts of the sector on the economy and provides up to date estimates of the impacts of the Australian red meat sector at a national level. It also provides additional information on the role of the sector in regional Australia, in the form of social case studies.

The red meat value chain includes the transport of livestock, the costs of materials and services purchased to process livestock and product handling costs.

There is no single red meat value chain; however, it can be broadly classified by product and market. The three broad categories across the sector are:

- P beef processing;
- P sheep and lamb processing; and
- P multi-species processing.

8.2 Economic modelling

The economic modelling carried out as part of this study estimates that over the past 5 years the red meat processing sectors contributed the following to the national economy:

- P 37,798 jobs annually; and
- P \$3.73 billion to gross domestic product per annum.

This estimate is in line with other estimates as it is based on ABS statistics. It is based on typical throughput over this period.

The total annual employment that is reliant on the red meat processing sector is 64,554 national full time equivalent employment positions (that is the Type Three multiplier effect). The impact on gross product increases to \$6.13 billion in 2008 prices,

The modelling highlights the links between economic activities generated in Victoria, NSW and Queensland. Even though Queensland has the largest share of total red meat produced (with 37 per cent in volume terms), the state does not generate the highest benefit in terms of gross product. This is a consequence of the structure of the national economy. Victoria, Queensland and NSW have a similar

share of the national gross product generated by the Australian processed red meat sector, with 29.2, 27.8 and 24.4 per cent generated in these states respectively.

8.3 Regional impacts

The red meat processing sector generates significant employment in rural and regional areas. Eight of the top 10 Census sub-divisional areas for meat processing employment are located in rural and regional Australia.

The analysis of information provided by two case study regions reveals the importance that these operations have, even in larger regional cities. For example in the Southern New South Wales region manufacturing, within this case study region, that is linked to the red meat processing sector is 24.1 per cent.

For Colac-Otway the total employment generated by the processed red meat industry for Type Two results is 395 which is an increase of 35 positions over the direct impacts of the industry. This is relatively low because of the high leakage of expenditures to nearby regions, such as Ballarat and Melbourne.

8.4 Social impacts

In the case study areas visited, meat processing is generally the largest employer in the manufacturing sector of the economy.

In all cases there are significant local allied businesses that have developed in conjunction with the processing operations.

All case study processors have significant training operations and have based management operations in regional areas. These provide an opportunity for balanced employment across employment types. Human resources management is a key focus of these operations as there is competition for mobile workers in the form of agricultural activities and, in some cases, mining.

The businesses have close links to the community through corporate activities for charities and sporting associations as the workforce represents a large proportion of the urban population. In many places the businesses have also been at the forefront of the up-skilling of migrant workers.

8.5 Outlook

There are a number of threats and opportunities facing the red meat processing sector. Each processor can respond to these factors via a range of business decisions that can result in changes in the way their capital is utilised.

Broadly speaking the policy responses available for the industry and other stakeholders include:

P Avoidance of unnecessary structural adjustment by reducing processing costs and maximising flexibility;

P Ensure that markets and margins are maintained by demand creation for processed products;

P Encourage innovation and product development; and

P Prepare adequately for industry wide structural adjustment if current conditions experienced in the sector are maintained for a sustained period.

9 References

American Meat Institute (2009) *The Meat and Poultry Industry Economic Contribution Study: 2009*

AMPC (2009) Adapted from list of current AMPC members located on website <http://www.ampc.com.au>

Australian Bureau of Statistics (2007), *Agricultural Commodities: Small Area Data, Australia, 2006-07 for New South Wales, Queensland, South Australia, Western Australia, Victoria and Tasmania.*

Australian Bureau of Statistics (2008), *Livestock Products, Australia, September 2008 and September 2007.*

Australian Bureau of Statistics (2007, 2006), *Manufacturing Industry Australia, Industry Class 2005-2006 and 2006-2007.*

Australian Bureau of Statistics (2008), *Principal Agricultural Commodities, Australia, Preliminary, 2007-08.*

Industry Commission (1994), *Meat Processing Volume 1: Report*, Report No. 38 20 April 1994, Australian Government Publishing Service, Melbourne.

Meat and Livestock Australia (2008), *Top 25 Red Meat Processors, Calendar Year 2007.*

Meat and Livestock Australia (2009), *Types of Co-products* [Online]: Available: <http://www.mla.com.au/TopicHierarchy/InformationCentre/Coproducts/Types+of+Co-products.htm> [Accessed 17 November 2009]

Meat and Livestock Australia Fast Facts (2008), *Australia's Beef Industry*

Meat and Livestock Australia Fast Facts (2008), *Australia's Sheepmeat Industry*

National Land & Water Research Audit (2008) *Signposts for Australian Agriculture – The Australian beef industry*

Powell, R.A., Jensen, R.C. and Gibson, A.L. (1985) *The Economic Impact of Irrigated Agriculture in NSW: A Report to the NSW Irrigators' Council Limited.* Department of Agricultural economics and Business Management, University of New England, Armidale.

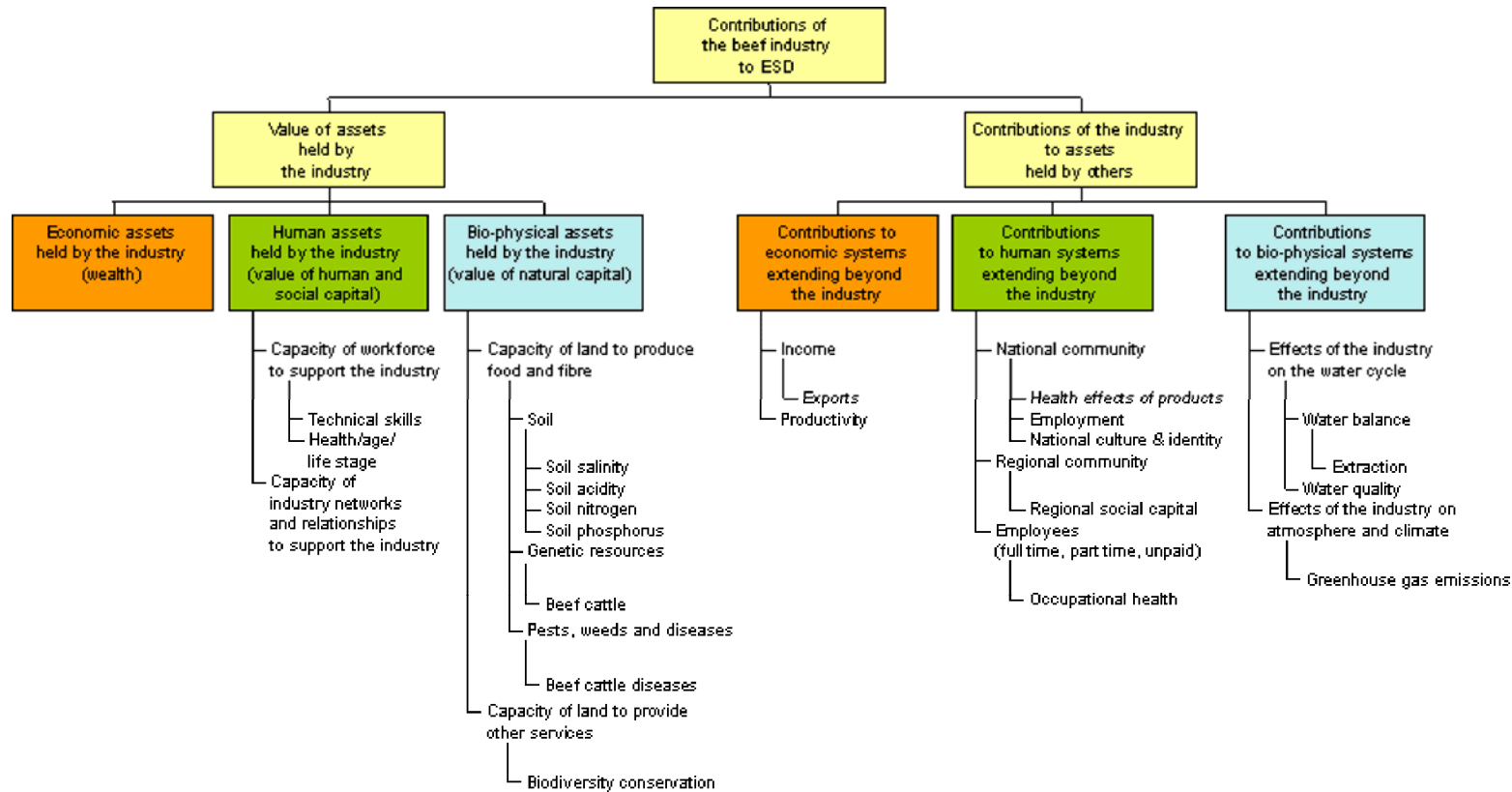
Red Meat Advisory Council (2009), *Meat Industry Strategic Plan 2010-15*

**Study of the Australian red meat processing sector and its
contribution to national and regional economies**

Appendix A
Signposts for Australian agriculture

Study of the Australian red meat processing sector and its contribution to national and regional economies

Signposts component tree for the beef industry



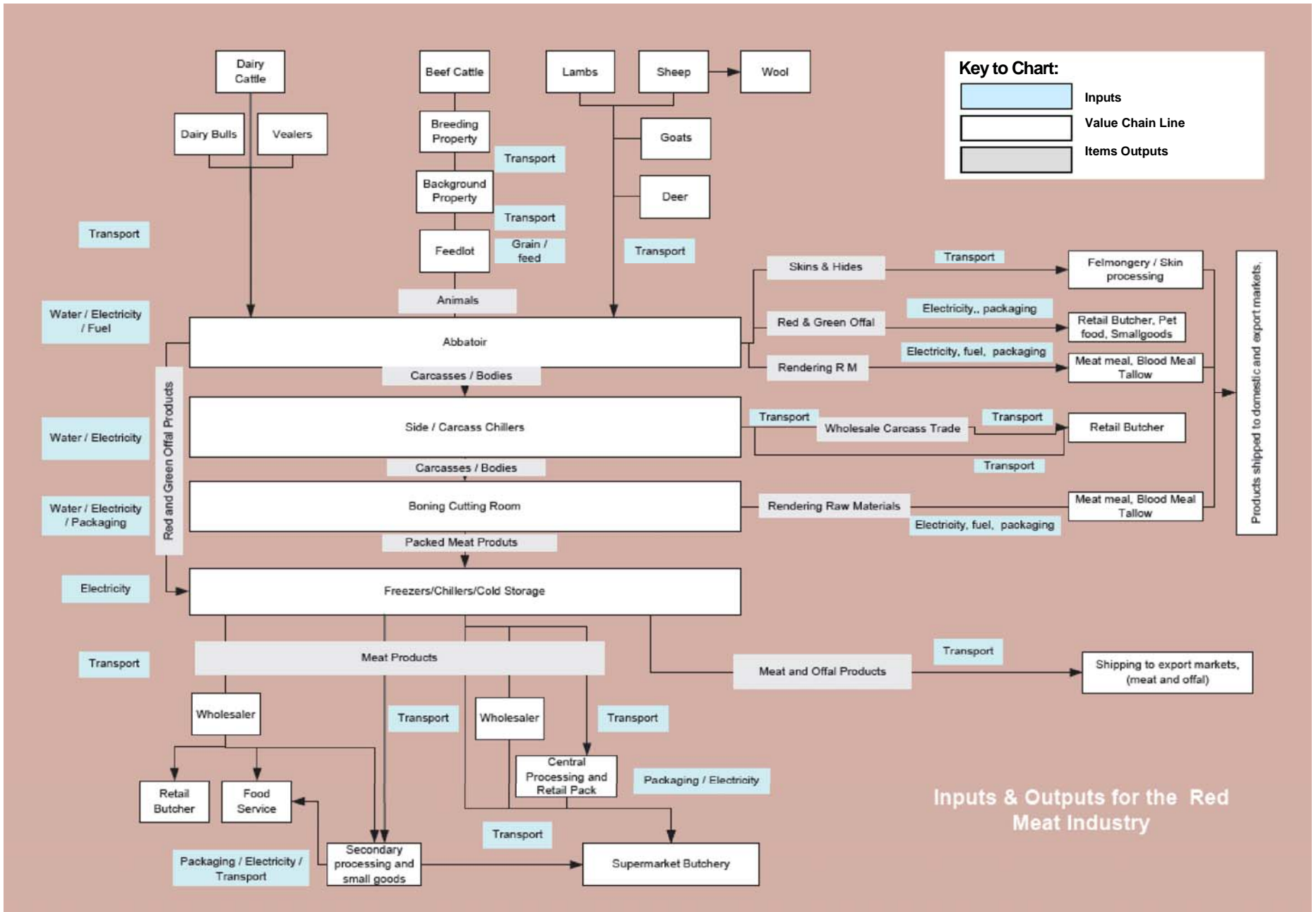
Source: National Land & Water Research Audit (2008)

Appendix B

Livestock value chain

Inputs and outputs for the red meat industry

The items in the blue boxes show the inputs required for each of the processes and outputs along the chain.



**Study of the Australian red meat processing
sector and it's contribution to national and
regional economies**

Appendix C
Economic questionnaire



GHD Hassall

Australian Red Meat Processing Sector Phone Survey

Australian Red Meat Processing Sector Phone Survey for Abattoirs

STRICTLY CONFIDENTIAL

GHD Hassall understands the commercial sensitivity of much of the information being sought and we will ensure that all information will be treated in strictest confidence. Information from individual plants will not be shared with any agencies or other plants and will be used solely for the purpose of completing this analysis. Our report will be written so that identities of contributors will be protected.

It is preferable for this survey to be partially completed by you in the first instance and we will then call you to discuss your responses. We will contact you in the near future to arrange a suitable interview date and time. If you have any questions please contact the Project Manager.

Thank you for your participation.

Section A: Overview of the company:

1. Company Name:
2. Contact Name:
3. Contact Phone Number: _____
4. Abattoir Location:
5. Type of Abattoir: Domestic Domestic & Export
 Export
6. What species are processed in your abattoir? (Please fill in all relevant boxes)

Annual Production	Cattle	Sheep	Lambs	Other
Annual Slaughter Number				
Carcase weight equivalent from slaughter floor (t)				
Weight of boned product leaving plant (t)				
Weight of carcase product leaving plant (t)				
Offal for human consumption (t)				
Pet food (t)				
Hides (pieces)				
Skins (pieces)				
Meat meal (t)				
Tallow (t)				
Other product				

Study of the Australian red meat processing sector and its contribution to national and regional economies

Strictly Confidential

April 2009

Page 1 of 6



Australian Red Meat Processing Sector Phone Survey

Please list what species make up the 'other' category: _____

Section B: Livestock buying costs

7. Please provide an estimate of your annual operating costs associated with purchasing livestock:

Expenditure Item	Annual Costs (\$)		
	Cattle	Sheep	Lambs
Purchase price of livestock (on-farm or saleyard price or from feedlot)	\$	\$	\$
Transport from farm to feedlot/abattoir	\$	\$	\$
Buying costs – agents, contract buyers, company buyers	\$	\$	\$
Other	\$	\$	\$

8. What percentage of livestock buying is conducted by:

Buying type	Percentage of yearly purchase
Agents	
Contract buyers	
Company buyers	
Total	100%



Australian Red Meat Processing Sector Phone Survey

Section C: Feedlot

9. Please indicate the average throughput of animals in your feedlot per year.

Species	Throughput per year	Deaths per year
Cattle		
Sheep		
Lamb		

Is this typical of an average year: yes / no

10. What costs are related to the feedlot side of your business:

Expenditure Item	Annual Costs (\$)	Details / Comments (e.g. Vet Fees, Drenches, Feed supplies etc)
Feed Costs	\$	
Animal Health Products	\$	
Veterinary Services	\$	
Repairs & Maintenance Costs	\$	
Effluent/ Environmental Management (e.g. removal of bio-wastes etc)	\$	
Labour	\$	
MLA Levy	\$	
Other	\$	
Total	\$	



GHD Hassall

Australian Red Meat Processing Sector Phone Survey

Section D: Abattoir costs

11. Please provide an estimate of the annual operating costs associated with the abattoir and the percentage for each sector?

Item	\$/year	Slaughter floor %	Boning room %	Offal % (human & petfood)	Skins & hides %	Rendering %
Labour – wages	\$					
Labour – on-costs (super, workers comp etc)	\$					
General insurance	\$					
Training	\$					
Electricity and Gas	\$					
Fuel	\$					
Water, sewerage, effluent, irrigation	\$					
Repairs and Maintenance - Plant and Machinery	\$					
Consumables (chemicals, knives, PPE, tags etc)	\$					
Packaging (boxes, cryovac bags etc)	\$					
Inspection and Licences (AQIS, EPA, Safefood, etc)	\$					
Industry Levies (AMPC)	\$					
Council Rates	\$					
Office/ Admin Expenses (excluding wages)	\$					
Security	\$					
Contract Cleaning	\$					
Other	\$					
Total operating costs	\$					



GHD Hassall

Australian Red Meat Processing Sector Phone Survey

Section E: Costs from plant to market

12. What are the annual costs involved in sending product to market?

Expenditure Item	Carcases	Boned product	Offal for human consumption	Offal pet food	Hides/skins	Meat meal and tallow
Transport to wharf/wholesaler	\$	\$	\$	\$	\$	\$
Transport/shipping to export destination	\$	\$	\$	\$	\$	\$
Insurance	\$	\$	\$	\$	\$	\$
Agents	\$	\$	\$	\$	\$	\$
Other	\$	\$	\$	\$	\$	\$

Section F: Staffing

13. Please provide an indication of staff numbers at your plant and the proportion of the payroll which each sector contributes:

Operation	Full Time	Part Time		Total	Proportion of Payroll (%)
		Total	FTE	FTE	
Feedlot					%
Slaughter Chain					%
Boning Room					%
Rendering					%
Hides/skins					%
Offal (human and petfood)					%
Admin/Office					%
Security					%
Cleaning					%
Load out					%
Other					%



Australian Red Meat Processing Sector Phone Survey

Section G: Further Comments

Thank you for your participation.

Appendix D

Value chains

These costs are indicative and are based on discussions with key informants, processors and relevant industry bodies. They have been aggregated in order to obtain representative purchase, processing and other operating costs for each value chain

Study of the Australian red meat processing sector and it's contribution to national and regional economies

21/18038

Project A.CIS.0016
Study of the Australian Red Meat Processing Sector and its Contribution to National and Regional Economies

Study of the Australian red meat processing sector and it's contribution to national and regional economies

CONFIDENTIAL



GHD Hassall

Average c/kg	249	
Dress Weight kg	245	
Total Value	\$610.05	
Australian Red Meat Processing Sector		
	Margin	1.5%
Notional Value	Beef - Manufacturing	
Chain Purchase cost		
Farm Gate Price	\$610.05	
Buying Costs, - agents, contract buyers, company buyers	\$17.51	
Sub Total	\$627.56	73.59%
Road Transport		
Transport to plant	\$26.99	
Sub Total	\$26.99	3.16%
Processing costs		
Labour	\$83.37	
Energy (Incl elect, gas and fuel)	\$13.11	
Water, Sewerage, Effluent & Irrigation	\$1.91	
Repairs & Maintenance	\$8.08	
Consumables/ Packaging	\$14.39	
Inspection Charges & Licenses	\$3.96	
Levies	\$1.29	
Contract Cleaning	\$2.00	
Training	\$8.33	
General Insurance	\$4.98	
Other	\$2.26	
Sub Total	\$143.68	16.85%
Post processing costs		
Transport to Wharf/ Wholesaler	\$23.00	
Insurance	\$0.80	
Agents		
Sub Total	\$23.80	2.79%
Total Purchase and Operating Costs Per Head	\$822.03	
Additional Costs (\$/head)		
Council Rates	\$0.21	
Office / Admin	\$6.81	
Security	\$0.05	
Depreciation	\$18.63	
Interest	\$5.05	
Sub Total	\$30.75	3.61%
Total Costs per Head (Purchase, Processing, Overheads)	\$852.78	100%
Margin per head	\$12.79	
Estimated Margin % (Over Long Run)	1.5%	
Total Costs + Margin (%)	\$865.57	



GHD Hassall

Average c/kg	305	
Dress Weight kg	270	
Total Value	\$823.50	
Australian Red Meat Processing Sector		
	Margin	1.5%
Notional Value	Beef - Export Grass	
Chain Purchase cost		
Farm Gate Price	\$823.50	
Buying Costs, - agents, contract buyers, company buyers	\$8.76	
Sub Total	\$832.26	71.73%
Road Transport		
Transport to plant	\$20.00	
Sub Total	\$20.00	1.72%
Processing costs		
Labour	\$158.40	
Energy (Incl elect, gas and fuel)	\$11.16	
Water, Sewerage, Effluent & Irrigation	\$3.07	
Repairs & Maintenance	\$14.29	
Consumables/ Packaging	\$34.35	
Inspection Charges & Licenses	\$2.85	
Levies	\$1.68	
Contract Cleaning	\$1.00	
Training	\$0.28	
General Insurance	\$1.94	
Other	\$13.20	
Sub Total	\$242.22	20.88%
Post processing costs		
Transport to Wharf/ Wholesaler	\$29.75	
Insurance	\$0.62	
Agents	\$2.02	
Sub Total	\$32.39	2.79%
Total Purchase and Operating Costs Per Head	\$1,126.87	
Additional Costs (\$/head)		
Council Rates	\$0.32	
Office / Admin	\$4.50	
Security	\$0.88	
Depreciation	\$21.23	
Interest	\$6.45	
Sub Total	\$33.38	2.88%
Total Costs per Head (Purchase, Processing, Overheads)	\$1,160.25	100%
Margin per head	\$17.40	
Estimated Margin % (Over Long Run)	1.5%	
Total Costs + Margin (%)	\$1,177.65	



GHD Hassall

Average c/kg	295	
Dress Weight kg	220	
Total Value	\$649.00	
Australian Red Meat Processing Sector		
Margin		1.5%
Notional Value		Beef - Domestic
Chain Purchase cost		
Farm Gate Price	\$649.00	
Buying Costs, - agents, contract buyers, company buyers	\$8.76	
Sub Total	\$657.76	72.09%
Road Transport		
Transport to plant	\$15.10	
Sub Total	\$15.10	1.66%
Processing costs		
Labour	\$113.95	
Energy (Incl elect, gas and fuel)	\$12.13	
Water, Sewerage, Effluent & Irrigation	\$2.49	
Repairs & Maintenance	\$11.18	
Consumables/ Packaging	\$22.82	
Inspection Charges & Licenses	\$3.40	
Levies	\$1.49	
Contract Cleaning	\$1.00	
Training	\$4.30	
General Insurance	\$3.46	
Other	\$7.73	
Sub Total	\$183.95	20.16%
Post processing costs		
Transport to Wholesaler	\$20.73	
Insurance	\$0.62	
Agents	\$2.02	
Sub Total	\$23.37	2.56%
Total Purchase and Operating Costs Per Head	\$880.18	
Additional Costs (\$/head)		
Council Rates	\$0.26	
Office / Admin	\$5.66	
Security	\$0.46	
Depreciation	\$19.93	
Interest	\$5.89	
Sub Total	\$32.20	3.53%
Total Costs per Head (Purchase, Processing, Overheads)	\$912.38	100%
Margin per head	\$13.69	
Estimated Margin % (Over Long Run)	1.5%	
Total Costs + Margin (%)	\$926.07	

Average c/kg	340	
Dress Weight kg	200	
Total Value	\$680.00	
Australian Red Meat Processing Sector		Margin 1.5%
Notional Value		Beef - Feedlot (Domestic)
Chain Purchase		
Farm Gate Price	\$680.00	
Buying Costs, - agents, contract buyers, company buyers	\$8.76	
Sub Total	\$688.76	60.13%
Feedlot Costs		
Transport (in and out)	\$18.50	
Feed Costs	\$143.10	
Animal Health Products	\$6.50	
Veterinary Services	\$5.00	
Repairs and Maintenance Costs	\$0.67	
Effluent/Environmental Management	\$0.55	
Water Supply	\$0.25	
Labour	\$10.80	
MLA Levy	\$5.00	
NLIS Tags	\$2.00	
Other	\$1.10	
Sub Total - Feedlot	\$193.47	16.89%
Road Transport		
Transport to plant	\$20.00	
Sub Total	\$20.00	1.75%
Processing costs		
Labour	\$113.95	
Energy (Incl elect, gas and fuel)	\$12.13	
Water, Sewerage, Effluent & Irrigation	\$2.49	
Repairs & Maintenance	\$11.18	
Consumables/ Packaging	\$22.82	
Inspection Charges, Licenses & MSA	\$6.40	
Levies	\$1.49	
Contract Cleaning	\$1.00	
Training	\$4.30	
General Insurance	\$3.46	
Other	\$7.73	
Sub Total	\$186.95	16.32%
Post processing costs		
Transport to Wholesaler	\$20.73	
Insurance	\$0.62	
Agents	\$2.02	
Sub Total	\$23.37	2.04%
Total Purchase and Operating Costs Per Head	\$1,112.55	
Additional Costs (\$/head)		
Council Rates	\$0.32	
Office / Admin	\$4.50	
Security	\$0.88	
Depreciation	\$21.23	
Interest	\$5.89	
Sub Total	\$32.82	2.87%
Total Costs per Head (Purchase, Processing, Overheads)	\$1,145.37	100%
Margin per head	\$17.18	
Estimated Margin % (Over Long Run)	1.5%	
Total Costs + Margin (%)	\$1,162.55	

Average c/kg	360	
Dress Weight kg	320	
Total Value	\$1,152.00	
Australian Red Meat Processing Sector		
	Margin	1.5%
Notional Value	Beef - Feedlot (Export)	
Chain Purchase		
Farm Gate Price	\$1,152.00	
Buying Costs, - agents, contract buyers, company buyers	\$8.76	
Sub Total	\$1,160.76	62.66%
Feedlot Costs		
Transport (in and out)	\$25.00	
Feed Costs	\$300.00	
Animal Health Products	\$6.50	
Veterinary Services	\$5.00	
Repairs and Maintenance Costs	\$0.75	
Effluent/Environmental Management	\$0.62	
Water Supply	\$0.28	
Labour	\$18.80	
MLA Levy	\$5.00	
NLIS Tags	\$2.00	
Other	\$1.24	
Sub Total - Feedlot	\$365.19	19.71%
Road Transport		
Transport to plant	\$20.00	
Sub Total	\$20.00	1.08%
Processing costs		
Labour	\$158.40	
Energy (Incl elect, gas and fuel)	\$11.16	
Water, Sewerage, Effluent & Irrigation	\$3.07	
Repairs & Maintenance	\$14.29	
Consumables/ Packaging	\$34.35	
Inspection Charges & Licenses	\$2.85	
Levies	\$1.68	
Contract Cleaning	\$0.00	
Training	\$0.28	
General Insurance	\$1.94	
Other	\$13.20	
Sub Total	\$241.22	13.02%
Post processing costs		
Transport to Wharf/ Wholesaler	\$29.75	
Insurance	\$0.62	
Agents	\$2.02	
Sub Total	\$32.39	1.75%
Total Purchase and Operating Costs Per Head	\$1,819.56	
Additional Costs (\$/head)		
Council Rates	\$0.32	
Office / Admin	\$4.50	
Security	\$0.88	
Depreciation	\$21.23	
Interest	\$5.89	
Sub Total	\$32.82	1.77%
Total Costs per Head (Purchase, Processing, Overheads)	\$1,852.38	100%
Margin per head	\$27.79	
Estimated Margin % (Over Long Run)	1.5%	
Total Costs + Margin (%)	\$1,880.17	



GHD Hassall

Average c/kg	Lams - 463c/kg Sheep - 282c/kg	
Dress Weight kg	Lams -19kg Sheep 21kg	
Total Value	Lams - \$88, Sheep \$59.22	
Australian Red Meat Processing Sector		
	Margin	1.5%
Notional Value Chain		
Integrated Sheep & Lambs		
Purchase cost		
Farm Gate Price	\$63.76	
Buying Costs, - agents, contract buyers, company buyers	\$0.45	
Sub Total	\$64.21	64.99%
Road Transport		
Transport to plant	\$3.50	
Sub Total	\$3.50	3.54%
Processing costs		
Labour	\$15.06	
Energy (Incl elect, gas and fuel)	\$1.43	
Water, Sewerage, Effluent & Irrigation	\$0.42	
Repairs & Maintenance	\$1.18	
Consumables/ Packaging	\$3.02	
Inspection Charges & Licenses	\$0.61	
Levies	\$0.15	
Contract Cleaning	\$0.68	
Training	\$0.14	
General Insurance	\$0.25	
Other	\$2.04	
Sub Total	\$24.98	25.28%
Post processing costs		
Transport to Wharf/ Wholesaler	\$2.57	
Insurance	\$0.06	
Agents		
Sub Total	\$2.63	2.66%
Total Purchase and Operating Costs Per Head		
	\$95.32	
Additional Costs (\$/head)		
Council Rates	\$0.04	
Office / Admin	\$0.48	
Security	\$0.09	
Depreciation	\$2.02	
Interest	\$0.85	
Sub Total	\$3.48	3.52%
Total Costs per Head (Purchase, Processing, Overheads)		
	\$98.80	100%
Margin per head		
	\$1.48	
Estimated Margin % (Over Long Run)		
	1.5%	
Total Costs + Margin (%)		
	\$100.28	



GHD Hassall

Average c/kg		
Dress Weight kg		
Total Value		
Australian Red Meat Processing Sector	Margin	1.5%
Notional Value	Multi-Species Unit (Service Works)	
Chain Purchase cost		
Farm Gate Price	\$113.60	
Buying Costs, - agents, contract buyers, company buyers	\$0.79	
Sub Total	\$114.39	56.68%
Road Transport		
Transport to plant	\$8.70	
Sub Total	\$8.70	4.31%
Processing costs		
Labour	\$36.21	
Energy (Incl elect, gas and fuel)	\$3.47	
Water, Sewerage, Effluent & Irrigation	\$1.19	
Repairs & Maintenance	\$4.11	
Consumables/ Packaging	\$6.72	
Inspection Charges & Licenses	\$1.16	
Levies	\$0.50	
Contract Cleaning	\$1.50	
Training	\$0.34	
General Insurance	\$0.85	
Other	\$1.89	
Sub Total	\$57.94	28.71%
Post processing costs		
Transport to Wharf/ Wholesaler	\$15.32	
Insurance	\$0.07	
Agents		
Sub Total	\$15.39	7.63%
Total Purchase and Operating Costs Per Head	\$196.42	
Additional Costs (\$/head)		
Council Rates	\$0.10	
Office / Admin	\$0.53	
Security	\$0.10	
Depreciation	\$3.50	
Interest	\$1.15	
Sub Total	\$5.38	2.67%
Total Costs per Head (Purchase, Processing, Overheads)	\$201.80	100%
Margin per head	\$3.03	
Estimated Margin % (Over Long Run)	1.5%	
Total Costs + Margin (%)	\$204.83	

Appendix E

Livestock slaughters – state and national breakdown

**Study of the
Australian red meat
processing sector and
it's contribution to
national and regional
economies**



Study of the Australian red meat processing sector and it's contribution to national and regional economies

State	Queensland	
Cattle and Calves		3,719,000
Beef - Manufacturing		5%
Beef -Grass Export		50%
Beef - Domestic		10%
Beef - Feedlot (Domestic)		15%
Beef - Feedlot (Export)		15%
Multispecies		5%
Total		100%

State	New South Wales	
Cattle and Calves		1,915,600
Beef - Manufacturing		5%
Beef -Grass Export		25%
Beef - Domestic		30%
Beef - Feedlot (Domestic)		15%
Beef - Feedlot (Export)		15%
Multispecies		10%
Total		100%

State	Victoria	
Cattle and Calves		2,091,800
Beef - Manufacturing		20%
Beef -Grass Export		10%
Beef - Domestic		30%
Beef - Feedlot (Domestic)		10%
Beef - Feedlot (Export)		10%
Multispecies		20%
Total		100%

State	Western Australia	
Cattle and Calves		465,600
Beef - Manufacturing		10%
Beef -Grass Export		5%
Beef - Domestic		35%
Beef - Feedlot (Domestic)		10%
Beef - Feedlot (Export)		10%
Multispecies		30%
Total		100%

State	South Australia	
Cattle and Calves		348,200
Beef - Manufacturing		10%
Beef -Grass Export		5%
Beef - Domestic		35%
Beef - Feedlot (Domestic)		10%
Beef - Feedlot (Export)		10%
Multispecies		30%
Total		100%

State	Tasmania	
Cattle and Calves		251,800
Beef - Manufacturing		20%
Beef -Grass Export		10%
Beef - Domestic		30%
Beef - Feedlot (Domestic)		10%
Beef - Feedlot (Export)		10%
Multispecies		20%
Total		100%

Territory	Northern Territory	
Cattle and Calves		6,000
Beef - Manufacturing		
Beef -Grass Export		
Beef - Domestic		80%
Beef - Feedlot (Domestic)		15%
Beef - Feedlot (Export)		5%
Total		100%

NATIONAL		
Cattle and Calves		8,798,000
Sheep and Lambs		30,086,200
Beef -Grass Export		48.0%
Beef - Domestic		15.0%
Beef - Feedlot (Domestic)		15.0%
Beef - Feedlot (Export)		10.0%
Beef - Manufacturing		7.0%
Multispecies		5.0%
TOTAL		100%

Numbers based on 5 year slaughter by state averages

Study of the Australian red meat processing sector and it's contribution to national and regional economies

State	Queensland
Sheep and Lambs	1,235,800
Sheep and Lambs	90%
Multispecies	10%
TOTAL	100%

State	New South Wales
Sheep and Lambs	7,880,400
Sheep and Lambs	80%
Multispecies	20%
TOTAL	100%

State	Victoria
Sheep and Lambs	11,130,000
Sheep and Lambs	70%
Multispecies	30%
TOTAL	100%

State	Western Australia
Sheep and Lambs	4,681,400
Sheep and Lambs	80%
Multispecies	20%
TOTAL	100%

State	South Australia
Sheep and Lambs	4,348,600
Sheep and Lambs	80%
Multispecies	20%
TOTAL	100%

State	Tasmania
Sheep and Lambs	810,000
Sheep and Lambs	80%
Multispecies	20%
TOTAL	100%

NATIONAL	
Sheep and Lambs	30,086,200
Sheep and Lambs	85%
Multispecies	15%

TOTAL 100%