

Organic Gippsland: What's it Worth?

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Table of Contents

Executive Summary.....	1
1 Introduction.....	3
2 Background	4
2.1 Organic farming - what is it?	4
2.2 Organic Gippsland – changing agriculture	4
2.3 National and global statistics	5
2.4 Reasons for the growth in the market place	5
2.5 The importance of data	6
3 Producer survey	8
3.1 Methodology	8
3.2 Number of farmers.....	8
3.3 Land and landholders – some characteristics	9
3.3.1 Land.....	9
3.3.2 Farming experience.....	9
3.4 Labour.....	11
3.5 Production and sales	11
3.5.1 Total gross returns – an overview.....	11
3.5.2 Horticulture.....	12
3.5.3 Beef and sheep.....	14
3.5.4 Dairy	15
3.5.5 Other livestock and livestock products.....	16
3.5.6 Ancillary activities	16
3.6 Summary and conclusions.....	17
4 Emerging trends: some case studies.....	19
4.1 Export opportunities	19
4.1.1 Dairy	19
4.1.2 Pureharvest (Drouin).....	19
4.1.3 Radford’s Abattoir (Warragul)	20

4.2	Innovation in marketing	20
4.2.1	Food hubs.....	20
4.2.2	Farmers markets	21
5	Recommendations.....	22
5.1	Improve organic industry data collection.....	22
5.2	Support the organic sector.....	22
5.3	Recognize non-monetary values	22
	Appendix 1: Australian AQIS Accredited Certifiers.....	24
	Appendix 2: Letter to Growers.....	25
	Appendix 3: Questionnaire.....	26

Executive Summary

Aim of this report:

The aim of the report is to establish the nature and farm-gate value of Gippsland's organic farming industry in terms of both monetary and non-monetary values.

The study:

The study collected information from 38 organic farms in Gippsland, representing 88 per cent of an identified possible total group of 43 farmers, and a likely larger percentage of total production. Data were collected with the aid of a questionnaire, interviews and industry sources. In addition, examples of organic export and innovative marketing methods were provided.

The findings:

- The total farm-gate value of the organic industry was \$14.5 million for 2015. Horticulture is the largest sector (\$8.35 million) followed by dairy (\$4.63 million) and beef (\$1.16 million).
- The potential for growth of the organic farming industry in Gippsland appears to be strong due to a number of factors. Apart from the natural environment including reliable rainfall and soil quality, grower interest and a booming market for organic produce are likely to be contributing factors.
- There is a big range of business sizes, with some very large, medium and many small scale producers able to generate satisfactory livelihoods, this last group possibly because of premiums based on organic branding and short supply chains.
- Organic farming has been practised for many years in Gippsland, with some farmers starting 40 (vegetables), 19 (beef) and 26 (dairy) ago. On average, organic farming had been practised close to 16 years by vegetable farmers, 13 by dairy farmers, and almost 12 by beef farmers.
- The average age of organic farmers in the group was 55 years. This could represent a risk factor for the industry as the current cohort moves into retirement. However, this age is lower than for the conventional comparison. Although the uptake by the next generation is uncertain, several organic farms were operating with more than one generation.
- 90 full time equivalent jobs were generated by the businesses surveyed. Over half of these (63 per cent) were within families.
- Examples of growth possibilities are discussed for organic exports such as dairy, meat and other foods, and innovative marketing possibilities such as food hubs and farmers markets.

Implications:

Existing reporting mechanisms to capture the current profile of the industry are inadequate and compromised by the potential for incomplete data and problems with interpretation to erode industry confidence in the results

- A lack of well-established reporting protocols has a limiting effect on the ability of the industry to plan and market its own development. This further limits investor engagement.
- The availability of social media and other E-based marketing is likely to be an increasingly significant factor for the financial viability of smaller niche producers.

Recommendations:

- That an independent body be established that is responsible for undertaking the collection of data on the organic industry in Gippsland bi-annually, and maintaining the data base;.
- That a more pro-active and involved role for government at state and local levels, and for regional bodies, be pursued to become better informed about the industry and consumer trends, so that effective lobbying and advocacy can take place for the organic sector to capitalise on emerging opportunities for growth and innovation.
- That a formal triple bottom line accounting approach be incorporated to study and report on the industry, with consideration given to social and environmental as well as financial values generated.

1 Introduction

In 2014 Regional Development Australia launched the Gippsland Food Plan after two years of deliberation and development by the Gippsland Food Plan Steering Committee. During the course of that work organic agriculture was identified as an important agricultural sector in Gippsland with recognition given to the opportunities that exist for food producers to participate in the rapidly expanding local and global markets for organic food. At the same time it was revealed that very little was understood of the extent or value of organic farming activity in Gippsland and certainly no data existed to describe this. Funded by Regional Development Australia, this report is a response to that knowledge gap. It is significant that this will be the first time a region in Australia has conducted research into its organic industry.

This report serves to provide an overview of organic production at the farm gate for the purposes of investment decision-making and support for the sector in an environment where the interest in and consumption of organic products is at an all-time high and markets are undersupplied. It will:

- Provide a snapshot and benchmark of the value and extent of Gippsland's organic industry at the farm gate;
- Identify as case studies:
 - emerging export markets;
 - emerging and innovative marketing and economic development activities;
- Create an up-to-date data base of growers.

2 Background

2.1 Organic farming - what is it?

Definition

Organic agriculture can mean many things to many people but most meanings converge to describe it as a production system that relies more heavily on ecosystem management rather than external inputs, such as synthetic fertilisers and pesticides. The definition of organic farming is often focussed on what it leaves out but this needs to be extended to a focus on what organic farming incorporates in a broader sense in its practice. In organic farming the success of the farming system is fundamentally determined by the health of the living soil. Farmers are therefore required to actively manage their soil by using such methods as crop rotations, green manure crops, compost and soil amendments to improve soil fertility and avoid pest problems. Maintaining healthy soil can eliminate the need for synthetic pesticides and fertilisers, veterinary treatments and seed from genetically modified sources. The 'certified organic' label is the consumer guarantee that food labelled as such is grown and processed without the use of any of these inputs.

Regulation

For purposes of trade and the market place, formal industry standards have been formulated by the International Federation of Organic Agriculture Movements (IFOAM) and private certification bodies servicing the sector with regulations established as law are in operation in a growing number of sovereign states around the world. In addition, the United Nations Food and Agriculture Organization (FAO) Codex Alimentarius Committee has established Guidelines for the Production, Processing, Marketing and Labelling of Organically Produced Foods to assist the facilitation of international trade. The standards referenced across the world are, in the main, compatible. In Australia, the National Standard for Organic and Biodynamic Products was developed in 1991 and is the reference document for certification of operators in the domestic market here in Australia. It is legally binding for those operators wishing to export, assuring compliance to many importing countries' requirements. Currently there are six certification bodies accredited with the Australian Government's AQIS (Australian Quarantine and Inspection Service, see Appendix 1). It is within this context that trade in the organic marketplace takes place.

2.2 Organic Gippsland – changing agriculture

Gippsland's strengths as a food producing region are well documented (Gippsland Food Plan, RDV Gippsland, 2014). Reliable rainfall and fertile soils, and close proximity to markets with established transport infrastructure have together enabled a wide diversity of agricultural production and value-adding industries, most of which include organic businesses.

The region has a long and proud history of organic agriculture with some significant pioneers and early adopters of organic farming inspiring others to change to organic practices. Pioneers such as South Gippsland dairy farmers Ron and Bev Smith have been farming organically since the early 1980s and became the centre piece of some of the first formalised organic agriculture training programs offered. From as early as 1997 private providers (Integrated Agriculture, Bioscape), industry groups (Organic Dairy Farmers of Australia, Gippsland Organic Livestock Inc., Organic

Agriculture Australia Inc.) and TAFE colleges (East Gippsland TAFE) delivered training in conversion to organic agriculture to farmers across Gippsland. These training programs contributed to the conversion of farmers to organic practices and their participation in organic certification programs.

More recently, organic approaches to soil management have inspired changing agriculture practices in Gippsland, with Catchment Management Authorities and Landcare leading the trend. From 2009 through to 2013, over 2000 farmers were engaged in field days, trials and discussions to consider the benefits of managing soil ecosystems for carbon sequestration, pH control, building soil fertility, creating humus and increasing soil water holding capacity. Feedback from these projects highlights the desire of farmers to know more about soil biology and the implementation of soil health management practices on their farms (WGCMA 2010):

‘Thinking about soil health is quite new to people.’ (farmer);

‘Engaging with people with diverse backgrounds, philosophies/perspectives presenting their views on soil health was provocative.’ (contractor);

‘There is now greater acceptance of and support for what would have been considered alternative practices.’ (past program leader).

The great interest shown in the understanding of soil biology and soil management practices through these projects has been a catalyst for change in farmer practice in agriculture across Gippsland.

2.3 National and global statistics

The size of the organic market can be measured in different ways, such as by total area under organic cultivation or in income from organically-grown products. The Swiss Research Institute of Organic Agriculture FIBL together with the International Federation of Organic Agricultural Movements (IFOAM – Organics International) report annually on statistics and emerging trends around the world, including Australia.

Their 2016 report cites a total area under organic management of 43.7 million hectares world-wide in 2014. At 18.3 million hectares, Australia has by far the largest area of land under organic management (including organic and ‘in-conversion’) of any country, due to the inclusion of vast grazing properties.

Total world retail sales for organic agriculture were reported as \$US 80 billion in 2014, though no figures were provided for Australia. Farm-gate values of the Australian market for 2014 were reported by Australian Organic (AOMR 2014) to total \$476 million¹.

2.4 Reasons for the growth in the market place

Agriculture expansion worldwide has benefitted from increased investment in science and technology. In more industrialised countries the results have been intensification, specialisation, greater productivity and lower food prices. Despite these advancements food security remains a

¹ For a critique on the data by AOMR (2014) see Wynen (2016).

problem in many countries. At the same time, diet-related diseases caused by over-consumption, such as diabetes and heart disease, are becoming epidemic in scale.

While industrialised agriculture has become highly efficient at producing food, increased production has come at high environmental cost and has led to expensive land rehabilitation programs. There is a growing public disapproval of this industrialised model of development, creating ever-increasing pressure to reduce the use of agricultural inputs and practices that are dangerous to human health and damage the environment.

In this context there is an increasing interest in organic agriculture. Organic agriculture represents an alternative and more holistic model of agriculture and food production that directly addresses problems generated by conventional agriculture practices. Concern for the environment, livestock welfare and food quality are fundamental to the philosophy and ethics of organic agriculture.

The remarkable growth over the past 25 years of organic agriculture world-wide is a response to these concerns. Ultimately the greatest single reason for the expansion of the sector can be attributed to consumers' *willingness to pay* for products of agriculture that come with an associated set of ethical, environmental and food quality values.

2.5 The importance of data

This report represents the first regional data collected in Australia on the organic industry.

Comprehensive data are an important tool for stakeholders, such as industry, investors, policy makers and those who advise these sectors. They can be useful in supporting strategies for organic agriculture and markets as well as for monitoring the impact of activities in organic agriculture. Current data for the Australian industry are sketchy. Though bi-annual marketing reports have been published in Australia by one of the industry players (Australian Organic) since 2006, the accuracy of the reporting has not been adequate to ensure investor confidence (see Wynen 2016).

Regular data collection provides important trend data. This report will set a benchmark for the future monitoring and reporting of the industry and will serve as a basis to estimate growth rates and make projections necessary to inform investment decisions in Gippsland.

With this benchmark established, future data may provide a more accurate picture of both public and private investment, identify current and future research needs, produce recommendations for change in policy or programs needed for growth in organic production, provide descriptions of market trends and so contribute to development of organic products.

Data and investment

Gippsland is recognised as a strong dairy-producing region, making it an ideal platform for growth of the organic dairy farming industry. This established reputation has influenced the decision by Tasmanian-based organic dairy processor Bellamy's to collaborate with Fonterra at Darnum in Gippsland to process organic infant formula for the Chinese market. The availability of good data can give greater confidence to business planning and investment.

Good data enables sound investment decisions into the industry. For example, several farmers in the present survey volunteered information about the hesitancy of banks to lend money to potentially quite profitable organic farming enterprises. In one case a loan was refused; in another case a loan had been extended at an interest rate of close to 20 per cent – a rate usually applied to risky businesses. In such a case, more information about the profitability of organic farming could enhance the willingness of banks to offer business conditions appropriate to that industry, based on hard data instead of on assumptions or prejudice.

Data as a planning tool for farmers

Trend data can help organic producers and those considering transitioning to organic production to be better informed about trends in demand and supply, production challenges and price premiums. Access to the data base of growers can assist in finding efficiencies regarding, for instance, logistics; creating grower groups to exchange knowledge; or start cooperatives to enhance marketing opportunities.

Data in this study

Current data collection methods in Australia have been found to be flawed and market reports based upon them brought under scrutiny (Wynen 2016). Despite the industry being well established with internationally recognised standards and export activity regulated by the Australian Government, the industry as a whole has not yet agreed on an appropriate independent and trusted mechanism to collect and report on data across all certified organic sectors. As it stands, published data is based on two sources. One is the incomplete information from certifiers and the industry and the use (in the past) of questionable relationships to estimate upstream and downstream values. The other is the interpretation of data – in some years - collected by the Australian Bureau of Statistics (ABS) which has its problems regarding an accurate picture of the organic sector. This investigation aims to address those flaws by using more accurate methods to identify growers and collect information from the whole of the population of organic farmers in Gippsland (see Section 3).

Data for Australian organic agriculture in the future

Given the six accredited certification bodies are required to collect data annually from their operators, an opportunity does exist for this data to be made consistent, to be aggregated and analysed for use by industry players, investors and business decision makers. This is discussed more extensively in Wynen(2016).

3 Producer survey

3.1 Methodology

The size of the Gippsland organic industry in this study was determined by a survey of all organic farmers in the area.

The first step in undertaking a survey of organic farmers in Gippsland involved drawing up a list of all organic farmers from:

1. an existing list available from the Victorian Organic Products Directory 2009;
2. websites of Australian Certification Bodies;
3. known farmers and industry players; and
4. local government sources.

Farms were considered to be organic if they were certified by a recognised certification organisation and had annual production in excess of \$5,000. Farms with production below this limit were excluded from the survey². Of the total number of 55 farmers on the original list, six had stopped farming, and no contact details were found for another five, making the authors assume that these farmers were no longer operational or certified.

3.2 Number of farmers

In December 2015 all 44 known organic farmers were sent a letter to introduce the idea of a study on the size of the organic industry in Gippsland and all were asked to participate (see Appendix 2). A survey was foreshadowed, and was then sent early January 2016 with the request to complete and return the questionnaire (see Appendix 3) by late January.

Of the 44 producers approached, 34 responded, of whom one was eliminated on the grounds of size of farm. These 33 respondents had answered the questionnaire or were interviewed by telephone.

Five of the ten producers who had not responded were known to be considerable players in the organic world. Estimates were provided by industry sources about these producers, so that this could be included in the total analysis.

The other five were difficult to contact or reluctant to provide data, one on the grounds that they were still in pre-certification, that is: not eligible for inclusion anyway. Some others may have been in the same situation, or may have ceased certification. As none of them was known by a cross-section of players in the industry it was assumed that they didn't significantly contribute to the total returns to the industry.

The total number of eligible growers who were eventually included in the data was 38.

² This criterion is used by the Australian Bureau of Statistics.

The data, representing 88 per cent of the total listed population of organic farmers in Gippsland – and possibly of all of the eligible organic farms – were then collated and analysed, and the results are discussed below.

One of the major issues of this kind of research is the issue of commercial in-confidence data, both with respect to who has access to the original data and how the data is published. In this report, access to data was addressed by ensuring that the researcher involved in the local industry had no involvement with the farm data. The second researcher, with no investment in the industry, collected, analysed and presented all information provided by the farmers, which is reported upon in this chapter.

For the purpose of this report the results of the bio-dynamic producers are reported as organic. Aggregating these two groups is done for simplicity and to maintain confidentiality.

3.3 Land and landholders – some characteristics

3.3.1 Land

Of the 38 farmers included in the survey, half (19) grow vegetables and fruit, and the other half is equally divided between beef (10) and dairy (9) – see Table 1.

Table 1: Number of farms and area farmed: 2016

	Horticulture	Beef	Dairy	Total
Number of farms	19	10	9	38
Area farmed (ha)	873	3,112	1,930	5,915
Average (ha)	46	311	214	156

Beef growers have the largest farms (311 hectares on average), as one would expect, with dairy farms the second largest at 214 hectares. Horticultural farms are considerably smaller than either of those two groups, at 46 hectares.

3.3.2 Farming experience

The age of farmers and their time in the industry gives an indication of future trends. Older farmers are likely to continue farming organically, but organic farming may decline when these producers retire. Table 2 shows some of the characteristics of the Gippsland organic farmers.

The average age of the 33 interviewed organic farmers in Gippsland is 55 years, with fruit and vegetable growers and the dairy farmers close to the average (54), and beef farmers somewhat older (57). Only two horticulturalists and one dairy farmer were 65 or over, which is less than ten per cent – lower than the average of conventional farmers, where some 14 per cent are 65 and

over³. However, there were considerably more organic farmers - 11 farmers, or 34 per cent - in the next five-year period, that is the category of 60 years or older.

Table 2: Farmer experience

	No. of farmers	Horticulture	Beef	Dairy	Total
Average age of farmers	33	54.2	57.3	54.3	55.0
Years farmed	33	24.8	21.4	35.3	26.8
Years farmed on present farm	33	19.9	16.4	30.1	19.0
Years farmed organically (1)	33	15.6	7.8	11.6	12.6
Years farmed organically (2)	37	15.9	8.1	11.6	13.2

Of the 33 organic farmers who answered the question, it was the dairy farmers who had farmed the most years, both in total (35 years) and on the present farm (30 years). However, on average they changed to organic management less than 12 years ago, over four years later than the horticulture farmers, but almost four years earlier than the average of the beef growers. Although the horticultural farmers had, as a group, been in organic agriculture longest (over 16 years), they started farming on average 25 years ago – and almost 20 years ago on the present farm.

It would be interesting to see whether organic farmers moved to organic management in clusters. This could potentially give an indication of why some conventional farmers switch to organic management. Reasons could include, for example, availability of inputs for organic farming such as information, differences in product prices, or marketing opportunities (such as availability of abattoirs) – something to consider if encouragement of organic farming would be an aim. It is outside the scope of this paper to answer this question, but the available data do allow us to make some observations that could provide some pointers for other work in this area.

In horticulture, growers converted from 1 to 40 years ago, with almost half (8 of the 18 who answered the question) over 20 years ago. That was also the time that permaculture was in its heyday in Australia, and some observers mentioned that that may well have been a reason for the early development of organic farming in the horticultural sector. Five started between 10 and 20 years ago and five less than 10 years ago.

Of the beef producers, more than half (6 of 10) converted 4-5 years ago; 2 converted 9-10 years ago, and only 2 started 15 and 19 years ago. To get some insight into reasons for conversion, it could be worthwhile to see why the periods 9-10 years ago, and 4-5 years ago seem significant. As the lack of an organic certified abattoir is often a reason given by farmers for selling their organic stock in the conventional market, increased processing possibilities in those years may have contributed to some

³ See: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/1301.0Main+Features3032012>.

farmers deciding that organic beef growing was now a possibility. Radford's abattoir became certified in 2000, around the time that the first beef properties became certified.

For the dairy farmers there were also quite definite periods of conversion. The first organic dairy farmer was certified 26 years ago. At the other end of the range, two had been organic between one and four years, three between 7 and 10 years, and three between 15 and 17 years.

In other countries it was dairy farmers who tended to be in the forefront of moving towards organic farming – possibly because less changes are needed when moving to organic management than in other enterprises. In Gippsland it was clearly the horticulturalists who went in that direction first, both in time and numbers. Perhaps, indeed, the influence of an outside factor such as permaculture in the 1970s-80s was a deciding influence on the horticulturalists in Gippsland, where climate and soil make conversion not too difficult.

3.4 Labour

On the 33 farms for which the question of labour was answered, an equivalent of almost two years of work (or 56.8 weeks on 33 farms) was provided by family members on the farm (see Table 3). In addition, on average half of the farms had an equivalent of one full-time labourer (17 worked for 16.8 years per 33 farms). And, in total, 84 part-time workers were hired for a total of 847 weeks (or 16 years). In other words, apart from the two adults of the family working on the farm, another person was hired equivalent to a full year's work, half of that by a full-time worker and half by part-time workers.

Table 3: Labour used on organic farms in Gippsland

	Number	No. of weeks	No. of years
Farms	33		
Family	79	2954	56.8
Hired – full-time	17	876	16.8
Hired – part-time	84	847	16.3

The present number of organic landholders does not necessarily indicate future success of the industry. That will depend on how interesting this form of farming is not only to present conventional farmers but also on how attractive organic management is for the younger generation on organic farms.

Although no question was included in the survey regarding the likelihood of a next generation taking over the farm as an organic enterprise, it should be noted that several farms worked with more than one generation on the farm.

3.5 Production and sales

3.5.1 Total gross returns – an overview

In total, the organic industry in Gippsland was worth \$14.4 million in 2014-15 (see Table 4).

Table 4: Total organic farm-gate sales in Gippsland: 2015

	No. of farms	Sales (\$)
Vegetables and fruit	21	8,348,084
Dairy	9	4,634,599
Dairy – meat		118,000
Beef/Sheep	13	1,161,066
Livestock products (wool, eggs, pigs)	5	187,154
TOTAL		14,448,903

Horticulture, and in particular vegetables, is the main earner for the industry. Dairy, with nine growers, is also a substantial industry – and can be expected to grow considerably in the coming years.

The beef/sheep sector is a minor player, and poultry and some other livestock (pigs and wool) sectors are very much in their infancy. Of these three, perhaps organic eggs have the best prospects of growth, due to an increase in demand for environmental and animal welfare reasons. Organic wool has been an issue in the past, but seems not to have been able to develop over time. Details of each sector are shown below.

3.5.2 Horticulture

Of the 21 farmers who worked in horticulture, 16 grew vegetables and 10 grew fruit (see Table 5). Five of these growers produced both vegetables and fruit. Of the two categories, vegetables was the main sector, with fruit being 12 per cent of the total receipts. Both certified organic and in-conversion are included in the figures in Table 5. The total farm-gate receipts of organic fruit and vegetables were \$8.3 million.

Table 5: Farm-gate sales of organic fruit and vegetables: Gippsland 2015

Type of crop	Number	Organic - fresh	Organic - processed	Conventional	Total
		\$	\$	\$	\$
Vegetables	16	7,354,455	1,250	-	7,355,705
Fruit	10	830,506	156,254	5,620	992,380
Total	21	8,184,960	157,504	5,620	8,348,084

Almost all of the market is fresh food, and very little is processed: less than 10 per cent of the fruit. Practically nothing is sold in the conventional market.

3.5.2.1 Vegetables

Some details of the vegetable market are shown in Table 6. As there are few organic players, it is important to find the right balance between providing meaningful information and protecting the anonymity of the growers and confidentiality of the data. For this reason, the table shows few categories, so that individual data are buried in the total. The three first groups shown in the table are the brassicas (cabbage, cauliflower, kale, etc.), the cucurbits (cucumbers, pumpkins and zucchini) and the Solanaceae (potatoes, tomatoes, capsicum and eggplant).

Of these three groups, the last is the group with the highest gross returns at \$2.1 million. The second most important group is the brassicas, at \$1.5 million, and the third earned a gross return of \$0.7 million.

Table 6: Size distribution of organic vegetable growers: Gippsland 2015

	Total farmers	Small <\$100K	Medium \$100K- \$400K	Large >\$400K	Gross returns
	No.	No.	No.	No.	\$
Brassicas	5	3	1	1	1,513,782
Cucurbits	4	2	1	1	742,271
Solanaceae	6	3	1	2	2,129,743
Other - specified	10	7	3	1	2,176,590
Other - not specified	9	7	1	1	793,319
Total sales	16				7,355,705

Brassicas: cabbage, cauliflower, kale, etc.

Cucurbits: cucumbers, pumpkins, zucchini

Solanaceae: capsicum, eggplant, potatoes, tomatoes

Other - specified, includes: beans, beetroot, carrots, celery, corn, garlic, leeks, lettuce, parsnip, peas,

A fourth group is included called 'Other – specified' which includes a large group of vegetables, including beans, beetroot, carrots, celery, corn, garlic, leeks, lettuce, parsnip and peas. Each of these groups was made up of too few producers to register them individually. It is not surprising that this total group was the largest earner for the organic vegetable sector at \$2.2 million. The last group is made up of crops merely described by the respondent as 'vegetables', and is entered in the table as 'Other – not specified', earning \$0.79 million for the organic sector.

Of the 21 growers, four were major players, here defined as having gross returns from one (group of) crops of more than \$400,000. Most growers are small growers - at less than \$100,000 of gross returns. Those who produce greater than \$400,000 in one group may also grow other vegetables that have been classified here in one of the other groups. Indeed, of the seven occurrences of gross returns between \$100,000 and \$400,000, only three were different growers from those in the group of large producers. One large farmer produced in three of the medium groups.

The large and medium growers sell mainly to wholesalers. The smaller organic vegetable farmers, with less than \$100,000 in gross receipts from vegetables, report that they deliver their produce almost solely to retail market/farmers market/local markets.

3.5.2.2 Fruit

In the fruit sector 6 of the 10 farmers grew berries, 3 grew nuts, and 3 grew apples (see Table 7). Most of the produce was sold as fresh, and 12 per cent was processed. Surprisingly, some produce was sold in the conventional market – perhaps a result of the fact that berries can't be easily stored.

Berries are by far the most important product in the fruit sector at over 80 per cent, where two growers dominate.

The market differs between the products. Almost all of the nuts are sold to wholesalers and two thirds of the berries were marketed there.

Table 7: Farm-gate sales of organic fruit: Gippsland 2015

	Number of growers	Organic	Conventional	Processed	Total
		\$	\$	\$	\$
Apples	3	124,550	-	26,000	150,550
Berries	6	670,883	5,620	120,500	797,003
Nuts	3	28,800	-	-	28,800
Other	3	6,273	-	9,754	16,027
TOTAL	10	830,506	5,620	156,254	992,380

3.5.2.3 Conclusions

Most of the revenue for crop producers is derived from large growers, both in vegetables and fruit growing. There are no cereal producers. Large and medium growers supply over 90 per cent of the market. These growers market their produce mainly in the wholesale market, where virtually all their produce is sold as organic.

3.5.3 Beef and sheep

Of the total of 13 organic beef/sheep growers in Gippsland (see Table 8), nine classified themselves as beef producers. Three of those producers had gross returns of over \$100,000 in the organic market, one of whom also sold significant numbers in the conventional market.

The other four beef producers were mainly horticulturalists who also had some beef on the property. Two of the four sold in the organic market – one just in the conventional market, and the fourth didn't sell beef in the year of report. Three growers sold their beef locally. All had total livestock sales of under \$20,000.

Table 8: Farm-gate sales of organic beef: Gippsland 2015

	No.	\$	\$/head
Number of growers	13		
Sales: organic	745	835,148	1,121
Sales: conventional	338	325,918	964
Total sales	1,083	1,161,066	1,072

Of the nine only-beef growers, four sold only in the organic market, four in the organic and conventional market, and two only in the conventional market. Of the total sold in the organic market, 85 per cent was produced by three growers. In other words, the other six growers had receipts for \$150,000 together. Perhaps the production of beef was not their only source of income – a question that was not asked in the survey.

Another issue is that of price per head of cattle. The table shows a price premium of 16 per cent. However, as it isn't clear what kinds of animals were sold in the organic and conventional market (calves, steers etc.) the figures may not show the true difference in price. Another issue is that, as the prices in the conventional market have been relatively high, and those in the organic market were more stable, the difference between the two markets in general doesn't need to be similar to what the figures show here for 2015. What the figures do show, though, is that the percentage of organic produce sold in the conventional market for beef is much higher than in the vegetables and fruit market.

The organic beef is mainly processed via the local Warragul abattoir.

Sheep were reported by only five organic farmers, but only two sold sheep, both as organic. One of them sold wool – as organic wool. This brought the total of gross receipts for the beef and sheep sector to just under \$1.2 million.

3.5.4 Dairy

Gippsland is a good region for organic dairy production. Table 9 shows production and sales of milk and animals on organic dairy farms. In 2014-15, 9 producers produced 7.3 million litres, which was sold for \$4.6 million.

Table 9: Organic dairy: Gippsland 2015

	Producers		Sales		
	No.	Litres	\$	\$/litre	
Milk	9	7,283,890	4,634,599	0.62	
Animals	No.	No.	\$	Sales no.	Sales \$
	total	organic	organic	conventional	conventional
	7	95	118,000	473	152,600

Milk prices varied between \$0.56 and \$0.66 per litre, with an average of \$0.62 per litre. Of the nine producers, seven are members of a cooperative, the Organic Dairy Farmers of Australia (ODFA), which sets prices depending on quality of milk (such as percentage lipids in the milk) and time of the year of the sale. Just over half (five of nine) of the organic producers have sales of over \$0.5 million. In the conventional dairy sector, a 'typical price paid' for conventional milk in Victoria in 2014-15 was \$0.471 (<http://www.dairyaustralia.com.au/Markets-and-statistics/Prices/Farmgate-Prices.aspx>), although one of the processors has recently lowered its prices considerably for 2015-16.

There are signs that organic dairy farming in Gippsland may well expand dramatically in the near future, with the Chinese demand for baby formula seemingly insatiable. In 2015 Bellamy's signed a five-year contract with Fonterra in December to produce infant formula at the New Zealand dairy company's factory at Darnum in eastern Victoria. (SMH 2016). ODFA expects the supply of organic milk in Gippsland to double in the next four to five years. The question is whether the present turmoil in the conventional market will increase the drive towards organic dairy products in the near future – with consequences for pricing.

As for beef (strictly speaking belonging in the beef-market, but counted here), a large proportion of the animals are sold in the conventional market. However, the local organic certified abattoir is now processing organic dairy cows and steers for meat.

3.5.5 Other livestock and livestock products

There are a few farmers who produce other organic products, such as pigs, eggs and wool. Total product sales are \$187,154. Due to the fact that there are so few producers of each product, it was decided that, for confidentiality reasons, no further details can be provided in this report.

3.5.6 Ancillary activities

The survey included a question about whether farmers involved themselves with activities on the farm that were not directly linked to farming, such as tourism, education, and conservation.

Most farmers answered 'no' to all these categories, or did not fill out that question – which is here assumed to mean 'no'. An analysis of the answers to a question about each of the categories is as follows.

Only two people indicated that they received an income from tourism on their farm, which provided in total less than \$10,000 in income.

Eight farmers reported an involvement with education, of which two people mentioned total receipts of \$2,000. Two others mentioned involvement with schools and Landcare. Six farmers mentioned an involvement with soil conservation, with one receiving a grant for fencing off a particular area. Agro-forestry was mentioned under 'other farm-based enterprise'.

In summary, few 'other' on-farm activities were reported for this survey.

3.6 Summary and conclusions

Based on the 38 organic farmers from or about whom data was gathered in early 2016, it is clear that the organic sector in Gippsland is thriving.

Of the total of close to \$14.5 million gross returns, the most prominent sector at present is the vegetable sector, worth approximately half of the total. Six of the sixteen vegetable growers are large to medium players. Most of these growers have farmed organically for more than ten years, and some considerably longer. No data are available about whether they started farming organically on a small scale before they expanded in later years, perhaps learning as they went along, both from their own and from other small farmers' experiences. Recently, one very large conventional farmer moved to organic management, and perhaps it is the example of others that will encourage new farmers in the future to move to organic management. What is clear, though, is that there is sufficient demand for more supply at present prices.

Interestingly, many of the vegetable and fruit producers who have less than \$100,000 gross returns also have farmed organically for many years – one even for 40 years. And despite modest gross returns they have obviously been able to make a living, well enough for them to decide to stay in the industry. These farmers tend to use different marketing channels than the large growers, who use mainly wholesalers to sell their produce. The smaller farmers add value to their produce by doing their own marketing. This, apart from requiring extra effort, perhaps also adds a different dimension to shopping for the consumer, such as social benefits of having direct contact with the grower.

Although fruit is also grown organically it is concentrated in three areas: mainly berries but also apples and nuts. The sector is not very large, being just over 10 per cent of the whole of organic horticulture (vegetables and fruit) in Gippsland.

The organic dairy sector is also doing well, contributing around one third of the total organic sales, and with five of the nine producers having considerable establishments. The recent enormous growth in milk-powder market in China is likely to be the catalyst for strong growth in demand in the short-term. A future scramble for more supply by several large players, such as Bellamy's and ODFA, is more than likely. Also a trend within Australia and Gippsland towards increased processing of organic milk seems likely. With the conventional milk market in turmoil, recently, it may well be that more interest from conventional farmers for organic dairy farming will be easy to find.

The only organic sector that, although present, doesn't appear to be expanding in Gippsland is the beef industry, with only a few large players and more modest operations.

Looking at the age-profile of present organic farmers in Gippsland, the age of organic farmers seems similar to that of conventional farmers. Although it wasn't part of the survey, several organic farmers indicated that the next generation was working with them on the farm.

The results of the survey indicate that income from provision of services other than agricultural production, such as tourism, education and conservation, is not of great financial importance at present. However, some farmers mentioned that using the farm for educational purposes in the future is in their sights. This contribution points to the other, non-monetary values provided through organic farming.

It is important to realise that, although all organic farmers identified (likely to be the whole population) were included, this is still a small number of farmers, where an exceptional case may have undue influence over the results. However, the data presented in this section is the best picture we have at present.

Another issue to remember is that this study provides a picture of gross farm-gate sales. It doesn't examine the costs incurred in farming, and thus does not report on the all-important net returns to the farmer. In other studies, costs on organic farms were found to be higher or lower than on conventional farms, depending largely on the industry and environment. It is therefore not possible to say – without further study– anything definitive about the comparative net returns to the two different farm management systems.

Also yet to be effectively measured is the level of reduction in negative effects on the environment from organic farming, alleviating the burden of farming on neighbours or other people in the shire.

4 Emerging trends: some case studies

4.1 Export opportunities

4.1.1 Dairy

The rising demand for organic food in China can be associated with increasing disposable income of a growing middle class and mistrust in regulators of the mainstream food industry fuelled by a recent number of high profile food safety incidents. A growing number of Chinese consumers are looking to places like Australia to source trusted and labelled certified organic products.

Tasmanian company Bellamy's Organics manufactures a range of certified organic baby foods currently sourcing milk ingredients for their popular infant formulas from New Zealand. With the quality of infant formula in China remaining a sensitive topic Bellamy's have experienced an unprecedented demand for their products.

Bellamy's CEO was quoted as saying that while raw organic ingredients used in their infant formula are currently sourced from overseas, a significant proportion of the Bellamy's raw milk supply could be sourced domestically within the next three years (SMH April 4 2016.) In late 2015 Bellamy's and dairy giant Fonterra struck a deal to process infant formula at the Darnum plant. Given Gippsland's strong dairy sector, opportunities therefore exist for more farmers to supply raw milk for this purpose. Indeed, Bellamy's have been publically and pro-actively recruiting in Gippsland for dairy farmers to convert to organic production to shore up future supply.

Long-time players in the industry, the farmer-owned and run cooperative Organic Dairy Farmers of Australia (ODFA), have also been actively recruiting farmers to convert to organic, to fulfil demands in milk and milk products into Asia and especially China. Poole (2015) reports that ODFA's Chief Executive, Stewart Price, stated that ODFA 'would process about 30 million litres of milk annually, but wanted to double supply in the next five years.' Because of Gippsland's relatively reliable rainfall, Gippsland is a very important area for ODFA.

Stockfeed industry company Fodder King has also joined the recruitment of Gippsland farmers to organic production to service the dairy and beef sector with certified organic hay, grain and silage.

4.1.2 Pureharvest (Drouin)

Pureharvest is one of Australia's leading exporters and importers of organic and natural products, exporting Gippsland-made products to a number of countries world-wide. Located at Drouin in Gippsland, Pureharvest is also one of the largest manufacturers and distributors of natural and organic food in the country. They have national distribution networks and supply major supermarkets and health food retailers across Australia with a wide range of certified organic and natural products. Their rapid growth has been a response to the growing organic and natural foods markets in Australia and overseas. Pureharvest pioneered the manufacturing and distribution of rice cakes in this country along with non-dairy beverages such as rice, almond, oat and soy milks. They also contract process organic dairy milk into fresh and long-life products and are looking for more suppliers specifically for the export market.

4.1.3 Radford's Abattoir (Warragul)

Radford's was the first domestic abattoir in Victoria and one of only six in Australia certified to process organic livestock for domestic consumption. The commitment by Managing Director Robert Radford in early 2000 to have his abattoir certified has enabled the Victorian organic red meat industry to develop and thrive. Prior to that certified organic meat could not be sold as such in Victoria. Since then the growth in organic meat has increased dramatically. Due to the buoyant beef markets experienced over the past 18 months premiums for organic meat have been marginal. According to Radford the number of organic animals processed at his plant each week remains steady at between 75 and 85 cattle and 80 sheep (R. Radford pers.com April 2016).

More recently, Radford's has identified opportunities to contest markets for an unmet and growing demand for organic meat both domestically and overseas and is actively pursuing tier 1 international supply opportunities. Robert Radford is a strong advocate for farmers to convert to organic and has participated in recruitment events. Whilst quality meat is at the centre of organic meat production, Radford's is recognising the ready markets for unproductive dairy cattle as certified organic beef.

4.2 Innovation in marketing

Central to organic practice are ethical considerations around food that is 'good for people and good for the environment'. It is from this premise that the value of the organic can also be expressed in non-monetary terms such as decreased environmental problems and less exposure of the population to agricultural chemicals. Indeed the growth in organic is directly attributed to consumers making a conscious decision to buy organic food often at a premium price over conventional offerings. This may then go some way to explain the presence of organic farmers and consumers coming together to support community initiatives in Gippsland. Within Gippsland communities, a number of farmer-consumer initiatives are thriving, connecting people to where their food comes from and at the same time supporting local farming businesses.

Food hubs and farmers markets are examples of emerging important and innovative marketing models using social media for promotion and E-Systems as a logistical tool. They provide opportunities for farmers to sell direct and meet the people who will eat their produce. This very short supply chain can mean farmers receive a better price for their produce while consumers pay less for their weekly shopping. Selling direct enables relationships to be built between growers and consumers at the same time as supporting local farmers and directly putting money back into the region.

The cooperative action of a number of small farmers working with their local communities is proof that small farmers can be commercially viable. Food hubs in Gippsland have been the initiative of small farmers working together to create better, fairer food systems for local people with the intent to create foundations to build resilient communities.

4.2.1 Food hubs

Grow Lightly and the Baw Baw Food Hub are two food hubs that operate in Gippsland. Both articulate similar strong philosophical and ethical platforms promoting food and localism as key elements in achieving sustainability objectives. Through aggregating and distributing local food to local people the hubs create very short supply chains and connect people back to where their food is

coming from. Hubs are also connected to community initiatives around food, wellbeing and livelihood and actively promote new growers and consumers to be involved.

The Baw Baw Food Hub operates out of Warragul, has an on-line shop and packs some 150 boxes of fresh organic vegetables for local people each week by a team of volunteers and paid staff. Local organic dairy, meat, bread, fruit and preserves are also available to purchase both via the on-line shop and at the pick-up point. The hub sources organic produce from Gippsland and Mornington Peninsula organic growers topping up as necessary from the Melbourne wholesale market.

Grow Lightly has a strict 60 km catchment rule from which to source produce and pack bags of vegetables and fruit for some 60 families in South Gippsland, with Korumburra as its base. The hub is strongly supported by the Gippsland Shire Council that has assisted in housing the hub and its café near Coal Creek historic precinct. While Grow Lightly growers are not certified organic there is a very strong requirement for hub suppliers to be producing food to organic standards. The very short supply chain and the local cooperative nature of the hub ensure peer review monitoring of production methods to the standards. A number of the suppliers to Grow Lightly are formerly certified organic producers.

4.2.2 Farmers markets

Many towns across Gippsland now host Farmers Markets accredited by the Victorian Farmers Markets Association. These markets are places for people to meet, support local farmers and be assured of quality, freshly harvested and local produce. Suppliers of organic produce to regional farmers markets are in short supply.

The Melbourne Farmers Markets are an important outlet for a number of certified organic farmers based in Gippsland. Fresh certified organic produce - vegetables, berries and fruit and a locally made bread from Gippsland feature at the elite farmers markets in Melbourne.

5 Recommendations

Given the future opportunities that exist for organic agriculture the following recommendations are presented:

5.1 Improve organic industry data collection

- Gippsland region, through Regional Development Victoria, Committee for Gippsland and Agribusiness Gippsland supports the establishment of an independent body to undertake the collection of data on the organic industry.
- Gippsland region collects data from the regional organic sector on a biennial basis tracking growth and trends.
- Gippsland councils maintain up-to-date data bases of organic operators in their shires by requesting that certification bodies provide details of their growers.

5.2 Support the organic sector

- A more pro-active and involved role for government at state and local levels to become better informed about the industry and consumer trends. This will require councils informing themselves, so that lobbying and advocacy by government can take place to capitalise on emerging opportunities for growth and innovation in organic agriculture.
- The region, through RDV, Agribusiness Gippsland and Councils, subscribes to organic industry forums, taking note of industry developments and observing national and international market trends.

5.3 Recognize non-monetary values

- Formal incorporation of a triple bottom line accounting approach for study of and reporting on the industry, with consideration given to social and environmental as well as financial values generated.
- Support by councils of grass-roots food movements already established in the region and account for the social and environmental benefits they provide(see, for example, Wentworth Group of Concerned Scientists 2008).

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Appendix 1: Australian AQIS Accredited Certifiers

Ausqual - Queensland
PH:+61 733619271
FAX:+61 7 3361 9222
1800 630 890

Australian Certified Organic (ACO)
PO Box 530
Chermside
Queensland
Australia 4032
+61 7 33550 5706
email: info@australianorganic.com.au
www.australianorganic.com.au

Bio-Dynamic Research Institute (BDRI)
Powelltown Road,
Victoria
Australia 3797
PH: +61 3 59 667 333
Fax +61 3 59 667 433

National Association of Sustainable Agriculture Australia (NASAA)
PO Box 768
Stirling
South Australia 5152
+ 61 8 8370 8455
email: enquiries@nasaa.com.au
www.nasaa.com.au

Organic Food Chain (OFC)
PO Box 2390
Toowoomba
Queensland
Australia 4350
+61 7 4637 2600
email: ofc@organicfoodchain.com.au
www.organicfoodchain.com.au

Safe Food Queensland (SFQ)
PO Box 440
Spring Hill Queensland
Australia 4004
1800 300 815
email: info@safefood.qld.gov.au
www.safefood.qld.gov.au

Appendix 2: Letter to Growers

Dear Gippsland Organic Farmers,

As promised, please find attached the questionnaire prepared for this survey. Keep in mind the purpose of the project is to establish the contribution of the organic industry to the Gippsland economy. There is currently no local industry data to show the extent and activity of organic farmers across the region, and this makes it difficult to promote the value of, and argue for support for, industry development.

I am, as probably you are also, very keen for organic agriculture in Gippsland to progress. Often, responses to questionnaires like this are low, but as this leads to poor data, I hope that you will fill out and return this questionnaire. By collectively demonstrating our passion and commitment as farmers for the work we do we can demonstrate the value of organic agriculture to the community as a whole. Allow approximately 30 minutes of your time to complete this.

Please return the completed questionnaire to Els Wynen – els.wynen@elspl.com.au

I have CCd her email address above.

Do not return your information to me – Liz Clay

Return date for the questionnaire – on or before Friday 22 January.

I will send a reminder on Wednesday 20th January to those who have not been able to return the form yet.

Notes:

- The questionnaire is designed to be answered on-line. However if you find this tricky please let me know and I can send you a paper copy.
- Some of you may receive this and may no longer be certified organic but continue to practice organic farming and still trade in the market place – probably a very local market place. We want to capture this information too. Please complete.
- The data should reflect a most recent 12 month period – some of you might prefer reporting a financial year while others prefer to report a calendar year. Either is fine.
- You will receive a copy of the final report as soon as possible after completion.

If you have any questions don't hesitate to contact me,

liz-clay@sympac.com.au

ph: 56289557 or 0417393363

Appendix 3: Questionnaire

FARM SURVEY GIPPSLAND 2016: Organic Gippsland What's it Worth

Name			Postcode		Shire	
Telephone			E-mail address			
Type of farm (e.g. horticulture, dairy, broadacre):						Certifier?
Reporting year for this survey: last financial year or most recent 12 month period						
Date of survey:						
Year of birth of main operator?						
Years farming	since which year:					
	on this farm since:					
Years organic	since which year:					
	ceased certification since when; and if so: why?					

Table 1: AREA				Total	Organic	In-conversion	Conventional
Total ha		ha					
	owned	ha					
	leased	ha					
	leased out	ha					
	share-cropped?						
Arable land		ha					
Non-arable land		ha					
This year:							
Area cropped	arable	ha					
Area grazed	arable	ha					
Area grazed	non-arable	ha					
Area set-aside for conservation: non-arable		ha					
Other area		ha					
This row is automatically calculated; row 32 should be equal to row 19				-	-	-	-
Note: 'Arable land' is land suitable for cultivation.							

(Applies to all forms of cropping - e.g. tree crops, vegetable, fruit, broad-acre crops, hay, etc.)

Table 2: CROP PRODUCTION and SALES:

CROP	Planted	Harvested	Harvested	Feed	Storage	Sales (non-processed)	
					(incl. seed)	Organic	Organic
(name)	hectares	hectares	kgs	kgs	kgs	kgs	\$
Use different lines for 1. certified and non-certified product of same crop; 2. organic and conventional sales of same crop; 3. different major outlets for same crop							
For vegetable and fruit producers: list up to 5 major crops, then "other" for the rest						Please expand table if needed.	
Total (will calculate automatically)	-	-	-	-	-	-	-

Major outlet for crop = more than approx. 20% of total of that crop.

Note: Outlet: e.g. local, farm-gate sales, wholesale, retail, interstate, export?
If weight = other than kgs, please specify

Table 3: CROP ROTATION

Do you rotate your crop according to a plan?

yes/no

If so - what is the **approximate** plan?

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8

Table 4: LIVESTOCK: PRODUCTION and SALES

	Opening	Closing	Breeders	Births	Purchased	Deaths	Sales
	(numbers)	(numbers)	(numbers)	(numbers)	(numbers)	(numbers)	(numbers)
							organic
Cattle dairy-org							
Cattle-dairy-conv							
Cattle - beef-org							
Cattle - beef-conv							
Sheep-org							
Sheep-conv							
Poultry-org							
Poultry-conv							
Pigs-org							
Pigs-conv							
Other-org							
Other-conv							

Note: Outlet: e.g. local, farm-gate sales, wholesale, retail, interstate, export? If more than one major outlet per product,

please expand table.

Table 5: LIVESTOCK PRODUCTS: PRODUCTION and SALES

	Produced	Bought	Stored	Sales	Sales	Sales	Sales
	Weight/Number	Weight/Number	Weight/Number	Weight/Number	\$	Weight/Number	\$
				organic	organic	conventional	conventional
Milk-org							
Milk-conv							
Wool-org							
Wool-conv							
Eggs-org							
Eggs-conv							
Honey-org							
Honey-conv							
Other-org							
Other-conv							

Note: Outlet: e.g. private, local, farm-gate sales, wholesale, retail, interstate, export? If more than one outlet per product, please expand table.

Table 6: PROCESSING (for own-farm produce only)

	Product	Product	Processed product			Outlet	
	Name	kgs	kgs	\$			
CROP							
Preserves							
Drying							
Juice							
Wine							
Cider							
Freezing							
Canning							
Baked goods							
Vinegar							
Other							
Other							
Other							
LIVESTOCK							
Milk							
Yoghurt							

Cheese							
Wool							
Meat							
Other							
Other							

Table 7: Ancillary Activities

		Yes/No	Area	Income
			Ha	\$
Is your farm used for:				
Tourism				
Education and training				
Conservation				
Other farm-based enterprise				
	if so: what			

Table 8: Total labour used

Family labour			Number	Total number of weeks	
Self			1		
Other members of family					
Do you employ labour?			Yes/No		
If so, <div> <div>how many people did you employ (approximately):</div> <div> <div>full-time</div> <div>part-time</div> </div> </div>			Number	Total number of weeks worked by all employees	