Sunshine Coast Food and Agribusiness – Building the Links
Research Report: August 2015
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Acknowledgements

This research and report has been the work of the Food Research Group within the School of Business at the University of the Sunshine Coast. This group is led by Professor Meredith Lawley, with Dr Kathy Hastings a principal researcher. Both researchers were responsible for the project’s design. Kathy conducted the majority of the fieldwork, analysis, and writing of this final report. Lucas Whittaker and Melissa Innes provided invaluable research support throughout the project, and were also responsible for much of the secondary data gathering. Lucas should also be acknowledged for his assistance with graphs, figures, and editing. Judy Watson was the final member of the team and contributed her database skills in bringing together the audit information.

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Executive Summary

This research was commissioned by the Sunshine Coast Council through its Agribusiness Taskforce to profile the food and agribusiness sector on the Sunshine Coast, map the supply chains and undertake an Audit of Capacity. Particular reference was made to identifying industries which are significant or unique in terms of the Sunshine Coast, Queensland, and Australia.

The agribusiness industry is one of the seven high value industries that will play a pivotal role in building and shaping the Sunshine Coast economy. The Taskforce recognises the limitations of existing data on Sunshine Coast agribusiness and has placed a priority on qualifying and quantifying the sector to better understand its significance and opportunities (Sunshine Coast Council 2014).

This study values the agribusiness industry at approximately $400 million. The agricultural industries on the Sunshine Coast have a total value of $207 million (Table 2), and in addition, there is an estimated $200 million in value-add activities (Section 7). A combination of production and value were used to identify the most significant Food and Agribusiness industries on the Sunshine Coast. These are:

- **Wild caught seafood (on its own)** – Worth some $100 million to the Sunshine Coast or approximately 47% of the region’s primary production turnover; contributing approximately 50% of Queensland’s wild caught seafood needs.

- **Poultry slaughtering, strawberries, pineapples, ginger & macadamias** – Each contribute significantly to Queensland’s volume needs and collectively account for approximately 39.7% of the region’s primary production turnover. Refer to Appendix 2 for individual industry charts.

- **Cattle slaughtering and dairy milk** – As a percentage of Queensland and Australia’s production needs, both industries are very small. However, with a combined financial contribution of nearly 10.3% to the Sunshine Coast region’s GDP, they remain significant.

This research follows the five stages in the supply chain for food and agribusiness on the Sunshine Coast – namely farm, processor, wholesale, retail, and restaurant. Within each stage, interviews were conducted following a structured protocol. However, these interviews were undertaken in unmatched supply chain situations with the views of all respondents for each stage making up the collective view. In total, 40 interviews were conducted across the chain. A breakdown of the number of interviews conducted at each stage of the chain shows that 10 farms, 11 processors, 5 wholesalers, 6 retailers, 5 restaurants, 2 artisans, and 1 service company were interviewed.
The main findings from the study are:

- Food clusters were identified within the study to provide a focus for chains to create further value. The clusters are: Sunshine Coast Dairy, Sunshine Coast Seafood, Sunshine Coast Fresh, Sunshine Coast Value-Add, and Sunshine Coast Organics.

- Vertical integration is occurring along the supply chain, with some 30% of firms fulfilling a secondary function within the chain. Eight per cent of firms are fully vertically integrated.

- The physical flow of goods is complex. The sectors predominately selling direct to the consumers are retailers, restaurants, and small farms. Large farms sell to wholesalers and retailers, and processors and wholesalers sell predominately to retailers. Processors also have a strong business-to-business sector, with almost 50% selling to other businesses.

- The production of food and agribusiness that is generated in the Sunshine Coast region is not consumed here entirely. Some 33% stays on the Sunshine Coast, while 50% is consumed in other parts of Australia, and 17% is exported.

- Restaurants and small farms are the most isolated in terms of communication.

- Wholesalers and retailers are the gatekeepers of the communication flow.

- Processors are not well connected to the supply chain on the Sunshine Coast, but are well connected to each other.

- The strengths of the supply chain are innovation, vertical integration, high quality products, and the ability to adapt.

- Weaknesses of the supply chain include input costs, procurement of raw materials, logistics, and plant capacity.

- The opportunities available for chains include niche marketing, international opportunities, increasing capacity, and agri-tourism.

- The threats include lack of consumer awareness, competition, and compliance.

- Three strategies to create value in the supply chain are the communication portal, the development of clusters and facilitating processors to grow export markets.
• The Food Hub concept was strongly supported with three main concepts identified in the study:
  
  • Information Portal
  
  • Food Precinct
  
  • Food Centre with education, sales and marketing, and logistics and capital funding functions
  
• An Audit of Capacity was conducted across the 40 respondents and found gaps in education, logistics, capital funding, and research and development.

In summary, the supply chains of food and agribusiness on the Sunshine Coast are far more developed through integration and value-adding than first perceived. There are large significant industries here that need to be focused on, including seafood, poultry, strawberries, macadamias, and pineapples. There are three unique areas within the Sunshine Coast. Firstly, the dairy industry offers a complete paddock to plate experience and has a high concentration of value-added processors. Secondly, there is a large food processing sector on the Sunshine Coast, which is highly innovative, and is achieving growth and following expansion plans. Finally, there is a strong base of organics and culinary farming that lends itself to agri-tourism. Strong potential exists for agri-tourism on the Sunshine Coast that should be fostered. The sectors are connected, positive, and looking forward; this is a perfect time to create value across the chain.
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1. Introduction

The Sunshine Coast Council, through its Agribusiness Task Force, commissioned the USC School of Business Food Research Group to profile the food and agribusiness sector on the Sunshine Coast, map the supply chains (identifying opportunities and challenges), and undertake an Audit of Capacity. Particular reference was made to identifying industries which are significant or unique in terms of the Sunshine Coast, Queensland and Australia.

The agribusiness industry is one of the seven high value industries that will play a pivotal role in building and shaping the Sunshine Coast economy. The Taskforce recognises the limitations of existing data on Sunshine Coast agribusiness and has placed a priority on qualifying and quantifying the sector to better understand its significance and opportunities (Sunshine Coast Council 2014).

This project will assist in providing baseline information on the agribusiness industries and the current state of the supply chains in terms of physical flow, relationships, and communication. Opportunities and challenges to the sector will be identified, and gaps in the sector’s ability to build capacity are discussed.

The results of this study will also be provided as background for the feasibility study for a regional Food Hub.

2. Background

The Sunshine Coast Council region stretches from the Glasshouse Mountains in the south to Eumundi in the north, and from the coastline west to Kenilworth (see Figure 1). The region features a pristine 200 kilometre coastline with diverse landscapes; including ocean beaches, hinterland, state forests and national parks. These natural advantages have contributed substantially to establishing the region as a recognised holiday and lifestyle destination. The regional economy has almost doubled in size in the past decade, and its population of 316,858 in 2011 is forecast to increase to more than 475,000 in the next 20 years (Sunshine Coast Council 2014). Over the ten year period between 2000-01 and 2010-11, the regional economy grew by an average of 5.1% per annum, making it overall the highest growing economy in Queensland over that ten year period. GDP for the region reached $13.8 billion in 2010-11 (Sunshine Coast Council 2014).
Food and agribusiness on the Sunshine Coast has been well researched in recent years; with numerous studies outlining aspects of the current situation, and opportunities and challenges facing food and agribusiness on the Sunshine Coast (see Trestrail et al. 2013; Sunshine Coast Business Council 2014; Shelton & Frieser 2009; Bradley 2011; Stockwell et al. 2013; Davis 2012).

Sunshine Coast food and agribusiness is characterised by a high level of diversity of primary and value-added products. It has natural advantages of good soils and a sub-tropical climate, allowing a wide variety of products to be grown. Sunshine Coast food and agribusiness is in transition, as it has experienced the challenges of population growth and urbanisation. This has caused high agricultural land values and an associated fragmentation of traditional production areas, in addition to a lack of profitability in traditional industries. This represents a major challenge to entry and expansion within the region. Traditional industries such as sugar cane and dairying are in decline, while nursery, culinary agriculture, and organics are emerging as key growth sectors within the Sunshine Coast (Davis & Johnson 2014).

While previous research has built a strong picture of the current composition and situation analysis of food and agribusiness on the Sunshine Coast, this report investigates how to increase the capacity of food and agribusiness through its supply chains on the Sunshine Coast. More specifically, this research will:

- Identify how to build links between growers and sellers by identifying areas in the supply and demand chains that will allow chain members to create value through communication and promotion to industry;
• Undertake an audit of regional (public and private) assets, including identifying key infrastructure, processes, facilities, outlets, and technical support available;
  
  • Includes endorsed suppliers from local businesses

• Identify niches and ‘natural advantage’ groupings such as:
  
  • Sunshine Coast fresh (fresh produce);
  • Sunshine Coast organic (an organic hub);
  • Sunshine Coast food (value-added, dairy, milk etc.) and
  • Sunshine Coast plants (horticulture, nurseries etc.)

2.1 Profile of Sunshine Coast food

In profiling Sunshine Coast food and agribusiness, both production (tonnage) and value ($) are taken into consideration to develop an accurate assessment of the sector. Further, the trend of both production and value over time needs to be considered. Previously, the Sunshine Coast has been profiled on the basis of a snapshot on value ($), and this isolated view has led to conclusions that do not hold over time. For example, livestock slaughtering was cited as the largest commodity produced on the Sunshine Coast in 2010/2011 (Economy.id 2011). Examination of the data revealed that cattle slaughtering peaked in 2011 and reduced back to normal levels the following year, which would suggest a sell off of cattle for abnormal reasons such as drought. Therefore, this study will profile Sunshine Coast food and agribusiness on the basis of production, value, and trend.

The past decade has seen a significant shift in the food and agribusiness industries on the Sunshine Coast. Over this time, many industries have faced major challenges and have lower production figures than a decade ago. Table 1 illustrates the changing fortunes of our main industries over the past decade and how significant the Sunshine Coast region is as a part of Queensland and Australia. All the analysis in this section is drawn from Australian Bureau of Statistics figures for Australia, Queensland and the Sunshine Coast. Australian Bureau of Agricultural Resource Economics provided the Seafood statistics on Australia and Queensland and industry sources provided the Seafood data for the Sunshine Coast. ¹

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¹ For the Sunshine Coast data, the statistical grouping of Statistical Area 4 division of Sunshine Coast was used within the Australian Bureau of Statistics. Equally, both Moreton and Wide Bay statistics are statistical division 4 areas. Statistical 4 division equates to Sunshine Coast LGA (including Noosa).
**Production.** The figures show Sunshine Coast production (tonnage) as a percentage of that produced across Queensland and Australia respectively. Each industry (commodity) is ranked in order of the significance the Sunshine Coast plays as a percentage of Queensland’s total production (in 2013, the latest data available). For example, the Sunshine Coast supplies approximately 50% of Queensland’s annual wild-caught seafood production. It can be seen that the Sunshine Coast’s major industries, in terms of tonnage produced and contribution to Queensland’s volume outputs (in descending order) are – wild-caught seafood (50%), pineapples (30%), oranges (25%), strawberries (19%), macadamias (12%), and poultry slaughtered (12%). However, when the neighbouring region of Wide Bay is added to the Sunshine Coast’s production of macadamias, the sum of production accounts for some 98% of Queensland’s total production; making this the most dominant contributing region across Queensland for macadamias. Similarly, when the neighbouring region of Moreton is added to Sunshine Coast’s strawberry production, this then accounts for nearly 83% of Queensland’s total strawberry production, making strawberries the second most dominant industry. This ‘combined region’ analysis also shows that these 2 industries are significant on a national scale, with the Sunshine Coast/Wide Bay region accounting for 51% of Australia’s macadamia production and the Sunshine Coast/Moreton region accounting for 35% of Australia’s strawberry needs.

Table 1 also shows how each industry’s production output has **trended** over the past decade as a percentage of Queensland’s, and highlights the very real effects of the various challenges these industries have faced and are continuing to face. Of those industries where the Sunshine Coast is a significant tonnage contributor, only pineapples and oranges have increased their percentage of Queensland’s output over the past decade. Wild caught seafood remains a consistent contributor at approximately 50%, while strawberries, macadamias, poultry slaughtering, mushrooms, milk, and avocados have all trended downwards over the past decade. Significantly, the Sunshine Coast’s production of mangoes, bananas, eggs, and mandarins has been more or less reduced to zero over this same time period. In the case of bananas and mangoes, the geographical shift of these industries to more highly efficient production areas such as North Queensland and the Northern Territory has occurred.

The changing fortune of the ginger industry over recent years is also a significant factor in the changing face of the Sunshine Coast. Through the mid-2000s, the Sunshine Coast consistently produced around 73-76% of Queensland’s ginger, and in 2009, the Sunshine Coast accounted for 73% of Queensland’s total production volume of 8,000 tonnes. The following year, at least one third of the crop on the Sunshine Coast was lost to disease (pythium rot). The strategy to deal with the disease was to leave the fields fallowed with cover crops and work to improve the amount of organic matter in the soil. Growers have leased fresh, clean paddocks and extended their businesses into new areas such as Bundaberg and Gatton (Roocke 2013). Industry sources
suggest a recovery is well underway, with estimated production on the Sunshine Coast from the 2014-15 season being some 4,000 tonnes with a farm gate value of $37.1 million. However, the price is decreasing due to the increasing volume of ginger on the market, and this coming season’s value will not increase. It is unclear how many growers have permanently left the region to grow in other areas or how many will commence growing again in this area. It should also be noted that new growers have entered the industry in Gympie and Bundaberg. So while the industry is recovering; the Sunshine Coast’s dominance may be diminished. Australia is also now a major exporter of confectionery, cooking, and brewed ginger products generating an additional $60 million through value-adding. Around 40% of the crop is grown for processing with the remainder being sold as fresh ginger, and as such, ginger is still a significant industry for the Sunshine Coast (DAF 2013).
Table 1 – Sunshine Coast as a % of Queensland’s food and agribusiness production

<table>
<thead>
<tr>
<th>Rank*</th>
<th>Sunshine Coast commodity</th>
<th>Queensland</th>
<th>Australia</th>
<th>Trend as % of Qld</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2007 (%)</td>
<td>2011 (%)</td>
<td>2013 (%)</td>
</tr>
<tr>
<td>1</td>
<td>Macadamias (inc. Wide Bay)</td>
<td>97.87</td>
<td>51.16</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Strawberries (inc. Moreton)</td>
<td>82.69</td>
<td>35.72</td>
<td></td>
</tr>
</tbody>
</table>

1. Wild caught seafood*  50.00 50.01 50.03 6.7 7.0 7.9
2. Ginger*               75.52 50.00          50.00
3. Pineapples             26.20 19.60 29.71 20.71 19.60 29.69
4. Oranges                19.37 14.45 24.56 0.67 0.38 0.28
5. Strawberries           19.76 22.06 18.86 15.52 7.93 8.15
6. Macadamias             24.07 16.84 12.45 6.97 7.69 6.51
7. Poultry numbers        16.52 14.86 11.56 2.00 3.04 1.83
8. Mushrooms              29.07 14.51 5.87 1.49 1.69 0.42
9. Dairy Cow number       11.70 5.81 3.48 0.55 0.37 0.21
10. Avocados              4.37 4.93 1.90 4.20 2.76 1.06
11. Tomatoes              0.48 1.03 0.78 0.11 0.63 0.18
12. Meat cattle numbers   0.35 0.28 0.33 0.14 0.13 0.16
13. Mandarins             1.61 0.19 0.11 0.50 0.14 0.07
14. Mangoes               0.06 0.02 0.00 0.04 0.01
15. Eggs                  0.02 0.02 0.00 0.01 0.01 0.001
16. Bananas               0.15 0.05 0.00 0.13 0.04 0.00

Source – ABS (refer to reference list for specifics)\(^2\)\(^3\)
* based on industry sources

\(^2\) Note that the data coming from the Australian Bureau of Statistics has an error margin of up to 50%.
\(^3\) Data which is combined into the Sunshine Coast values (Macadamias from Wide Bay and Strawberries from Moreton) is Australian Bureau of Statistics data based on Statistical Area 4 (Wide Bay includes Bundaberg)
Value. Table 2 reveals the Sunshine Coast’s commodity industries in terms of their dollar value contribution to the region, that is, the amount they contribute to the Sunshine Coast’s economy. Similarly to the tonnage outputs described in Table 1, industries in Table 2 are ranked in order of their total annual turnover to help identify which industries are the most valuable to the Sunshine Coast in financial terms. It should be noted that in terms of total value, agricultural commodities have been declining in value with a drop for a total of $270m in 2007 to $198m in 2013.

Table 2 – Value of Sunshine Coast commodities ($ Millions)

<table>
<thead>
<tr>
<th>Rank*</th>
<th>Sunshine Coast commodity</th>
<th>Sunshine Coast</th>
<th>As a % of Queensland</th>
<th>Industry Value Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2007 ($M)</td>
<td>2011 ($M)</td>
<td>2013 ($M)</td>
</tr>
<tr>
<td>1</td>
<td>Wild caught seafood*</td>
<td>103.5</td>
<td>97.24</td>
<td>97.67</td>
</tr>
<tr>
<td>2</td>
<td>Poultry numbers</td>
<td>28.89</td>
<td>47.10</td>
<td>38.94</td>
</tr>
<tr>
<td>3</td>
<td>Strawberries</td>
<td>22.98</td>
<td>16.40</td>
<td>13.51</td>
</tr>
<tr>
<td>4</td>
<td>Pineapples</td>
<td>23.92</td>
<td>9.8</td>
<td>13.37</td>
</tr>
<tr>
<td>5</td>
<td>Meat cattle numbers</td>
<td>14.74</td>
<td>15.10</td>
<td>12.75</td>
</tr>
<tr>
<td>6</td>
<td>Ginger*</td>
<td>25.16</td>
<td>10.00</td>
<td>75.6</td>
</tr>
<tr>
<td>7</td>
<td>Dairy cow number</td>
<td>26.01</td>
<td>15.70</td>
<td>8.79</td>
</tr>
<tr>
<td>8</td>
<td>Macadamias</td>
<td>4.25</td>
<td>6.00</td>
<td>6.66</td>
</tr>
<tr>
<td>9</td>
<td>Avocados</td>
<td>3.48</td>
<td>2.60</td>
<td>2.13</td>
</tr>
<tr>
<td>10</td>
<td>Tomatoes</td>
<td>0.89</td>
<td>2.40</td>
<td>1.70</td>
</tr>
<tr>
<td>11</td>
<td>Mushrooms</td>
<td>13.42</td>
<td>6.00</td>
<td>1.16</td>
</tr>
<tr>
<td>12</td>
<td>Oranges</td>
<td>0.00</td>
<td>0.80</td>
<td>0.79</td>
</tr>
<tr>
<td>13</td>
<td>Mandarins</td>
<td>1.59</td>
<td>0.20</td>
<td>0.09</td>
</tr>
<tr>
<td>14</td>
<td>Mangos</td>
<td>0.05</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>15</td>
<td>Eggs</td>
<td>0.02</td>
<td>0.00</td>
<td>0.01</td>
</tr>
<tr>
<td>16</td>
<td>Bananas</td>
<td>1.13</td>
<td>0.10</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>270.03</td>
<td>219.44</td>
<td>207.57</td>
</tr>
</tbody>
</table>

Source – ABS (refer to reference list for specifics)\(^4\); DAF 2013
* based on industry sources

As can be seen, the Sunshine Coast’s wild-caught seafood industry (with an annual turnover of

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\(^4\) Note that the data coming from the Australian Bureau of Statistics has an error margin of up to 50%.

\(^5\) Data is based on average market unit value.
nearly $100 million in 2013) outstrips the next biggest industry, poultry slaughtering ($38.94 million), by almost a factor of three and accounts for approximately 47% of all revenue raised from primary production on the Sunshine Coast (total primary production value on the Sunshine Coast in 2013 was $207 million). Figure 2 shows this dominance in graphical form. This turnover also accounts for approximately half of Queensland’s total revenue raised from wild caught seafood, in its primary form, making the Sunshine Coast a major player in this industry. Wild-caught seafood and poultry slaughtering together account for approximately 65% of the Sunshine Coast’s total primary production value. Of significance is that the financial value of both of these industries has trended higher over the past decade.

![Figure 2 – Value of Sunshine Coast food commodities](image)

The next most valuable food industries on the Sunshine Coast, strawberries, pineapples, and cattle slaughtering dominate the financial landscape; with similar annual turnovers around $13 million each. Together, these three commodities accounted for approximately $39.63 million (in 2013) in annual turnover, or 19% of the region’s primary production revenue. Of note also; each of these industries has trended downwards over the past decade in terms of their annual turnover.

Ginger, milk production, and macadamias are the next largest contributors; with annual turnovers of $10 million, $8.79 million, and $6.6 million respectively, accounting for a further 8.2% of the region’s primary production turnover. In addition to wild-caught seafood and poultry, macadamias are the only other ‘significant’ industry in the region that has trended
upward over the past decade in terms of turnover. Milk production is one of a number of industries on the Sunshine Coast that has suffered a major downturn in fortunes over the past decade with the industry now (based on 2013 values) worth approximately one third of what it was in 2007. Ginger is recovering from a breakout of disease and has increased production for 2013-2014 season; harvesting 4,000 tonnes of ginger.

The next grouping of industries (avocados, tomatoes, mushrooms, oranges, mandarins, mangoes, eggs, and bananas) together account for less than 3% of the region’s primary production turnover. While tomatoes and oranges have trended slightly higher over the past decade, their contribution to the region is relatively small in financial terms. Table 1 showed that oranges are a significant industry in terms of tonnage sold from the region, however, with their annual turnover relatively low (<$1 million), the significance of this industry to the Sunshine Coast should not be over-stated. All other commodities in the category have trended lower, with mangoes and bananas completely leaving the region (zero turnover) and eggs and mandarins trending to insignificance.

In summary therefore, when assessing the profile of Sunshine Coast’s primary commodities in terms of their significance relative to Queensland’s and Australia’s production and the financial contribution to the region’s GDP both production and value over time need to be considered.

The combination of both criteria reveals the profile of Sunshine Coast food commodities can be addressed in 4 broad categories:

**Category 1: Wild caught seafood (on its own)** – Worth some $100 million to the Sunshine Coast or approximately 47% of the region’s primary production turnover; contributing approximately 50% of Queensland’s wild caught seafood needs.

**Category 2: Poultry slaughtering, strawberries, pineapples, ginger & macadamias** – Each contribute significantly to Queensland’s volume needs and collectively account for approximately 39.7% of the region’s primary production turnover. Refer to Appendix 2 for individual industry charts.

**Category 3: Cattle slaughtering and dairy milk** – As a percentage of Queensland and Australia’s production needs, both industries are very small. However, with a combined financial contribution of 10.3% to the Sunshine Coast region’s GDP, they remain significant.

**Category 4: The rest** – With a combined annual financial contribution of approximately 3% and none contributing significantly to Queensland’s production needs, these commodities can be considered minor.
3. Methodology

The following method was used to collect and analyse the primary data for this project. This research follows the five stages in the supply chain for food and agribusiness on the Sunshine Coast – namely farm, processor, wholesale, retail and restaurant (as depicted within the first column in Figure 3). Within each stage, interviews were conducted following a structured protocol (Appendix 1). However, these interviews were undertaken in unmatched supply chain situations with the views of all respondents for each stage making up the collective view.

![Figure 3 – Flow chart of methodology](image)

<table>
<thead>
<tr>
<th>Protocols</th>
<th>Data</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm</td>
<td>RQ (1)</td>
<td>Profile of food and agribusiness for the Sunshine Coast</td>
</tr>
<tr>
<td>Processor</td>
<td></td>
<td>Supply chain analysis</td>
</tr>
<tr>
<td>Wholesale</td>
<td></td>
<td>Mapping of flows</td>
</tr>
<tr>
<td>Retail</td>
<td></td>
<td>Opportunities</td>
</tr>
<tr>
<td>Restaurants</td>
<td>RQ (2)</td>
<td>Audit of strategic assets</td>
</tr>
</tbody>
</table>

- **RQ (1)**
  1. What makes Sunshine Coast food region unique?
  2. Can food clusters be identified?
  3. Definition by size, industry, companies, segment and national.
  4. What are the emerging or rising opportunities?

- **RQ (2)**
  1. Mapping of the supply chain in terms of product, information and relationships.
  2. Identification of opportunities and challenges in the local supply chains at regional level.

- **RQ (3)**
  1. What capacity does the Sunshine Coast region have in developing an agribusiness food region?
The answers obtained through the structured interview process were collated with the secondary data and used to answer research questions 1, 2, and 3. These results in turn provided outcomes in the form of a profile of the Sunshine Coast agribusiness and food region, supply chain analysis, and an audit of strategic assets.

The main research questions outlined in Table 3 were answered through analysis of specific research questions in the protocol. Table 3 shows the protocol questions that were used and analysed to reach answers for each research question (RQ).

Throughout the results respondents are identified by a number from 1 to 40 and an industry sector code to acknowledge direct quotes, hence maintaining anonymity.

Table 3 – Structure of research and protocol questions

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Protocol Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>RQ (1a) – What makes Sunshine Coast food region unique?</td>
<td>18,19,20,21, 4, 15, 16, 17</td>
</tr>
<tr>
<td>RQ (1b) – Can food clusters be identified?</td>
<td>1,2, 21, 15,16,17</td>
</tr>
<tr>
<td>RQ (1c) – Definition by size, industry, companies, segment, and national.</td>
<td>1,2, 30,32</td>
</tr>
<tr>
<td>RQ (1d) – What are the emerging or rising opportunities?</td>
<td>2, 20, 12, 13, 16</td>
</tr>
<tr>
<td>RQ (2a) – Mapping of the supply chain in terms of product, information, and relationships.</td>
<td>11, 3, 4, 6, 7, 8, 9, 10</td>
</tr>
<tr>
<td>RQ (2b) – Identification of opportunities and challenges in the local supply chains at regional level.</td>
<td>2, 11, 12, 13, 14</td>
</tr>
<tr>
<td>RQ (3) – What capacity does the Sunshine Coast region have in developing an agribusiness food region?</td>
<td>2, 5, 8, 10, 11, 20, 21, 22</td>
</tr>
</tbody>
</table>

4. Results

The results have been organised to answer the three research questions outlined in the methodology. Firstly, a profile of Sunshine Coast food and agribusiness is developed. Secondly, the supply chain is mapped, and strengths, weaknesses, opportunities, and threats are identified. Finally, the section concludes with the supply chain and food audit.
4.1 Profile of respondents
In total, 40 interviews were conducted across the chain. Table 4 provides a breakdown of the number of interviews conducted at each stage of the chain. It is important to note that there is a high degree of vertical integration within the food and agribusiness industries on the Sunshine Coast, however for the purpose of this research; we categorised on the basis of primary function within the supply chain only.

Table 4 – Breakdown of interviews at each stage of the supply chain

<table>
<thead>
<tr>
<th>Stage</th>
<th>Primary Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm</td>
<td>10</td>
</tr>
<tr>
<td>Processor</td>
<td>11</td>
</tr>
<tr>
<td>Wholesale</td>
<td>5</td>
</tr>
<tr>
<td>Retail</td>
<td>6</td>
</tr>
<tr>
<td>Restaurant</td>
<td>5</td>
</tr>
<tr>
<td>Artisan</td>
<td>2</td>
</tr>
<tr>
<td>Services</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>40</strong></td>
</tr>
</tbody>
</table>

A limitation to the research is the sample size of 40; however this is more than compensated by the richness of data that would not have been achieved through survey methods. Further, the cases within each sector were selected on the basis of size and profile within that industry to ensure that the highest penetration could be achieved. It should be noted that across the sectors, consistency was achieved in the responses.

4.2 Profile of the Sunshine Coast
The results of the research have revealed insights into what makes the Sunshine Coast unique, how food clusters can be organised, and also identified the emerging or rising opportunities for food and agribusiness on the Sunshine Coast.

4.2.1 What makes Sunshine Coast food and agribusiness unique?
This question elicited a wide range of responses as shown in Figure 4. On analysis however, three strong themes emerge. Firstly, the clear strength of the Sunshine Coast region lies in its ability to be able to grow a wide range of produce. Its climate, soils and water allow it to grow tropical, sub-tropical and low-chill versions of cooler climate fruit. Areas within this region are also suitable for livestock and dairy. The second theme is ‘clean and green’. In the psyche
of the respondents, ‘clean and green’ is closely associated with the produce of the Sunshine Coast, and is a factor in what makes us unique. ‘Clean’ rated 14 responses and ‘green’ 11, making these two combined factors a very strong theme across the supply chain. The third theme is that of location. While location itself scored eight responses when grouped with accessibility to markets (also eight) it becomes much stronger. Accessibility to markets relates to the respondent’s access to the large central markets of Rocklea in Brisbane. Therefore, location is crucial to achieving proximity to the markets.

![Figure 4 – What makes Sunshine Coast food and agribusiness unique?](image)

An interesting observation of the responses to this question is what has not been noted. Seafood was not mentioned, yet it is the Sunshine Coast's most valuable industry. Of the main industries on the Sunshine Coast (refer to Section 2.1) only strawberries rated a response. Sub-tropical fruit (which is not a significant industry for the Sunshine Coast) also rated one response. The conclusion may be drawn that the diverse number of responses (with highest response of 16) suggests that the respondents do not have a clear perception of what is unique about the Sunshine Coast. Other responses include high quality products (5 responses) and artisan product (3 responses) but tourism, lifestyle and regional heart are not specific to food and agribusiness.
4.2.2 Can food clusters be identified?

The food clusters that can be identified for Sunshine Coast food and agribusiness supply chains are:

Seafood
As the Sunshine Coast’s most valuable sector, this industry needs to have a focus. The exact value of this sector to the Sunshine Coast is unclear as data is not available, as current statistics are grouped on a Queensland basis; nor do we know how much seafood is being exported. A seafood cluster would allow us to build an understanding of this significant industry, allowing the identification of particular challenges and opportunities facing seafood on the Sunshine Coast and the opportunity to build up its profile. The fact that seafood was not clearly identified as something the Sunshine Coast is known for is a compelling argument for a cluster when it is such a significant industry.

Dairy
The Sunshine Coast has one of the highest concentrations of specialist dairy makers in mainland Australia. Within a small geographic area of the Hinterland of the Sunshine Coast, we have two milk processing plants, five specialist cheese makers, four yoghurt makers and several ice-cream and gelato makers. This sector is facing a particularly unique set of challenges. Although there is a concentration of value-added dairy processors, the sector is facing a milk shortage. A cluster would focus the sector on innovative solutions to this challenge and develop the sector as a whole. This sector would also benefit from agri-tourism and food trails, and is particularly well placed for tourism given its history within the Sunshine Coast and its ability to showcase the dairy industry from paddock to plate.

Sunshine Coast Fresh
This cluster would focus on the needs of producers of fresh produce across the Sunshine Coast. Research identified that producers on the Sunshine Coast could be categorised as small or large producers who are concentrated predominantly in four differing geographic locations. There are advantages to developing the cluster along geographic lines, as the needs that producers face can be addressed within each area. Benefits such as provenance branding and tourism can be focused on each distinct area. It is envisaged that such a categorisation may be as follows:

Area 1 – Glasshouse Mountains. The Glasshouse Mountains region is home to large producers of the mainstream industries of strawberries, pineapples, macadamias and poultry. The results of this research identified that most producers in this region grow multiple crops, such as pineapples and macadamias. Therefore, dissecting by industry increases the
participation needed by each individual producer. The Glasshouse Mountains region is facing specific challenges of high urbanisation and input costs such as compliance. These challenges are best met on a geographic basis. Further, the needs of large producers (in terms of recruitment and training) are similar and can be addressed within the region. The crops of strawberries, pineapples, and macadamias can be more closely aligned to the towns of Glasshouse Mountains, Beerwah, and Peachester for tourism and festival purposes. The poultry industry is also located within the Glasshouse Mountains region and their needs may align with the large fruit producers within the same area.

**Area 2 – The Range.** This area centres on the range towns of Maleny, Montville, Flaxton, and Mapleton, and also the foothill areas of Landsborough, Palmwoods, Woombye, and Nambour. This area tends to focus on sub-tropical crops such as persimmons, lychees, avocados, and macadamias. Hydroponic lettuce and mixed vegetables are also grown in the region and there are several vineyards, turf, nurseries, and organic farms. This region is also facing high urbanisation pressures, but the biggest challenge is developing its identity for food and agribusiness, as it grows numerous small crops that have changed over time.

**Area 3 – The Valleys.** This region takes in the Mary and Obi Valleys and the towns of Conondale and Kenilworth, and is predominately dairy and beef country. However, Conondale has several organic farms, including a free range poultry establishment. This region has a rich history in these traditional areas, and provides a picturesque backdrop for camping and fishing along the river and creeks. The biggest challenge for this region is to rejuvenate their sector; having been impacted through the decline in the dairy industry over recent years.

**Area 4 – The Northern Farms.** This area covers both sides of the highway from Yandina to Eumundi, and includes niche new enterprises such as turkeys, feijoas, and tomatoes alongside traditional pursuits, such as ginger, passionfruit, and beef cattle. The majority of this farmland was sugar cane, and with this industry’s demise, the land has become more urbanised and characterised by smaller holdings in non-traditional industries.

*Sunshine Coast Value-add*

There is an extensive portfolio of value-adding on the Sunshine Coast; however the activity is at both ends of the spectrum. There is a thriving artisan group of jam and chutney makers; some who have been in business for more than 20 years. Most of these artisans do not have their own premises, and are using licensed premises of community organisations such as golf clubs to grow their businesses. There is a lack of knowledge on the size and make-up of this
group. Results indicate that local retailers stock some 15 local brands; however this number would increase given the amount of farmers markets across the Sunshine Coast.

At the other end of the scale is the highly valuable food processing sector. The exact value of this sector is unclear, as there is limited data (other than this research) to quantify the scale of the sector. It is estimated through this research that this sector would turnover in excess of $200,000,000p.a. This sector is also achieving good growth rates and has further plans for expansion, including export, in the coming year. The benefit to the Coast in terms of jobs and service provision from the processing sector is significant. This group has the ability to drive the food and agribusiness supply chain for the Sunshine Coast forward, and any strategy for this region should be based around this group.

The challenge for the value-add cluster is capacity building. How can both ends of this sector continue to not only grow, but thrive? More needs to be done to understand this sector and assist in overcoming barriers to growth.

**Organics**

There is a strong interest in health and well-being on the Sunshine Coast (32q, 17fs). "In the past 18 months, we have experienced 40 percent growth" (32q). This is illustrated in the support for organics and natural food, and also the growth of organic food as a category in supermarkets and fruit and vegetable stores. In this region, we have also seen the emergence of organic superstores. This is a combination of a supermarket and health food store and cafe in one location. Yet behind this scene, the production side of organics is a much more complex story. While the number of producers is increasing, their operations are small. There are difficulties associated with growing organics on a large-scale due to the pest management issues. However, the most common reason is that organic growing is a lifestyle choice and not necessarily a business operation. Therefore, the producers grow what they need and sell the surplus, although this business model is changing. With purpose built organic farms in operation, many producers wish to remain small and continue their lifestyle. This has an effect on the reliability and consistency of supply across the Coast. Solutions such as the ‘fresh box’ concept have assisted in obtaining markets for this produce while working with the availability of the produce. The ‘fresh box’ is simply a combination of fruit and vegetables that are available that week, and it changes from week to week depending on the availability of fresh produce. However, the biggest challenge for this sector is the small fragmented production base having to supply large organised retailing and wholesaling operations. Where it is being achieved, flexibility is crucial and a wide base of producers is needed to gain continuity of supply. Given the cluster focus, the supply chain management or organics could be improved.
4.3 Supply chain mapping

The supply chain will be analysed from the differing perspectives of the chain member’s role within the chain. The five stages for analysis are – farmer, processor, wholesaler, retail and restaurant. There are three components to supply chain considerations. Firstly, an overview is conducted on each stage of the supply chain, mapping of product, relationships and information is undertaken, and finally, opportunities and challenges for the supply chain are identified.

4.3.1 Overview of the supply chain

Supply chain is an integrated network of organisations involved in the physical flow of products from suppliers to customers (Fahimnia, Farahani & Sarkis 2013). The supply chain represents a value delivery system, and each company can normally cover only a certain percentage of the total value generated by the chain. When a company moves up or down the chain, it captures a higher percentage of the supply chain value. Further sustainable competitive advantages can be created by the chain by working together to overcome challenges and exploit opportunities; creating further value for consumers in the process (Fearne et al. 2009).

Sunshine Coast food and agribusiness supply chains are made up of farms (producers), processors, wholesalers, retailers, and restaurants. However, there is movement up and down the chain – with some 30% of firms interviewed having a secondary function within the chain, and 8% of the firms being fully vertically integrated. Most have moved up or down the chain to solve problems for their firms, either to establish better market access or to safeguard raw material procurement. Each of the stages in the supply chain has been profiled in terms of the average organisation and respondent (to obtain an overview of each category in the chain) as shown in Table 5.

<table>
<thead>
<tr>
<th>Table 5 – Profile of organisation and respondent (averages)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Profile of Organisation</strong></td>
</tr>
<tr>
<td>Turnover ($million)</td>
</tr>
<tr>
<td>Processors (n=11)</td>
</tr>
<tr>
<td>Small farms (n=6)</td>
</tr>
<tr>
<td>Large farms (n=4)</td>
</tr>
<tr>
<td>Wholesalers (n=5)</td>
</tr>
<tr>
<td>Retailers (n=6)</td>
</tr>
<tr>
<td>Restaurants (n=5)</td>
</tr>
</tbody>
</table>
Farms. A large proportion of the farms in the region are small in terms of their business size. A recent study noted that 58% of farms had an annual income of less than $50,000 and accounted for some 6% of the total value of agricultural operations in 2010-11. Conversely, 12% of farms have an income of more than $350,000 and accounted for an estimated 74% of the total value of the operations in the region for 2010-11 (Trestail et al. 2013). Due to this disparity in operational capacity, this project analysed farms as small and large. Small farms have turnover of less than $500,000p.a., and large farms have a turnover of more than $500,001p.a. Of the large farms interviewed only one was operating as a corporate farm.

The average turnover of organisations and respondents in the small farms category was $340,000p.a. The farms have been in business for 13 years and have an average of 8 employees (at peak season). The average age of a small farm owner is 50 years, and they have been on the Sunshine Coast for an average of 24 years. This study noted that the small farms are located along the Blackall range and to the north of the Sunshine Coast region (around the towns of Yandina and Eumundi).

Conversely, large farms are predominately located to the south of the Sunshine Coast region in the Glasshouse Mountains area. These large working farms are predominately in the large industries of strawberries, pineapples and macadamias. The average turnover of these operations is $12.6 million, and most have been in business for 30 years. Large farms employ on average 57 people (in peak production periods). The owners are (on average) 50 years old and have been on the Sunshine coast for 29 years, but have been on this current holding for an average of 15 years.

Processors. The next stage of the supply chain are the processors. They take raw materials in terms of fruit, vegetables, grains, and dairy products – processing them to create juices, sauces, marinades, cheese, and yoghurt; just to name a few of the value-added items. The profile of the average processor reveals a business that turns over $14.5 million, has been in business for 20 years, and employs 49 people. On average, management has been with the organisation for 9 years but has also resided on the Sunshine Coast for an average of 12 years, and managers are (on average) 48 years old. The size of this sector for the supply chain is significant. This research conducted 11 interviews of processor organisations, representing a total turnover of $160 million. It is estimated that penetration of the research into this sector is between 30 – 40%, in terms of the number of businesses interviewed, however in terms of turnover the majority of major firms have been included. This sector, therefore, is a major contributor to the value of agribusiness on the Sunshine Coast and is not recognised in the current method of valuing agricultural commodities within the Australian Bureau of Statistics.
**Wholesalers.** Wholesalers primarily fulfil a sorting and distribution function in the supply chain, possessing the ability of taking bulk produce and reallocating it in smaller lots across a more diverse range. This is a crucial function in the agribusiness food supply chain, as variables such as perishable products, seasonality, and climatic conditions make the objectives of supplying consistently very challenging. The average wholesale operation has a turnover of $14.4 million, has been in business for 20 years, and employs 41 workers. The average owner/manager of wholesale operations is 56 years old and has been with the organisation for 9 years, though has lived on the Sunshine Coast for 24 years.

**Retailers.** The retail food space on the Sunshine Coast is dominated by the duopoly of Coles and Woolworths. Industry estimates between 75 – 80% of the food retail market share being attributable to Coles and Woolworths (7p, 8p). Within this project, the focus was on local produce – therefore the research concentrated on interviewing independent retailers and supermarkets within the remaining 20 – 25% of the market. Other members of the chain sell to Coles and Woolworths, and this will be discussed throughout the report. It should be noted that a new program implemented by Woolworths for local produce has seen four of our respondent processors invited to supply to a set number of Woolworths stores in the wider regional area. This has provided strong opportunities for these companies in both volume and exposure. The profile of the average independent retailer is 46 years old, having lived on the Sunshine Coast for some 33 years, and has been with the current organisation for 9 years. The average retail operation turns over some $16.3 million and is 16 years old, employing some 92 workers.

**Restaurants.** The final stage in the supply chain is restaurants. This is an important sector to the Sunshine Coast, as it is a tourist destination. Some 8.9 million people visited the Sunshine Coast in 2012-13, and this is an 8.7% increase on the previous year (My Sunshine Coast 2013). The average restaurant of the Sunshine Coast has a turnover of $1.25 million, and has operated for 19 years with 35 employees. The average owner/manager is 46 years old and has been with the organisation and living on the Sunshine Coast for 10 years.

**4.3.2 Mapping the chain – product**

The physical flow of goods on the Sunshine Coast is quite complex. From the results obtained in the research, a map depicting the flow has been developed; illustrating the physical flow of goods for the 40 respondent companies. This is shown in Figure 5.
Large farms do not sell their produce directly to the consumers (as shown in Figure 5).

Approximately 67% of large farms interviewed sell directly to wholesalers, and 55% of them sell directly to retail (Coles, Woolworths and other supermarkets).

Some 57% of small farms interviewed sell their products directly to consumers. Similarly, 56% of small farms operators sell their products directly to wholesalers, and 57% also sell to retailers. The majority of the small farms interviewed were also organic (17fs, 18fs, 13fs, 19fs). The organic industry has developed effective distribution channels, with a combination of farm gate sales, own wholesaling operations and selling to organic wholesalers, independent fruit and vegetable shops, and being facilitated through supermarkets such as IGA.

**Figure 5 – Sunshine Coast food supply chain: Map of physical flow of goods**
Very little of the raw materials procured by the processing sector comes from the local region, and there are two main reasons for this. Firstly, processors have set product lines which dictate what raw materials are needed. Secondly, the Sunshine Coast does not grow the produce in the quantity that is needed by the processor. For example, mango products are produced by two processors on the Sunshine Coast and are sourced from North Queensland and Northern Territory. As discussed in the profile of Sunshine Coast food, this region no longer produces mangoes in significant volume. Pineapples, strawberries, raspberries and passionfruit are being sourced locally, but across the sector, the volumes are relatively small. Although these processors are not relying on the immediate area for procurement, they are using Queensland to a greater degree; with produce coming from North Queensland, Central Queensland and Stanthorpe being further processed here on the Sunshine Coast. This presents an opportunity for growers on the Sunshine Coast to explore – how to enter the processors’ supply chain.

Some 61% of the Sunshine Coast processing sector sells into the retail sector, while 36% of firms sell to wholesalers. Nearly half (46%) of the processors also have a business-to-business sector, where products from one processor become the input materials for the next processor. For example, fruit coulis is an input material for flavoured yoghurt. Three of the respondent processors are vertically integrated and have their own retail outlets (27%).

Predominately, wholesalers sell to retailers, as results indicate that some 71% of respondent wholesalers sell to retailers. Wholesalers also sell to other wholesalers (37%) and consumers (27%). Wholesalers also sell raw materials to other processors for further processing (20%).

Retail and restaurants largely sell to consumers. While restaurants exclusively sell to consumers (100%), retail operators also sell to wholesalers (12%), other retailers (23%), and other business-to-business operations (20%). This situation is possible because of the multiple supply chain functions taken on by respondent firms. Retailers can also be wholesalers, processors, or producers.

The production of food and agribusiness that is generated in the Sunshine Coast region is not consumed here entirely. The research firstly considered the destination of Sunshine Coast food and agribusiness in terms of what stays on the Sunshine Coast as local produce. Secondly, the research considered produce that is sent from the Sunshine Coast region to other parts of Australia, and also produce that is exported (refer to Figure 6).
Figure 6 – Sunshine Coast food supply chain: Where does our food go? 

Across the supply chain, 33% of the turnover stays on the Sunshine Coast. This figure is influenced by industries within the respondent group who predominately sell their produce locally; for example, seafood, dairy and organics. It does suggest that there is a strong base for local produce in this region beyond fruit and vegetables.

Some 50% of the turnover across the supply chain is consumed in other parts of Australia. This is represented by the retailing and wholesaling functions facilitated through Coles, Woolworths, Aldi, IGA, and wholesalers across Australia, who buy and sell the produce from this region.

Only 17% of the turnover across the supply chain goes to export. Sunshine Coast companies export to New Zealand, the United Kingdom, Singapore, Malaysia, Thailand, Vanuatu, Canada, Hong Kong, Norway, Japan, South Africa, USA, China, Vietnam and the Middle East. The number of countries listed illustrates a wealth of experience that will provide a strong base for future expansion. While companies are finding the macro environment challenging, there are opportunities in export. In fact, four respondent companies are currently in the final stages of organising export ventures, suggesting an increase in exports will occur in the coming year: “We have just completed a trial shipment to China” (8p), and “We have purchased new equipment which will allow us to access the Chinese market” (2p).

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6 Source of data compiled from fieldwork (combination of absolute figures and midpoint of category data)
4.3.3 Flow of information for the Sunshine Coast

The ability of the supply chain to communicate and build relationships indicates its ability to create value through cooperation and collaboration in the long-term. The flow of information across the supply chain for food and agribusiness revealed a number of issues.

As demonstrated in Figure 7, information flow and communication varies significantly, depending on where you are situated in the supply chain. Further, there is a clear 'communication divide' between two groupings of members within the supply chain. The group to the right of the communication divide (wholesalers, retailers, processors and large farms) share information relatively freely and communicate with each other effectively to facilitate business flows. The group to the left of the communication divide (restaurants, small farms and consumers), whilst communicating reasonably well amongst themselves, have limited or disjointed communication across into the other supply chain group, making them relatively isolated. It is this group that is particularly welcoming of a portal as a way for them to gain knowledge of what is occurring through other parts of the supply chain, e.g. market opportunities, product issues, and finding suppliers. Restaurants in particular are isolated, not only from the supply chain, but also from each other within the industry. Chefs spoke of wanting a ‘Chef’s Table’ concept that would provide a forum to meet other chefs and learn about new products at the same time. This concept is very successful across Australia and overseas (24r). Most spoke of the difficulty of finding suppliers and being able to adopt local produce within their establishments given their time and cost pressures. Similarly isolated, small farms have more opportunities to build relationships with the consumers through farm gate and market selling options. However, while farms are connected to industry associations, the very nature of their business tends to isolate them; an issue amplified by time constraints.

Wholesalers and retailers are well connected across the chain and can be considered the 'gatekeepers' of the key supply chain information. Wholesalers (through their connection with restaurants) and retailers (with their connection with consumers) know both sides of the channel. They are aware of the needs of consumers as well as the issues with farmers and product supplies. However, this does not imply that the communication is optimal. In fact, while the business transactions are strong, the feedback loops so crucial to the supply chain are not as well developed. Producers and consumers are being limited in their knowledge gain of markets and produce. While wholesalers’ and retailers’ connectivity is an exceptional resource, it needs to be captured and exploited further within the supply chain. Wholesalers and retailers need to be encouraged to
link both ways on market and produce information. Further, an information portal will encourage connectivity across the whole channel and across the communication divide.

Large farms communicate well to wholesalers and retailers. However, they have no contact with consumers and rely on feedback through these channels on their products. Processors have a good flow of communication with wholesale and retail and work closely with these sectors, although their retailers and wholesalers may not be on the Sunshine Coast, leaving processors somewhat isolated. The sector has countered that by developing a strong communication network across the sector. Communications with large farms is increasing as processors focus on securing sustainable supply lines.

Processors are well connected to each other, talking frequently and assisting each other through numerous business issues. There is an identified channel captain in this group and a high sense of cooperation.

![Diagram of communication flow](Image)

**Figure 7 – Information flow for the food and agribusiness supply chain – Sunshine Coast**

4.3.4 Flow of relationships for the Sunshine Coast

If attention is turned to how collaboration plays out across the chain, flows from the communication analysis are confirmed. Figure 8 illustrates the level of collaboration each stage of the chain has with the wider environment of competitors, customers, dealers/distributors, suppliers, researchers, development providers, and local government. Of
note is the isolation felt by small farms, where their strongest relationships lie predominantly with their customers and in the case of artisan suppliers, directly to restaurants. Wholesalers are very focused and highly connected within the chain of customers, suppliers, and personal networks. The results tend to suggest that wholesalers see little value in the wider environment of government, research, and development. Conversely, restaurants that appeared isolated within the chain seem to be better connected within the larger environment (refer to Figure 8.)

![Figure 8 – Relationships in the Sunshine Coast food supply chain](image)

**Figure 8 – Relationships in the Sunshine Coast food supply chain**

### 4.3.5 Opportunities and challenges in local supply chains at regional level

In order to draw out the opportunities and challenges for the supply chain, a strength, weakness, opportunity, and threat matrix has been developed for the whole supply chain (Table 6). Particular needs across the chain (from different sectors) will be discussed through the analysis.
Table 6 – SWOT of the Sunshine Coast food and agribusiness supply chain

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative</td>
<td>Plant capacity</td>
</tr>
<tr>
<td>Vertical integration</td>
<td>Input costs</td>
</tr>
<tr>
<td>High quality</td>
<td>Procurement of raw materials</td>
</tr>
<tr>
<td>Ability to adapt</td>
<td>Logistics</td>
</tr>
<tr>
<td>Ability to supply consistently</td>
<td></td>
</tr>
<tr>
<td>Opportunities</td>
<td>Threats</td>
</tr>
<tr>
<td>Niche marketing</td>
<td>Compliance</td>
</tr>
<tr>
<td>International opportunities</td>
<td>Competition</td>
</tr>
<tr>
<td>Increase capacity</td>
<td>Lack of consumer knowledge</td>
</tr>
<tr>
<td>Agri-tourism</td>
<td></td>
</tr>
</tbody>
</table>

**Strengths**

The strength of a supply chain rests on its ability to supply high quality goods. Across the chain, this was the most mentioned strength and due to the positioning of companies in the Sunshine Coast food and agribusiness chain in high quality products. Another strength inherent within all firms across the chain is the ability to adapt. On average, firms within the supply chain have been in business for 20 years. In that time, they have had to adapt and remain flexible in order to sustain their competitive advantage and stay in business: “We are used to change. My father started with citrus and bananas in the 1950s and through the years we have grown beans, tomatoes, squash, paw paws and now we have sub-tropical fruit” (34q).

The ability to innovate is seen as an essential strength of the supply chain. Many of the firms’ own positioning is based on their products being the most innovative in the market. Innovation is highlighted right across the chain – from farm practices (hydroponic, organic), crop selection (new varieties, breeding rights), business structure (category dominance, licencing, corporate investment), processing (innovative and patented techniques, high quality small volume artisan products), wholesaling (specialisation, systems for consistency and reliability, improved returns to farm gate), and retailing (organic, local produce and knowledge, traceability).
Strength also exists through the vertical integration along the chain. Some 30% of the chain holds secondary functions apart from their primary role. Eight per cent of the respondents are fully vertically integrated operations. These operations are hard to duplicate as they have been built up over years in business and provide a sustainable competitive advantage for these firms. Although the firms acknowledge that they did not start out to be vertically integrated, most have moved up or down the line to solve problems for their core businesses. For example, two of the large farms have invested into wholesaling operations to ensure better returns for their farm produce.

**Weaknesses**

There are four main weaknesses identified across the chain – input costs, procurement, logistics and plant capacity.

Input costs are a major concern across all firms. More specifically, the input cost of power, labour, and cost of compliance are considered issues across the whole chain. The rising cost of power and its influence on the overall profitability of the chain, combined with the ongoing ability of the firm to manage its power usage is a crucial issue. One firm has moved to solar in an attempt to curb costs, and others are actively seeking ways to reduce their bills. The fact that 66% of power costs are now in fixed charges and 34% in power usage limits the ability of firms to substantially reduce their bills (7p).

Labour was consistently cited across the chain as a major input cost. There are two components to these issues within large farms.

Firstly, there is a difficulty in securing labour to work on the farms. Some 75% of the farms are using backpackers as major part of their workforce. This is supplemented by permanent workers and a range of other government programs; such as temporary contracts for international workers and employment programs. To obtain as much stability as possible, the farms are aligned with accommodation and transport providers to streamline the operation of the workforce. However, having such a high reliance on backpackers means constant training; as only a small percentage of backpackers return for a following season. Temporary contracts for international workers addresses this issue by allowing the same workers access to farm work for a short period (harvest) each year; meaning that work skills are being upgraded and also offering some consistency to the farming operation. Secondly, a much higher ratio of
workers is needed to farm intensive crops such as strawberries and pineapples, and also plantation crops such as mangoes, lychees and citrus – converting to a large labour cost.

Small farms suffer from the cost of labour, with most either working themselves or only employing part-time or casual staff. One innovative solution involved international volunteer farm workers learning specific organic practices from a host farm (18fs). Others have moved to ‘pick your own’ operations or farm gate sales to decrease the need for staff.

The processing sector has a more stable workforce, but labour costs remain a high input cost for these businesses. An existing concern is the ability to recruit labour, especially skilled labour. The location of the Sunshine Coast can be a drawcard for those skilled personnel who want a different lifestyle from city living, but it can also be a negative by only providing a small pool of skilled and semi-skilled personnel.

Retail outlets report a high staff turnover within their operations. This sector has the additional cost of training constantly, as do the large farms, due to short-term staffing. Restaurants cite penalty rates as their biggest challenge, with respondent restaurants stating that industry members close on public holidays as penalty rates make trading unprofitable. Further adverse trading conditions over the past three years have caused a number of restaurants to close across the region. Those succeeding in this climate have add-on facilities of functions and accommodation (24r, 23r).

Another weakness across the chain is the procurement of raw materials. Respondent companies are finding that they have to take an increased interest in their supply lines to ensure supply of raw materials. Two examples illustrate this issue. The first firm has bought a farm to ensure supply of raw material, as many farmers have left the industry and continued supply could not be guaranteed. In the second case, strong demand for the raw material from China has forced up the price, and the company is now looking at further options to secure supply.

The third area recognised as a weakness across the chain is logistics. There are a number of issues associated with logistics within the food and agribusiness supply chain centred on cost, scheduling, and capacity.

Cost. The Bruce Highway between the Sunshine Coast and Brisbane has been described as “the most expensive piece of road in Australia for transport” (7p). There are a number of issues creating this situation:
a. The base rate for trucks from the Sunshine Coast to Brisbane is some 70-80% of the cost of a similar load to Sydney. Therefore, the cost is not totally related to kilometres, and other factors such as fixed costs of the trucking company influence the price.

b. The cost per pallet does not make it economical to transport on this basis. The majority of respondents choose to pay a whole-of-truck rate and send the trucks half empty than to pay the pallet rate (which would be more expensive). This disadvantages small producers and highly value added products, such as chocolates, that are not shipped in large volumes. Further, having half-filled trucks leaving the Coast is a barrier to chain efficiency (4p, 3p, 8p).

**Capacity.** There are three transport companies based on the Sunshine Coast which possess the capability of maintaining the cool chain for food transport (see Section 4.5). While there are further companies based in Gympie, Caboolture, and further afield that will pick up on the Sunshine Coast, the retraction and rationalisation of this sector (due to increased costs and decreased profitability) has led to some inherent problems for firms on the Sunshine Coast.

a. Trucks deliver from depot to depot. However, the majority of haulage firms do not have a depot on the Sunshine Coast. This creates a situation when bringing goods from North Queensland; firms pay for the goods to go past the Sunshine Coast to Brisbane, where they are unloaded, and then to be transported back to the Sunshine Coast at additional cost. Given that the processing sector relies on fruit from North Queensland, this is of concern to the chain (7p, 9p).

b. Refrigerated and frozen trucks can only transport compatible goods, so it is difficult to consolidate and send within time frames needed for perishable goods. Additionally, some trucks need to be industry specific (33w, 34q). For example, the seafood sector tends to have trucks that only transport their produce due to the special needs in handling and taint; making it incompatible with other goods.

c. The lack of depots on the Sunshine Coast with associated storage means that firms are searching for solutions to storage. Sunshine Coast companies are storing as far south as NSW. This issue will be expanded on within the next section.

**Routing.** The routing and delivery times for the food and agribusiness supply chain are crucial. Routing to the distribution centre and then back to the Sunshine Coast can cost valuable days (1-3) depending on pickup and delivery times. This becomes a major issue when you are dealing with high cost, short shelf-life goods such as seafood (33w).
The supply chain has created some solutions to these issues by:

- Obtaining the best possible price for the routes;
- Joining with other chain members and consolidating loads;
- Using trucking companies that are passing the Sunshine Coast on the way back from another delivery, allowing for cheaper rates; and
- Utilising third party logistics to store and deliver their goods to order.

Thirty per cent of respondents have their own logistic operations, in terms of trucks or delivery vans. In most cases, this does not offer a complete solution; with firms still utilising contract haulage for long distance and inbound freight. In summary, logistics is a major concern for firms on the Sunshine Coast, and this is reflected in the results of the Food Hub concept containing logistics (Section 4.4).

The final weakness in the supply chain involves plant capacity. There is significant expansion within the processing sector regarding plant capacity. Three firms have recently moved or are in the process of constructing new plants to resolve their issues of storage and production capabilities. Currently, there are three more firms who are at capacity and considering options for increasing their capabilities. A further two firms are investigating options for additional capacity in storage. Both firms noted that there are limited options for commercial storage on the Sunshine Coast (10p, 4p). Firms are currently utilising depots in Brisbane and further south in northern NSW to warehouse their goods. Where this is occurring, firms are working with their transport companies to coordinate the flow of products to market and raw materials back to site. In this situation, the transport company controls the warehousing and depot facilities to assist the firms. Further, there is also limited cool storage available on the Sunshine Coast, and this has affected both the farm and processing sectors (14fl, 2p, 7p). Chain members have installed their own facilities; however this is expensive infrastructure and limits their ability to change premises when needed. The issue of plant capacity is discussed further within the Food Hub concept (Section 4.4), as respondent firms considered a food precinct as part of the Food Hub, which addresses the issue of plant capacity and input costs.

**Opportunities**

The results indicate a positive view towards the opportunities that are available across the chain. The most cited responses are the linked responses of new markets, export, and increased capacity. There is strong confidence in the firms to exploit new opportunities in new markets by increasing capacity and exporting. Fifty per cent of the farms are increasing
their capacity through new crops or increasing the volume of current crops. Within the processing industry, three firms are currently moving into export programs, and two other firms are investigating increasing the capacity of their plants to increase their volume of marketable products. This is a very positive trend for the Sunshine Coast food and agribusiness supply chains and one that can be further encouraged and exploited with collaboration and assistance.

Further opportunities lie in minimising the challenges facing the supply chain. Competition and lack of consumer knowledge can be minimised through the use of provenance branding. Branding a geographic area offers opportunities for local produce to be recognised and valued within the supply chain, which also has synergistic elements for the clusters (discussed in Section 4.2.2) and agri-tourism. The concept of provenance branding should be considered in a wider suite of marketing strategies for the Sunshine Coast. Regional sales and marketing efforts need to be undertaken to position Sunshine Coast as a food and agribusiness ‘hotspot’. Representation of the Sunshine Coast at regional and national food events should be considered a priority. In addition, consideration should be given to celebrity/chef endorsement of our food in well-targeted media campaigns.

There is potential for a concentration of agri-tourism options on the Sunshine Coast. From tourism destinations such as Buderim Ginger and Nutworks, cooking schools, food trails, and farm experiences and educational opportunities into specific farming practices such as organics. This study revealed latent demand for ‘pick your own’ style farm experiences, with one small farm receiving more than 3,000 visitors within a four week harvest period (18fs). There is strong interest in learning more about organics and sustainable agriculture as well as buying and tasting high quality artisan products (32q, 17fs, 18fs, 19fs). Agri-tourism brings together the Sunshine Coast as a tourist destination, featuring agribusiness and food supply chains and potentially facilitating the growing areas of interest in organics and artisan products. In fact, agri-tourism should showcase what is unique about the Sunshine Coast.

**Threats**

Threats are external forces outside the control of the firms that can impact on operation of the firm. The three main threats identified from the results are competition, compliance, and lack of consumer knowledge.

**Competition** was identified as a threat across all stages of the chain. In particular, it was noted by the firms who are in direct competition with Coles and Woolworths. Fruit and vegetable
retailers, independent supermarkets, and fruit and vegetable wholesalers identified Coles and Woolworths as having an impact on their operations. It should be noted that local produce and unique products produced locally are being sought by retailers as a point of difference from Coles and Woolworths (27q, 29q).

A second area of competition for the retailers and wholesalers are the farmers markets on the Sunshine Coast, as respondent firms stated that the markets had reached saturation on the coast. There are at least eight markets across the Sunshine Coast region each week. Many of the stalls within these markets are not selling local produce, which then places them in competition with the local produce supply chain.

Within the processing and farm sector, competition was identified as imports: “We are a high cost producer [and] we cannot compete against cheap imports here or overseas” (37w). Juices, frozen fruit and vegetables, and seafood were industries where respondents had felt the impact of imports.

Compliance was the second most common threat to the supply chain for two main reasons; namely cost and time. The supply chain has ‘red’ and ‘green’ tape from all levels of government, posing a challenge to their businesses in the Sunshine Coast region. The type of tape changed across the supply chain. Small farmers are challenged by costs in obtaining organic accreditation and the difficulty in obtaining permits to make jams and chutney on-farm. Currently, they need a commercial kitchen licence for this type of operation, but respondent companies suggest licensing similar to bed and breakfast establishments for low-risk food preparation may help address the issues in this area (18fs). Further, there is a particular supply chain challenge with organically grown beef on the Sunshine Coast; the large commercial abattoirs of Kilcoy and Gympie do not contract slaughter. This means that growers have to send cattle as far as Beaudesert to be killed and butchered, and then the meat is returned for marketing. Options for abattoir facilities in this region are actively being investigated in terms of mobile butchers, on-farm facilities, and full commercial abattoirs, however all options present many challenges in terms of licences and permit.

Large farms mostly cited the area of accreditation as the biggest challenge in compliance. Most are now holding multiple accreditations for Safe Food Queensland, Coles, Woolworths, and AQIS and each accreditation is audited every year for a fee. Audit fees also vary – in one example a Woolworths Audit cost $8000 (14fl). Holding and maintaining multiple accreditations is a costly and time consuming process. The second challenge for large farms comes from the increased pressure of urbanisation, as current town plans have suburban housing and commercial farms adjoining each other. In one example, a farm has 86 neighbours and is constantly managing complaints on noise and dust. Seventy-five per cent of
large farms are negative about their future in the region and feel they will be pushed out by increased population (21fl, 14fl). The majority also feel they will not pass their farms on to their children (21fl, 14fl).

Processing, retailing, and wholesaling sectors cite not only the cost of red and green tape as a challenge, but also the time taken for compliance. Examples from these sectors illustrate years taken to obtain building permits and approvals for upgrades to factories and new facilities. The seafood sector is regulated at all levels of government, but for Sunshine Coast operators, the clash between tourists, the general public, and commercial fishing operations is felt around the spit area of Mooloolaba. Traffic congestion and parking are real challenges to operating a business in this region (33w).

The final threat drawn from the results is a lack of consumer knowledge. Companies across the chain feel that unless consumers can be educated about the source of their food and be given enough information to make informed decisions, it is difficult to position their products against cheaper competition (4p, 31p). Provenance labelling is a solution to this issue as it would offer a surety to source and specifications. This provides the opportunity to position at a point difference to those goods who do not hold provenance labelling.

4.3.6 Strategies to create value

The proposed strategies to create value are designed to accentuate the positives of the chain (such as innovation and flexibility) while addressing challenges identified with product, relationship, and information flows. Three strategies that would create further value within the supply chain are facilitated by the communication portal, the clusters, and the processors.

A communication portal within the search database is seen as extremely beneficial to the supply chain and will be well received. A database for this portal has been developed within this study and is discussed in Section 4.4. The important issues that are addressed within the communication portal are threefold. Firstly, it provides a valuable link between each stage of the supply chain. In doing so, chefs, retailers, wholesalers, and processors are able to source farm produce directly from the farm. Farmers are given the opportunity of being able to market their goods to a variety of processors, wholesalers, and retailers. If this portal has the capability of working in real time, a message system would allow chain members to send notifications, receive alerts and join discussions and read news updates on a variety of topics. This ability will increase both communication (especially at both ends of the chain that were found to be isolated) and the physical flow of goods.
Further functionality within the portal though using endorsements will create additional benefits. Endorsements allow chain members to ‘endorse’ another company from whom they have received good service. The endorsed company would be sent an invite to join the portal, allowing the network to continue growing, but also providing a way to highlight those companies that are not only providing services into specialist areas but are doing it successfully.

A final area within the portal allows for firms to state specialist capabilities. This is an area that allows firms to identify ways they can assist in the capacity building of the whole chain. Assistance may be in the form of under-utilised resources within their own firms that can be offered on a contract basis to chain members. For example, packaging equipment and storage facilities are two areas that have been offered within this research study (32q, 8p). Knowledge is also a specialist capability, and chain members have offered their knowledge in a wide variety of topics: including organics, dairy farming, retailing, and international experience (5p, 6p, 18fs). This exchange not only builds capacity across the chain, but it also builds relationships and allows the chain to benefit from cooperation and collaboration.

The cluster concept is a way of providing focus to specific areas within the food and agribusiness supply chain. Clusters provide a structured platform to give assistance and foster collaboration and cooperation between all members of the supply chain. This addresses the specific need for relationship building and provides a way to meet the specific challenges of each cluster as discussed in Section 4.2.2. The five clusters identified are Sunshine Coast Seafood, Sunshine Coast Dairy, Sunshine Coast Fresh, Sunshine Coast Value-Add and Sunshine Coast Organics. As a way of creating further value in the chain, it is proposed that a modified value chain analysis methodology be adopted to engage and work with each cluster; which facilitates the process of identifying areas that they can create value together and giving reason and substance for working together.

While Value Chain Analysis (VCA) is well recognised as a diagnostic tool, recent research extends existing approaches to develop an iterative and relational approach to VCA; allowing the application of VCA as a strategic process (Bonney et al. 2009; Fearne et al. 2009; Taylor 2005; Collins & Dunne 2008). The approach proposed for the clusters includes six steps:

1. Engage the chain
2. Understand the market
3. Map the current state including product, relationships and information flows
4. Identify challenges and opportunities for improvement
5. Implementation

6. Evaluation

The processors have the potential of creating further value within the supply chain as they are uniquely positioned to exploit the opportunities identified within the SWOT of new markets and international opportunities. The results show there is potential to grow export across the processing sector as while currently approximately 29% of all processing is exported, the range within processing firms varies from companies not exporting at all to companies exporting over 50% of their production. Although it has been recognised that firms are embarking down the export road it would be beneficial to make this these opportunities a focus with this sector. This sector has the ability to provide significant turnover from export and new market opportunities and most are in a position to consider export or increase their export markets. It size and position within the supply chain also makes this sector the natural channel captain and it should be encouraged and assisted to 'think globally'.

4.4 The Food Hub

Respondents were asked if they were willing to participate in developing a Food Hub and specifying their needs within the Hub. A following question exploring how they see the Food Hub working, generated discussion on the overall concept.

Respondents were very interested in the Regional Food Hub concept. The discussion generated three overall concepts for the Food Hub:

- The Information Portal
- Food Precinct
- Food Centre

There is support for a portal that is a virtual meeting hub for all members of the chain. Further, respondents envisage the Hub being a food precinct or food centre with logistical, educational, and marketing components that would help to alleviate some of the challenges associated with the food and agribusiness supply chain, as detailed in Table 7. However, there was a strong response against a central market concept, as most believe it would not be viable (87%). The reasoning for this rests on Sunshine Coast’s close proximity to the much larger Rocklea markets in Brisbane and the numerous farmers markets already established on the Sunshine Coast.
Table 7 – Responses to Food Hub concept

<table>
<thead>
<tr>
<th>Food Hub Concept</th>
<th>Responses</th>
</tr>
</thead>
</table>
| **Overall Concept** | Food Portal (Directory of Business)  
                   Food Precinct  
                   Food Centre |
| **Areas of functionality** | Education and Training  
                          Logistics  
                          Sales and Marketing  
                          Seed Funding – New business start-ups |

There is a perceived need for better communication across the chain, with the respondents particularly welcoming of real-time messaging and the ability to source raw materials and market opportunities. It is felt that a portal will deliver better communication and knowledge of the whole chain and break down some of the barriers to information currently experienced in the supply chain (see Figure 7).

The second concept, the Food Precinct was championed by the processing sector; which sees the value of a food precinct on the Sunshine Coast (4p, 7p). A food precinct is an area provided by the local authorities especially for food companies, and by operating in the same area they attract more of the specialised services and become attractive for logistical companies. This concept is similar to the Silicon Valley model for information technology. That is, by grouping companies together you can limit the costs and establish an area of excellence; which in turn attracts more companies. An overseas example of a food precinct is offered by Olen in Belgium. Olen authorities offered free land to overseas companies to establish a European base. The concept has been very successful, with Mars being one of the leading companies now based at Olen.

The discussion of the food precinct covered the services and facilities needed within this facility. Consideration must be given to making this facility as innovative as possible (in terms of communication and layout) but also sustainable in regard to the areas of power, water, and waste. Innovative, cost effective methods should be sought to answer the issues that the supply chains are currently experiencing with these input costs (7p, 4p, 36s).

The third concept for the Food Hub involved the areas of functionality that the respondent supply chain members see in a Food Hub. Many see the Food Hub concept as centre for the food and agribusiness industry. The centre would provide services such as education and training, sales and marketing, new business start-ups, and also a logistics capability in terms of a distribution centre that could consolidate and send goods from the Sunshine Coast. A successful example based on this concept is the Food Hub in Austin, Texas. The Food Hub is based on a sales and marketing concept where the Hub coordinates and facilitates the showcasing of
Austin’s food at food fairs across the United States. This has proved to be a successful model for this community (6p). The gaps within the Sunshine Coast in terms of capacity are outlined in the next section under the Audit.

4.5 Audit of Capacity

The Audit was undertaken in two parts. Firstly, a database was built containing some 506 businesses across all aspects of the supply chain (as shown in Table 8). This is the wider database that was built in response to the Audit of Capacity, showing the depth within the producers and processes, although many would be in the small farm and artisan categories. Endorsements received within this study have been included, and it is important to note that services and logistics will be categories that are built over time through endorsements. This database was developed from desktop research by scanning current databases such as Seasons in the Sun, the Yellow Pages, the Local Directory and previously published Sunshine Coast Council reports that detail case studies of businesses on the Sunshine Coast. The database is built specifically for food and agribusiness on the Sunshine Coast.

Secondly, as part of the interview process, all 40 businesses were surveyed on their resources, specialist capabilities, product, and markets. This will be provided to the Taskforce as a working database that can be searched in terms of name, industry, and specialist capabilities to give an insight into how the portal could be developed. The specialist capabilities are the services that members are willing to offer across the supply chain. It ranges from contract manufacturing and packaging to education on a variety of topics, including organics and dairy farming. There are many opportunities for all chain members within this category, which shows how powerful the portal would be in operation across the whole chain.

Table 8 – Breakdown of database contacts

<table>
<thead>
<tr>
<th>Industry</th>
<th>No. of businesses in sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>227</td>
</tr>
<tr>
<td>Retailer</td>
<td>117</td>
</tr>
<tr>
<td>Processor</td>
<td>98</td>
</tr>
<tr>
<td>Markets</td>
<td>19</td>
</tr>
<tr>
<td>Input supplier</td>
<td>13</td>
</tr>
<tr>
<td>Wholesaler</td>
<td>12</td>
</tr>
<tr>
<td>Logistics</td>
<td>7</td>
</tr>
<tr>
<td>Services</td>
<td>7</td>
</tr>
<tr>
<td>Restaurant</td>
<td>5</td>
</tr>
<tr>
<td>Education</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>506</strong></td>
</tr>
</tbody>
</table>
Further research was conducted focussing on the functional areas of education, logistics, capital funding, research and development. Desktop research was used to identify the current capacity of the Sunshine Coast in each of these functional areas. This is shown in the current column of Table 9. Next, the 40 chain members were interviewed as to the gaps they perceived in the functional areas for food and agribusiness, and those areas that are being underutilised or where a shortage may occur. Table 9 overviews the gaps identified from this further research.

Table 9 – Audit of Capacity Sunshine Coast

<table>
<thead>
<tr>
<th>Area</th>
<th>Current</th>
<th>Gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>University</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Marketing</td>
<td>2 subjects</td>
<td>Basic: Food hygiene courses and on-site training</td>
</tr>
<tr>
<td>Agriculture/Horticulture</td>
<td>5 subjects</td>
<td>Executive: Leadership, Negotiation and Business Management</td>
</tr>
<tr>
<td>Food and Nutrition</td>
<td>10 subjects</td>
<td>Internships: Building skills in food</td>
</tr>
<tr>
<td><strong>TAFE</strong></td>
<td></td>
<td>Informal: Networks and like-minded sharing</td>
</tr>
<tr>
<td>Food Technology</td>
<td>10 Certificates, 1 Diploma</td>
<td></td>
</tr>
<tr>
<td>Agriculture/Horticulture</td>
<td>8 Certificate, 3 Diploma</td>
<td></td>
</tr>
<tr>
<td>Site training</td>
<td>Chemicals</td>
<td></td>
</tr>
<tr>
<td>School programs</td>
<td>Strawberry fields</td>
<td></td>
</tr>
<tr>
<td><strong>Logistics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Freight and transport</strong></td>
<td>27 unique organisations</td>
<td>Distribution centre capabilities – Consolidation and distribution</td>
</tr>
<tr>
<td>Couriers</td>
<td>1 with refrigeration services</td>
<td>Cool storage/dry storage</td>
</tr>
<tr>
<td>Transport services</td>
<td>23 organisation with refrigeration services</td>
<td>Poor links to air and rail</td>
</tr>
<tr>
<td>Logistics</td>
<td>8 unique organisations</td>
<td></td>
</tr>
<tr>
<td>3 validated trucking companies</td>
<td>for fruit and vegetables</td>
<td></td>
</tr>
<tr>
<td>Rail line</td>
<td>Travels north/south through region.</td>
<td></td>
</tr>
<tr>
<td>Airport</td>
<td>airport links to other capital cities and New Zealand</td>
<td></td>
</tr>
<tr>
<td><strong>Capital Funding</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government grants</td>
<td></td>
<td>Seed funding for start-up project</td>
</tr>
<tr>
<td>Commercial banking</td>
<td></td>
<td>Frustrations with government grants over time taken in application process and lack of success in achieving grants.</td>
</tr>
<tr>
<td><strong>Research and Development</strong></td>
<td>Maroochy Research Centre</td>
<td>Poor links to state resources</td>
</tr>
<tr>
<td>University of the Sunshine Coast</td>
<td></td>
<td>Better access points to the University</td>
</tr>
</tbody>
</table>
**Education.** There are courses available at both the University and TAFE in the areas of Agriculture/Horticulture, Food and Nutrition and Food Technology. The range is quite extensive with 17 subjects, 18 certificates, and 4 Diplomas. The full listing is available in Appendix 3. However, the industry is largely unaware that these courses are available on the Sunshine Coast. There is an opportunity to organise and market these courses to the supply chain in a proactive manner. Further, the supply chain notes gaps in education at both ends of their workforce. Firstly, there is a shortage of specialist management courses on subjects such as leadership, negotiation, and business management. At the entry level, there are gaps in basic food hygiene training for the processing sector and the ability to access more on-site training rather than in TAFE or University. There was a willingness from members of the processing sector to offer internships to graduate students as a pathway for building a skilled labour force.

**Logistics.** Road transport for the Sunshine Coast has some 33 listings, of which 23 state they have refrigerated services. In addition, eight of the 23 firms list food or produce, with one firm having refrigerated facilities. Courier services list 27 firms, but only one firm has refrigeration facilities. However, within the validation process of the 40 interviews, only three firms could be identified as having the ability to transport fresh fruit and vegetables from the Sunshine Coast.

The problems associated with logistics on the Sunshine Coast have been documented in Section 4. The gaps identified for logistics are based around solving the logistic issues of consolidation, warehousing, depots, and routing; which were identified in the results. A distribution centre on the Sunshine Coast would allow firms to warehouse and send through the distribution centre, access cool storage, and attract trucking companies to use the centre as their depot. The flow on benefits of this would be a more efficient and cost effective logistics system for all chain members.

The Sunshine Coast already has access to rail and air infrastructure, however, these transport modes are not being used. The rail system was considered too cumbersome and slow to successfully handle fresh produce. However, it was noted that the proposed Woombye cleaning shed and stabling yards may open some opportunities for using rail, as the trains could stop and unload at Woombye (Sunshine Coast Daily 2014). If this became a reality, there would be an option of bringing bulk fresh fruit such as mangoes from North Queensland directly to Woombye. This may prove cost effective; replacing many semi-trailers coming to the Sunshine Coast during harvest season (9p).

**The proposed Woombye cleaning and stabling yard opens up opportunities to bring fresh produce from North Queensland.**
Air transport is considered too expensive to be a viable option for the food and agribusiness supply chain on the Sunshine Coast. Even those industries that have high price or short shelf-life goods (e.g. seafood and cut flower industries) cannot sustain the cost structure currently used by carriers such as Virgin: "We have used air but the prices are prohibitive – they double the cost base of our product" (33w). Another complexity involving air cargo is the lack of cool storage. Currently, firms have to meet the flights with their own refrigerated vans and load from the tarmac. This is a very time consuming and exacting process. The ability to have cool storage and the means to address cost structures would open up further opportunities in this sector.

**Capital funding.** While the needs of the supply chains are being met by commercial providers, there is a general consensus that more innovative methods for seed ventures and growth phases need to be explored. This is seen as a gap in the capital funding available within the sector. The application process involved in acquiring government grants is felt to be very time consuming, with some feeling that grants were not relevant to their firms as they could not sustain the time delay for approval. The constant changes to the rules and programs add to the level of frustration chain members have regarding these programs. Further, several firms have been unsuccessful in their grant applications, adding to the general disappointment on this subject.

**Research and Development.** Most of the research and development conducted across the sector was in-house to the firms. Where it was outsourced, it was to a commercial product development firm. Some firms had participated in research projects with the University of the Sunshine Coast and had also accessed the program for student research projects. However, for those who have not accessed the University; knowing how to access the University would be beneficial. Most respondents across the chain do not know how to access assistance from the University.

Conversely, there were no linkages to the Maroochy Research Centre. As the Centre focuses on horticulture and sub-tropical crops, the fact that it is not well linked seems a lost opportunity. Much could be gained from the experience and knowledge of this Centre to the farming practices and supply chain considerations across the Coast.

5. **Gaps and future research**

While this research is the most comprehensive supply chain project undertaken within the agribusiness and food industries on the Sunshine Coast, it does have limitations. Firstly, several industries are under-represented in this study, and further research on these industries needs to be conducted to assess their needs within the wider supply chain. Poultry, cattle, and other non-food agribusiness should be further researched, as well as artisans (e.g. coffee).
Several industries represented in this study have limited data on value and production. Seafood, organics, and dairy sectors need to be further researched to understand the value and the opportunities and challenges facing each area.

This study revealed the importance of relationships and how these connections have grown organically over time; both inside and outside of the supply chain. Further research needs to be conducted on the value of relationships in developing and fostering value chains, and in particular, the notion of supply nets’ relevance to this chain. Supply nets expand the theory of supply chains beyond the physical movement of goods to those businesses that the firm is collaborating and interacting with on a regular basis. As shown in this research, it involves collaboration, cooperation, and extending beyond the supply chain.

Further research needs to be conducted on how to create value in the supply chain. It has been proposed that value chain analysis be used to further identify and create value in the chains, however, further research needs to be conducted on developing and implementing this process.

Economic modelling of the Mooloolaba port would be beneficial in understanding the significance and the unique challenges of the seafood industry, but also the impacts of the wider economic environment on the industry and on the geographic location.

The dairy cluster needs research conducted on supply chains, with a focus on securing raw milk in a sustainable manner, and also developing and fostering value along the supply chain.

The role of agri-tourism in food and agribusiness needs to be investigated further to identify opportunities and build strategies for the future.

Research into provenance branding, in terms of approaches and successful case studies, needs to be understood in addition to the feasibility of implementing branding on the Sunshine Coast.

6. Recommendations

1. Development of Stage Two of the portal; which will include a front-end website to integrate the database. Additional work will be needed on developing the database further and to incorporate specialist capabilities across the entire database.

2. Initiation and development of the clusters, as each of the five clusters should be formed. For this to be successfully achieved, each of the sectors will need to be engaged and partnered within the process. It is recommended that a value chain analysis process be adopted as a framework to guide this process.
3. Further research should be conducted into the seafood, organics and dairy sectors on the Sunshine Coast. The value and make-up of these industries is very important to understand and plan into the future, and currently there is limited data relevant to the Sunshine Coast for these sectors.

4. The feasibility of provenance branding or further consumer education/awareness programs for the Sunshine Coast should be investigated.

5. An understanding of the food purchasing policy for Coles and Woolworths (in regard to the Sunshine Coast) would be highly beneficial to the overall planning and development of the food clusters.

7. Conclusions

The profile of agribusiness has changed in recent years, however, it is a significant industry for the Sunshine Coast. The most valuable sector is seafood, contributing some 47% of the region’s primary production. Poultry, strawberries, pineapples, ginger and macadamias contribute a further 39.7% of the region’s primary production. Cattle and dairy contribute 10.3% and a multitude of small industries make-up the final 3%.

The Sunshine Coast is a tourist destination known for its beaches and climate rather than food and agribusiness. What makes the Sunshine Coast unique is its ability to grow a diverse range of produce. In farming terms; its good soil, water, and climate allow for tropical, sub-tropical, and low-chill crops together with livestock. The area is known for its ‘clean and green’ produce, and its ability to position on these credentials is another unique factor. Finally, its location (being close to the larger markets of Brisbane) was found to be unique.

Food clusters were identified within the study to provide a focus to particular specific areas, and also as a way to allow chains to create further value. The clusters identified were Seafood, Dairy, Sunshine Coast Fresh, Sunshine Coast Value-Add and Organics.

A Seafood cluster would allow us to build an understanding of this very large industry, allowing the identification of particular challenges and opportunities facing seafood on the Sunshine Coast and the opportunity to build up its profile.

The Dairy sector is unique. The Sunshine Coast has a concentration of value-added dairy processors in terms of milk, cheese, yoghurt, and ice-cream industries. A cluster would focus the sector on innovative solutions to the challenge of milk shortage and develop the sector as a whole. This sector would benefit from agri-tourism and food trails, and is particularly well placed for tourism given its history within the Sunshine Coast and its ability to showcase the dairy industry from paddock to plate.
The Fresh cluster would focus on the needs of producers of fresh produce across the Sunshine Coast. It was proposed that the cluster be divided on geographic lines rather than industry. Benefits such as provenance branding and tourism can be focused on within each distinct area. It is envisaged that such a categorisation may be Glasshouse Mountains, The Range, The Valleys and the Northern Farmlands.

The Value-Add cluster has two distinct groups. There is a thriving artisan group of jam and chutney artisans, some who have been in business for more than 20 years. There is a lack of knowledge on the size and make-up of this group. At the other end of the scale is the highly valuable food processing sector. It is unclear the exact value of this sector, as other than this research, there is limited data to quantify the scale of the sector. It is estimated through this research that this sector would turnover in excess of $200,000,000 p.a. This sector is also achieving good growth rates and has further plans for expansion, including export, in the coming year. The challenge for the Value-Add cluster is capacity building. How can both ends of this sector continue to not only grow, but thrive? More needs to be done to understand this sector and assist in overcoming barriers to growth.

There is a strong interest in health and well-being on the Sunshine Coast (32q, 17fs). This is illustrated in the support for organics and natural food, and also the growth of organic food as a category in supermarkets and fruit and vegetable stores. While the number of producers is increasing, their operations are small. The biggest challenge for this sector is the small fragmented production base having to supply large organised retailing and wholesaling operations. Given the cluster focus, the supply chain management or organics could be improved.

Sunshine Coast food and agribusiness supply chains are made up of farms (producers), processors, wholesalers, retailers, and restaurants. However, there is movement up and down the chain – with some 30% of firms interviewed having a secondary function within the chain, and 8% of the firms being fully vertically integrated. Most have moved up or down the chain to solve problems for their firms, either to establish better market access or to safeguard raw material procurement.

The physical flow of goods on the Sunshine Coast is quite complex. The sectors predominately selling direct to the consumers are retailers, restaurants, and small farms. Large farms sell to wholesalers and retailers, and processors and wholesalers sell predominately to retailers. Processors also have a strong business-to-business sector, with almost 50% of those interviewed selling to other businesses.

The production of food and agribusiness that is generated in the Sunshine Coast region is not consumed here entirely. On average across the supply chain, 33% of the turnover stays on the Sunshine Coast. This figure is influenced by industries that sell their produce locally, such as seafood and dairy.
Some 50% of the average turnover across the supply chain is consumed in other parts of Australia. This is represented by the retailing and wholesaling functions facilitated through Coles, Woolworths, Aldi, IGA, and wholesalers across Australia. Only 17% of the average turnover across the supply chain goes to export. Sunshine Coast companies export to New Zealand, the United Kingdom, Singapore, Malaysia, Thailand, Vanuatu, Canada, Hong Kong, Norway, Japan, South Africa, USA, China, Vietnam and the Middle East. While companies are finding the macro environment challenging, there are opportunities in export.

The ability of the supply chain to communicate and build relationships indicates its ability to create value through cooperation and collaboration in the long-term. This analysis revealed four main issues. Firstly, there is a communication divide within the supply chain; with restaurants, small farms, and consumers being the most isolated in terms of communication. Secondly, wholesalers and retailers are the most connected and are well aware of the needs of both the customer and the producer, however, they are the 'gatekeepers' of information and need to be encouraged to provide the feedback loop to processors and large farms. Thirdly, processors are not well connected to the farms, but have good level of communication with wholesale and retailers. However, these firms may not be local to the Sunshine Coast. Processors do have a strong communication network between themselves on the Sunshine Coast. They talk frequently and assist each other across numerous business issues. Lastly, large farms are connected to retailers and wholesalers but are not communicating to the consumers; therefore they rely on the retailers and wholesalers to provide essential consumer feedback.

A SWOT analysis was developed across the supply chain. Strengths of innovation, vertical integration, high quality products, and an ability to adapt were noted across all respondents. Weaknesses in the chain include input costs, procurement of raw materials, logistics, and plant capacity. The opportunities that are available to this chain are niche marketing, international opportunities, increasing capacity, and agri-tourism. Within the macro environment, respondents are aware of the threats of the lack of consumer knowledge, competition, and compliance.

Strategies to create value are designed to accentuate the positives of the chain, such as innovation and flexibility, while addressing the challenges identified with product, relationship, and information flows. Three strategies that would create further value in the supply chain were identified as the communications portal, the clusters, and the processors.

There was strong interest in the regional Food Hub concept. However, most do not want the Food Hub to be a central market. There were three concepts raised by the respondents regarding the Food Hub. Firstly, the portal concept was well received, as there is a perceived need for better communication across the channel. Secondly, the concept of a food precinct was developed within the processing sector. The model (similar to a Silicon Valley concept in IT) brings all the food companies together with their associated services, thus limiting costs and providing an area of excellence in food.
Consideration must be given to making this facility as innovative as possible (in terms of communication and layout) but also sustainable in terms of power, water, and waste. The third concept for the Food Hub involved the areas of functionality that the respondent supply chain members see in a Food Hub. Many see the Food Hub concept as centre for the food and agribusiness industry. The centre would provide services such as education and training, sales and marketing, capital funding for start-ups and growth phases, and a logistical capability of a distribution centre.

An Audit of Capacity was conducted across the 40 respondent businesses and found gaps in capacity across education, logistics, capital funding, and research and development. A further database of some 506 businesses has been developed as a starting point for the portal.

In summary, the supply chains of food and agribusiness on the Sunshine Coast are far more developed through integration and value-adding than first perceived. There are large significant industries here that need to be focused on, including seafood, strawberries, macadamias and pineapples. There are three unique areas within the Sunshine Coast. Firstly, the dairy industry offers a complete paddock to plate experience and has a high concentration of value-added processors. Secondly, there is also a large food processing sector on the Sunshine Coast, which is highly innovative, and is still achieving growth and following expansion plans. Finally, there is a strong base of organics and culinary farming that lends itself to agri-tourism. Strong potential exists for agri-tourism on the Sunshine Coast that should be fostered. The sector is connected, positive, and looking forward; this is a perfect time to create value across the chain.
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Appendices

Appendix 1 – Structured protocol

Case Study Interview Protocol

Briefing the Respondent:

Thank you for agreeing to participate in this research. The interview is part of a University research project. Its purpose is to study how links can be built between producers, wholesalers and retailers along the supply chain for local produce. Thus the findings of this research will assist all members of the supply chain to create new opportunities for Food and Agribusiness in the Sunshine Coast Region.

The interview should take less than an hour. I will be taping the session because I don’t want to miss any of your comments. Although I will be taking some notes during the session, I can’t possibly write fast enough to get it all down. I would like to tape the interview in order to help me with my data analysis. If you agree to this, you are welcome, at points during the taping, to ask for taping to cease or to push the pause button yourself at any time during the interview.

All responses will be kept confidential. This means that your interview responses will only be shared with research team members and we will ensure that any information we include in our report does not identify you as the respondent. Remember, you don’t have to talk about anything you don’t want to and you may end the interview at any time.

Are there any questions about what I have just explained?

Before starting I would like you to read and sign our ‘Interview research information sheet form’ as well as our ‘Consent form’. Both will provide you with more information about the outcomes of this research and interviews and the way they will be used.

This protocol is not a questionnaire but provides a framework for the interview.

Case Details

<table>
<thead>
<tr>
<th>Case No:</th>
<th>Date:</th>
<th>Time Commenced:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Time Ended:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisation’s Name:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role in Supply Chain:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviewee’s Name:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Position within Organisation:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviewer:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

52
Setting the Scene

1. Can you tell me the story of your business?

2. Describe the industry in which you operate? (In terms of growth, competitiveness, prospects)

3. What services/products do you supply to market?
Supply Chain Considerations

This section provides information on how your supply chains currently work and helps us identify ways to improve or links that can be developed to create further value along the chain.

4. What is your business’s competitive advantage?

5. Please look through these cards and pick out the top five factors that are important to your firm’s organisational capability

<table>
<thead>
<tr>
<th>Area</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Planning: Vision Goals and objectives</td>
<td></td>
</tr>
<tr>
<td>Marketing Strategy</td>
<td></td>
</tr>
<tr>
<td>Formal Training and Development Systems</td>
<td></td>
</tr>
<tr>
<td>Formal Quality Standards</td>
<td></td>
</tr>
<tr>
<td>Teamwork/Staffing</td>
<td></td>
</tr>
<tr>
<td>Innovation and product development</td>
<td></td>
</tr>
<tr>
<td>Ability to manage change</td>
<td></td>
</tr>
<tr>
<td>Capital funding</td>
<td></td>
</tr>
</tbody>
</table>

6. (a) Please indicate the percentage of your business that is final customer, retail, wholesale or b2b
   I. Final Customer ___________%
   II. Retail ___________%
   III. Wholesale ___________%
   IV. B2b ___________%

   (b) Please also indicate the percentages sold in the following locations
   I. Sunshine Coast ___________%
   II. Other Australia ___________%
   III. Export ___________%

7. What products or services do you need to produce your products/services?
8. Do you have difficulty in sourcing inputs? How do you currently overcome these difficulties?

9. Please indicate if you have any secondary roles within the supply chain?
   a. Producer
   b. Wholesaler
   c. Retailer
   d. Supplier
   e. Logistics
   f. Professional Advisory
   g. Industry Assoc
   h. Other

10. How do you market your products?
    a. Do you have a formal marketing plan?
    b. Do you run promotional campaigns?
    c. Do you have an on-line presence?
    d. Are you satisfied with your current marketing efforts?

11. Are you interested in any further expansion or growth along the supply chain? Yes/No. If yes, how would you undertake this?
12. What do you identify as the opportunities within these supply chains?

13. How often do you collaborate with each of the following, and how important are those interactions for the success of your organisation?  
(Note: Here we need to get the information on who they collaborate with and why).

(a) How often do you interact with the following sectors?

<table>
<thead>
<tr>
<th>Sectors</th>
<th>Never</th>
<th>Rarely</th>
<th>Occasionally</th>
<th>Often</th>
<th>A great deal (Daily)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Competitors</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Partners/other industry players</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Suppliers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>R &amp; D providers</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Local/Central Government</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Personal Networks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Dealers and Distributors</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

(b) Which of the following Industry Relationships are significant to your business

<table>
<thead>
<tr>
<th>Industry Relationship</th>
<th>Specify if member name of Network</th>
<th>Not at all</th>
<th>Slightly significant</th>
<th>Somewhat significant</th>
<th>Very significant</th>
<th>Extremely Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry Assoc</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Chamber of Commerce</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Industry Cluster/Network</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Informal Partnerships and other networks</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>
Local Produce

Now we move from discussing what you do, to what is happening in terms of local produce!

14. What has your experience been with the supply of local produce?

15. How could it be improved?

16. What products have you supplied to the local market?

Profile of Sunshine Coast Region

We are now turning our attention on to the Sunshine Coast as a food and agribusiness region.

17. What do you think makes the Sunshine Coast Region unique in terms of food and agribusiness?

18. In your opinion, what products are the Sunshine Coast known for?

19. What opportunities do you see for Sunshine Coast Food and Agribusiness?
20. Are you willing to participate in developing a Food Hub here on the Sunshine Coast? Please specify your needs in terms of:

<table>
<thead>
<tr>
<th>Area</th>
<th>Current</th>
<th>Gaps</th>
<th>Ability to Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skills/Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal Courses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logistics:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Local</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Domestic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• International</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology: Plant, Machines FREEZING/processes, QA systems; test kitchens</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professional Advice:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>• Managerial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Technical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Market</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic/International</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital funding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Govt Grants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research and Development</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

21. Do you export your products internationally, If Yes - what countries, market entry and size of market?
   $ value of exports ________________
   Countries exported to: ________________

   If no, why not?

22. Is there any other information that you feel is relevant to this research?
Background Information

23. Age of respondent?

24. Number of years with the organisation?

25. Number of years within the Food and Agribusiness industries?

26. Number of years on the Sunshine Coast?

27. Age of firm?

28. Number of employees?

29. Turnover of Organisation
   i) Under $100 000
   ii) 100 000 – 500 000
   iii) 500 000 – 2 million
   iv) Between 2 – 10 million
   v) Between 10 – 30 million
   vi) Between 30 – 75 million
   vii) Over 75 million

30. Percentage growth over last 5 years?

31. Please give an indication of the size of your industry within the
    a. Sunshine Coast
    b. Australia
32. What accreditations does your firm currently hold (e.g., HACCP? Organic)

Thank you for participating in this research.

Map of the Supply Chain

Your Firm

Retail
Wholesale
Direct
Export
Appendix 2 – Individual Commodity Graphs 2000-2014

Note that the data coming from the Australian Bureau of Statistics has an error margin of up to 50%.
Poultry Numbers

- Queensland
- Sunshine Coast
- Linear (Queensland)
- Linear (Sunshine Coast)
Appendix 3 – Food and Agribusiness Courses available on the Sunshine Coast

University of the Sunshine Coast

Agriculture and Horticulture

• Advanced Genetics
• Agricultural and Forest Ecology
• Agricultural Machinery
• Aquaculture
• Economic Development and Sustainable Livelihoods

Food

• Complementary Approaches to Food and Nutrition
• Environmental Health Risk Management
• Food in Society
• Food Marketing
• Food Safety: Laws, Regulations and Quality Assurance
• Food Service Placement
• Food Service Systems
• Food Studies
• Nutrition and Dietetic Practice
• Nutritional Biochemistry
• Pharmaceutical and Food Microbiology
• Principles of Nutrition

Tafe Queensland East Coast

Agriculture and Horticulture

• Agriculture Chemical Distribution Certificate (AC/DC)
• Certificate II in Horticulture
• Certificate II in Horticulture Chainsaw Operations Level 1
• Certificate II in Horticulture Chainsaw Operations Level 2
• Certificate III in Conservation and Land Management
• Certificate III in Engineering - Mechanical Trade (Maintenance - Diesel Fitting)
• Certificate III in Horticulture
• Diploma of Conservation and Land Management
• Diploma of Horticulture
• Diploma of Sustainability (Dual Diploma)

*Food technology*

• Certificate II in Hospitality
• Certificate II in Kitchen Operations
• Certificate III in Air-Conditioning and Refrigeration
• Certificate III in Commercial Cookery
• Certificate III in Hospitality
• Certificate III in Nutrition and Dietetic Assistance
• Certificate III in Patisserie
• Certificate III in Retail Operations
• Certificate III in Retail Operations Online
• Certificate III in Retail Supervision
• Certificate IV in Commercial Cookery
• Diploma of Hospitality / Diploma of Business
• Food Safety Supervision
• Responsible Service of Alcohol

*Site Skills Training*

• ACDC - Agricultural Chemicals Distribution Control

*School Opportunities*