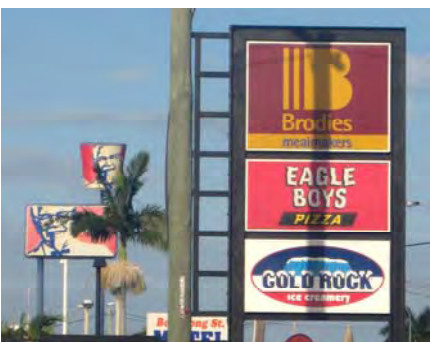
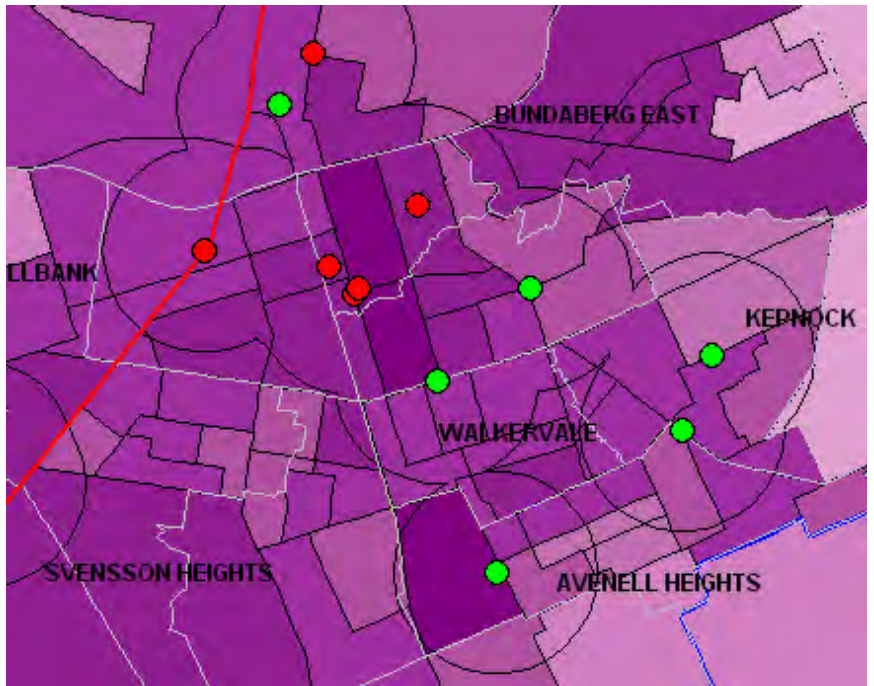


# Bundaberg Community Food Assessment



January 2010

A project of Bundaberg Hospital in partnership with Public Health Nutrition, Central Regional Services and Queensland University of Technology



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## Abbreviations

ABS	Australian Bureau of Statistics
AWE	Average Weekly Earnings
CFA	Community Food Assessment
CFAC	Community Food Assessment in Central
CPHS	Central Population Health Services
CQU	Central Queensland University
CRS	Central Regional Services
CSA	Community Supported Agriculture
GIS	Geographic Information System
HFAB	Healthy Food Access Basket
HSD	Health Service District
QH	Queensland Health
QUT	Queensland University of Technology
SEIFA	Socio-Economic Indexes for Areas
SLA	Statistical Local Area

## 1.0 Executive Summary

This report summarises information gathered in the Bundaberg Region as part of the 'Community Food Assessment in Central' (CFAC) project. It maps food access and food supply in the Bundaberg region, taking into consideration those groups most at risk of food insecurity and discusses recommendations for action at both a local and broader state and national level. 'Food insecurity' describes the situation in which individuals or households experience limited or uncertain availability of nutritionally adequate and safe foods and/or limited or uncertain ability to acquire acceptable foods in socially acceptable ways. It has been shown that food insecurity not only negatively impacts on the physical and psychological wellbeing of individuals and households, but also represents a significant public health and economic concern for communities as a whole.

Multiple methods were used to evaluate aspects of food security in the Bundaberg region including assessment of socio-demographic characteristics. This identified a number of groups that were a high priority in terms of food insecurity risk including the elderly, Aboriginal and Torres Strait Islanders, low income earners and the unemployed. Other at risk groups were young people, single parent families, some immigrant groups, men and people with a disability. It is important to recognise that some people may belong to a number of these groups and therefore as individuals potentially at greater risk.

Cost and availability of foods were calculated using a healthy food access basket survey. The data showed that the price of a healthy food basket in the Bundaberg region varied by store type. People who rely on minor supermarkets or convenience stores will generally be paying more for their food than those who can access major supermarkets. Availability of food was also surveyed, and major supermarkets had a wider variety of foods, including healthy options, available compared to minor supermarkets and convenience stores. People who rely on smaller store types were identified as having access to a reduced availability of foods at higher prices. This was identified as a potential concern as people who rely on smaller store types also tended to be from low income groups such as the elderly, the unemployed and people with a disability.

Access to food in Bundaberg varied depending upon where a person lived and their socio-demographic circumstances. People who lived in the central parts of the study area tended to have good access to all types of retail food outlets and public transport. These areas also had the greatest population density and greatest proportion of low socio-economic households so this distribution aided food security for those groups. However, people living in those areas that did not have good access to food may include the elderly, low socio-economic families, young people and people with a disability. These groups were less likely to have access to private transportation and

more likely to have difficulties in using public transport systems due to physical health or affordability. People living outside the central area of Bundaberg generally had poor access to food, especially if they did not have access to a private vehicle. Areas of greatest need in relation to access to food included the northern districts, parts of Thabeban, East Bundaberg, Moore Park, Elliot Heads, Branyan and some areas of Burnett Heads. Transport was the most commonly cited barrier to food access within key informant interviews.

A number of social determinants that contributed to food insecurity were identified by key informants. These were categorised as affordability characteristics such as poor budgeting skills and low prioritisation of food, and non-transport related access characteristics such as lack of cooking skills, lack of cooking equipment and lack of time to prepare foods.

Finally an assessment of the local food system was undertaken. Bundaberg is located within the Wide Bay-Burnett region which is a significant contributor to the production of food for Queensland across a wide number of industries including fruit and vegetables, livestock and fisheries. However, relatively few manufacturing and processing outlets were identified in the study region and data indicated that the majority of food produced leaves the community for manufacturing and retail sale. This practice is a potential concern as it increases food miles and also potentially impacts on food price and food quality for the local community. These factors could contribute to reduced food sustainability and reduced food security; however further information about the local food system needs to be collected before any clear conclusions can be drawn. There were also few community-supported food programs in operation in Bundaberg and it is unknown how large an impact this has on food supply in the community. Key informants suggested that community supported food programs such as markets, community garden and food co-operatives could potentially reduce food insecurity by adding to the food supply and also addressing some of the personal barriers to food insecurity such as affordability and food preparation skills.

Food security is determined by people's local food supply and their capacity and resources to access and use that food. Where there is limited or uncertain availability and access to food, food insecurity exists. Some sections of the Bundaberg community are at risk of food insecurity. Priority groups include the elderly, those on a low income and Aboriginal and Torres Strait Islanders. Other at risk groups are youth, people with a disability, some culturally diverse groups and those living outside the central service area. Food security may impact on these groups by one or more of the following means cost and affordability issues, availability or variety of food, access issues, personal barriers and broader food system issues. It is recommended that any actions made to improve food security in the Bundaberg community should consider these issues in relation to the priority groups mentioned above.

## 2.0 Project background

The overall aim of the Community Food Assessment in Central (CFAC) project was to investigate access to healthy food in three locations within two Health Service Districts (HSDs) across Central Area, namely Bundaberg and Cooloola (Sunshine Coast-Wide Bay HSD) and Zillmere and surrounds (Metro North HSD). It resulted in a partnership between Public Health Nutrition, Central Regional Services; three Health Service Districts within Central Area and Queensland University of Technology (QUT).

As a result of the project work undertaken in Bundaberg, five papers were written outlining the results of each data collection strategy. These include a socio-demographic profile, cost and availability report, local food system report, key informant interview analysis and food access analysis. These papers are available on request from the author if more information is required.

The information in this summary report can be used to identify areas where there may be poor access to food and plan strategies that could improve food access and supply in the Bundaberg region, particularly for disadvantaged groups.

### 2.1 Food security and health

One of the basic elements of human rights is that of having adequate food to eat to promote physical and mental wellbeing<sup>1</sup>. 'Food security' refers to the ability of people to regularly access healthy, affordable, culturally appropriate and safe food without resorting to emergency food relief or other methods to obtain food. 'Food insecurity' describes the situation in which individuals or households experience limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways<sup>2</sup>.

It has been shown that food insecurity not only negatively impacts on the physical and psychological wellbeing of individuals and households, but also represents a significant public health and economic concern for communities as a whole<sup>3</sup>. Ongoing monitoring and measurement of the level of food insecurity has been very limited in Australia, with national and state based surveys estimating overall prevalence between five and 10 per cent<sup>4</sup>. However, it has been noted that those most at risk of food insecurity are underrepresented in population surveys and therefore these are likely to under-estimate its true prevalence<sup>5</sup>. Research suggests that population groups amongst which food insecurity is more prevalent include those on a low or uncertain income, rental and single parent households, street drug users, young people (aged 16-24), unemployed, Indigenous and homeless people, frail aged and the disabled<sup>5</sup>. These groups also suffer a greater burden of ill health due to chronic diseases – the social gradient of diet related disease<sup>2</sup>.

While data on the prevalence of food insecurity at the national and state level is scarce, there has been an increasing recognition of the problem by State and Local governments, as well as by researchers in public health. Food security has been formally identified in the strategic document 'Eat Well Queensland 2002-2012 - Smart Eating for a Healthier State' (EWQ) as an issue that needs to be tackled to redress the disparity in health outcomes experienced by disadvantaged groups in the community<sup>6</sup>. VicHealth's Food for All Program, implemented in strategically identified local government areas in Victoria, has been designed to increase regular access to and consumption of a variety of foods by people living in disadvantaged communities<sup>7</sup>. The Penrith Food Project has also seen the implementation of a range of initiatives to address issues concerning access and availability of nutritious foods for disadvantaged groups, including focus groups with those at risk of food security, audits of the number and type of food retailers in the area and description of foods available at these stores<sup>8</sup>.

## 2.2 Elements of food security

Food security has many components that are influenced by both the food system and individual social and economic factors (see Figure 1). Access to healthy food is an important component of food security and includes both economic access and physical access. Physical access refers to the range and quality of food available in shops that people can actually reach, whether it be on foot, by public transport, or if they have access to one, a private car. It may be influenced by the number and location of food outlets in respect to home location as well as an individual's physical ability to travel to these outlets. Economic access refers to having enough money to buy appropriate food. This is dependent on how much money a household has, how much is available for food (after mandatory expenses such as utilities costs, rent, mortgage repayments, child care costs etc are taken into account), and on the cost of food in local shops.

Other factors that may affect access at an individual or family level include nutrition knowledge, cooking skills, availability of cooking equipment and time and ability to prepare food. These in turn are influenced by social and economic factors of the individual, family or community.

Food security is also impacted on by the local food supply which includes availability, quality and price and price of food. The food supply is in turn influenced by the food system. The food system is made up of links between food producers, processors, distributors and the community<sup>3</sup>. Figure 1 also shows diagrammatically the links between these different aspects. Developing an understanding of a community's current food systems and supply can identify how these aspects interact and where interventions would be most effective to promote food security.

### **Other considerations – environmental sustainability**

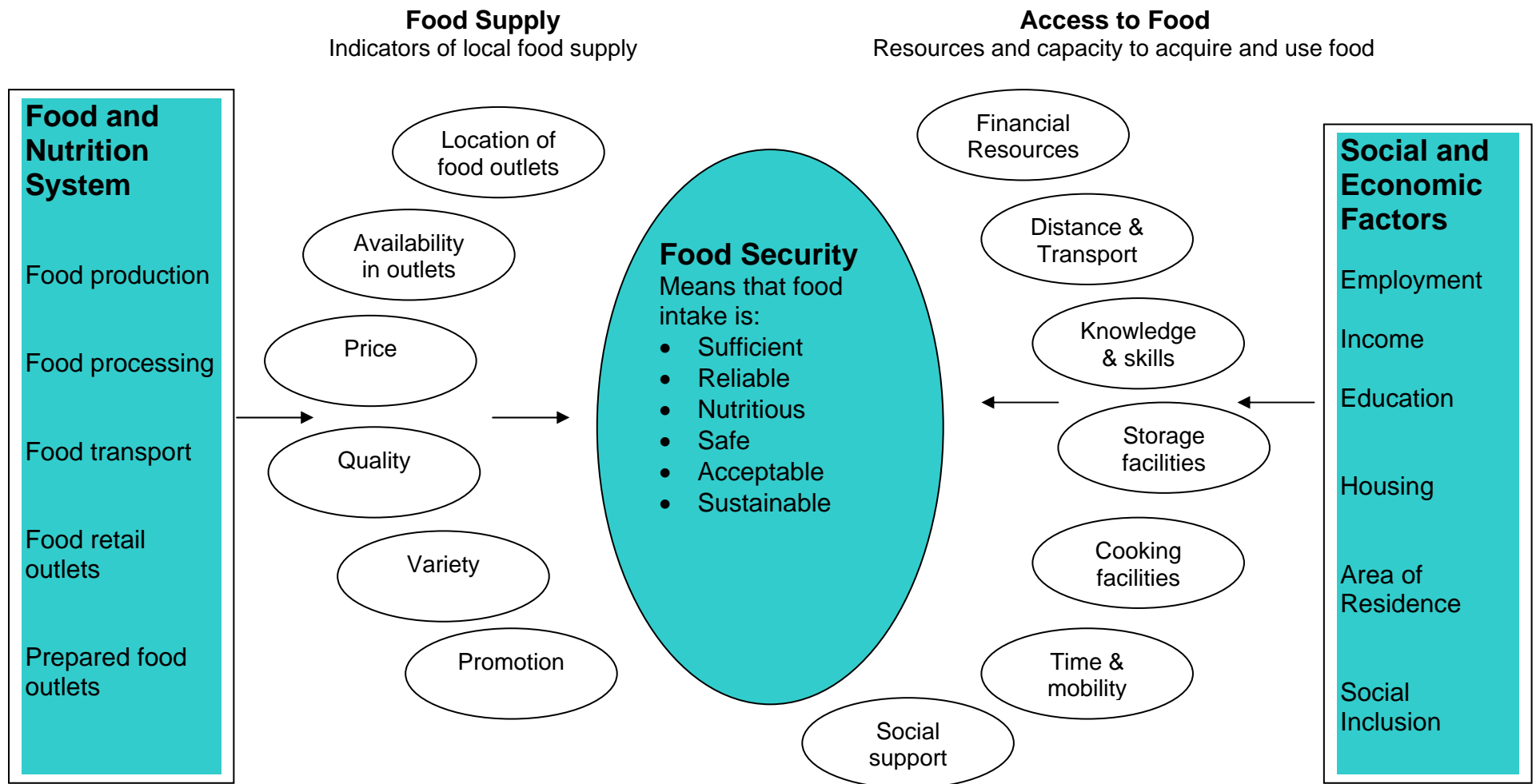
Sustainability of the food supply directly affects food security by impacting on cost, availability and accessibility of food. A sustainable food supply is one that promotes health and food security as well as being both environmentally and economically sustainable<sup>9</sup>. There is an emerging concern that rising costs of food related to climate change and limited global oil supplies may result in a worsening of food insecurity, particularly in areas that rely heavily on external or commercial rather than a more localised food supply system. In a recent Queensland Government report investigating the State's vulnerability to rising oil prices, the future availability of agricultural land in and around cities and towns (peri-urban agriculture) was identified as a future key determinant of food costs<sup>10</sup>. The groups most likely to be effected by these environmental and political influences on price of food are the low socioeconomic groups already most vulnerable to food insecurity.

### **Community food assessments – a first step towards improving food security**

Community food assessments (CFAs) are a process through which information about the local food supply and local food access is collected and reported to key stakeholders and the community. It is a type of needs assessment. Ideally, members of the community are involved in the collection and analysis of the data. CFAs provide an understanding of the social, economic, and institutional factors that affect the quantity and quality of available food and its affordability, as well as a better understanding of barriers to food access<sup>11</sup>.

CFAs also support efforts toward planning and implementing local policies and programs to improve community food security. When information from CFAs is combined, a clearer and broader picture can be obtained of what types of food initiatives or policy changes are needed to improve both physical and economic access to healthy food.

Figure 1 – Food security framework



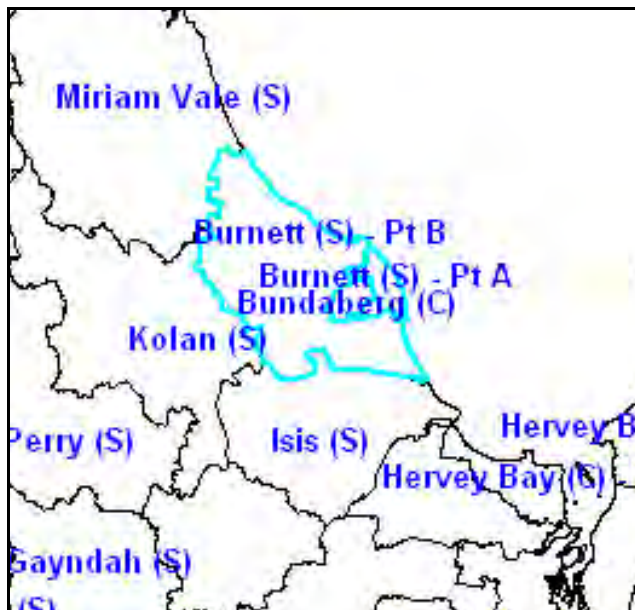
Adapted from Improving food and nutrition in NSW Series food Security Options Paper: A planning framework and menu of options of policy and practice interventions (June 2003) and Urban Indigenous Nutrition Issues in the Greater Brisbane Area (2007)<sup>12,13</sup>.

### 2.3 Bundaberg community food assessment study area

The study area includes the Statistical Local Areas of Bundaberg City, Burnett Part A and Burnett Part B as defined by the Australian Standard Geographical Classification. The total study area is 1996 square kilometres. Figure 2 defines this area which will be referred to as the Bundaberg region in this report. This area was chosen to incorporate the major food and retail services in the region and the surrounding population who are likely to rely on these services. The population of the region was 72,100 residents, 1.8 per cent of the Queensland population<sup>14</sup>.

The exception to the above is the section of the report about the local food system. The areas focussed on here are varied but in general were much wider than the Statistical Local Areas (SLAs) to take into account food production occurring outside of these boundaries, but still within the greater Bundaberg region and able to be considered 'local'.

**Figure 2 – Bundaberg community food assessment study area**



### 3.0 Methods

Multiple methods were used to evaluate aspects of both individual and community food security in the Bundaberg region as follows:

- Assessment of socio-demographic characteristics of the region
- Retail food outlet audit
- Cost and availability survey of supermarkets and convenience stores
- Geographic Information System (GIS) mapping of food stores and public transport data

- Identification of local food production, distribution and procurement and evaluation of the local food system
- Key informant interviews with community organisations that provide services to vulnerable members of the community.

### 3.1 Assessment of socio-demographic characteristics

A review of the literature was undertaken to identify socio-demographic characteristics that were associated with food insecurity. These are described in Appendix 1. Data from the Australian Bureau of Statistics 2006 Census was then collated for the study area to identify the prevalence of these population characteristics.

### 3.2 Retail food outlet audit

To identify the community's ability to obtain a range of food items an audit of retail food outlets was conducted. The audit included supermarkets, convenience stores, other produce stores (such as butchers and bakeries), takeaway food stores and restaurants and cafes. Appendix 2 provides the criteria via which the food retail outlets were categorised.

The food outlets were identified through a number of methods including local government retail food listings, yellow pages business directory, website store locators (for major food chains only) and local community knowledge of food outlets. Information on store type and geographic location was recorded.

### 3.3 Cost and availability of food survey

The price of food and its availability within food outlets have both been identified as important determinants of food security<sup>12</sup>. Cost and availability of a range of healthy foods was assessed using the Queensland's Healthy Food Access Basket (HFAB) survey tool<sup>15, 16</sup>. The range and types of foods included in the HFAB represent commonly available and popular foods consistent with the Australian Guide to Healthy Eating (Figure 3). The full list of HFAB items is included as Appendix 4<sup>15</sup>.

The survey was undertaken between April and June 2008 in all major and minor supermarkets as well as convenience stores across the region in order to compare the cost and availability of healthy food at these stores with supermarkets. See Appendix 2 for definition of these retail outlets. Prices were gathered for both brand and home brand items.

**Figure 3 – The Healthy Food Access Basket**



### 3.4 Geographic Information System (GIS) mapping

A GIS program was used to map information collected from the retail food audit, public transport routes and socio-demographic assessment to assess physical access to food. Public transport data (routes, stops) was obtained by contacting Queensland Transport and the local public transport companies. Walking access was indicated by an 800 metre isochrone, representing approximately a 10 minutes walk around stores<sup>17</sup>.

Socio-demographic data as collected in 3.1 was overlaid on maps to identify population groups that may be at particular risk of poor access to supermarkets and other retail outlets.

The same GIS mapping process and overlays were also undertaken for the community supported food systems which were identified using the methods listed below.

### 3.5 Identification of local food systems

This CFA investigated two main aspects of the local food system, the commercial food system and the community supported food system. For purposes of this report the above are defined as:

*‘Commercial Food System’* – produces food commercially with the main objective being financial gain. May supply food at a locally, national and/or international. There is generally no direct link between producer and consumer

*‘Community Supported Food System’* – operate at a more local level. There is usually a direct link between producer and consumer with both parties receiving mutual benefits

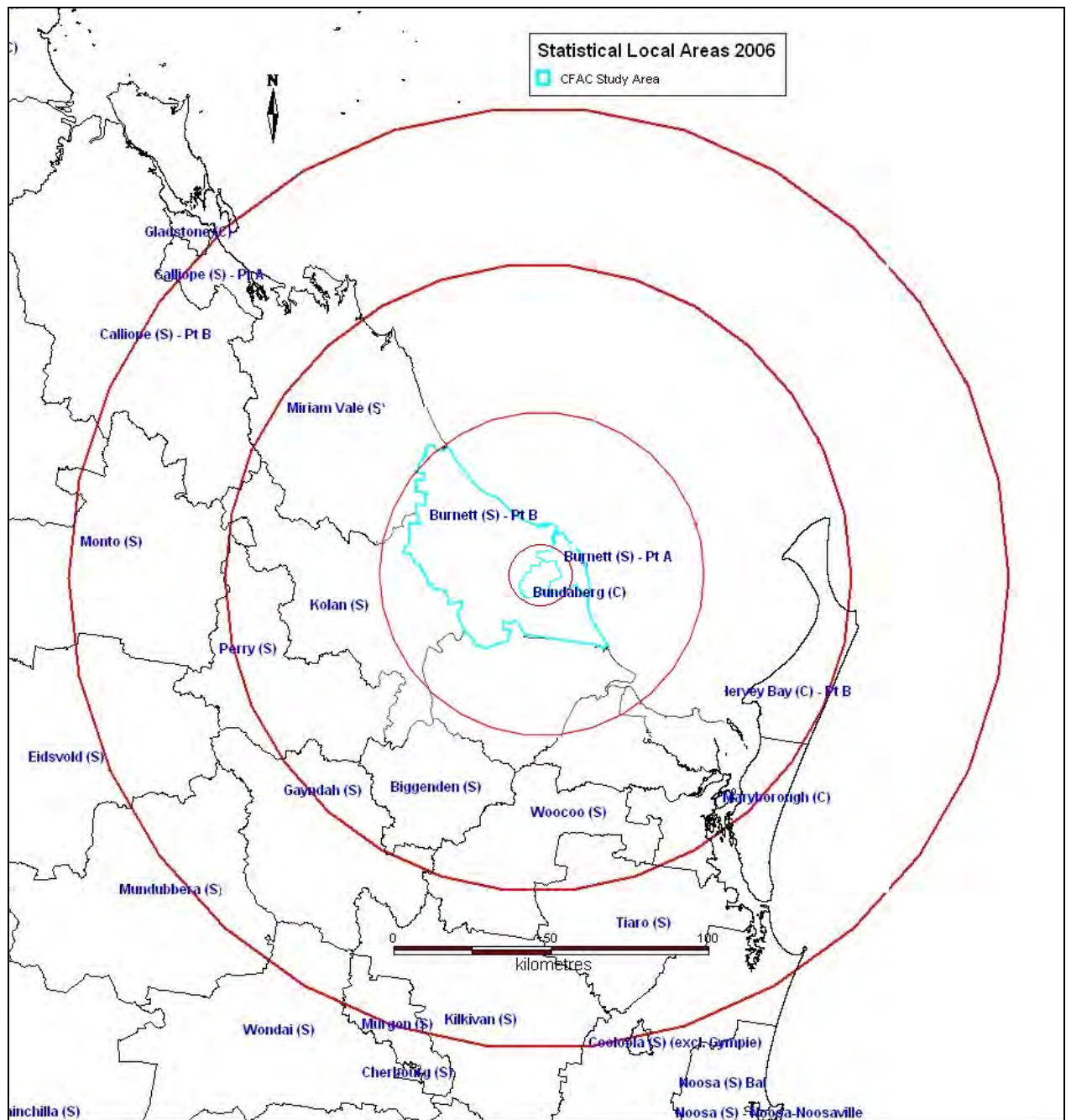
from the relationship. The main objective may be more than just financial gain e.g. educational, environmental sustainability, employment. For the purposes of this study, the community supported food system includes, farmers' markets, community supported agriculture programs, food co-operatives, school gardens, and community gardens. Appendix 3 lists the definition for each of these types of programs.

Information was collected on the number, type and location of food production, processing and distribution resources within the study area to begin to build a profile of links and relationships within the local food system. Data was collected the following sources:

- Australian Bureau of Statistics (ABS)
- Safe Food Production Queensland
- Department of Primary Industries and Fisheries
- Local Governments
- Yellow Pages
- Key informant interviews
- Interviews with food service managers of local government facilities.

The geographic area for data collection and range of local food production, processing and distribution resources covered in this assessment is summarised in Figure 4 and Tables 1 and 2. In the absence of parameters with a scientific basis known to the project team, the 150km radius for farming was based roughly on the '100 mile diet' 'popular' publication which is part of a growing 'eat local' movement aimed at reducing the economic, social and environmental costs of long food supply chains<sup>18</sup>. The Fisheries area was set at a 100km radius due to the way the Department of Primary Industry and Fisheries data was presented. The 50km radius for community supported produce (e.g. farmer's markets and farm gate stalls) was selected as a reasonable distance for people to travel to access this retail option on a regular basis. The 10km radius for government institutions with local procurement policies was selected to ensure that at least one major metropolitan hospital was included in this study.

**Figure 4 – Geographic area for food system data collection**



**Table 1 – Commercial food systems geographic area**

<b>Commercial Food System</b>	<b>Geographic Area</b>
Farms (crops, dairy and livestock)	Wide Bay-Burnett Statistical Division (represents 150km radius of study area)
Fisheries (wildcatch and aquaculture)	100 km radius of study area
Food manufactures	Bundaberg City; Burnett Part A and Burnett Shire Part B SLAs
Food wholesalers	Bundaberg City; Burnett Part A and Burnett Shire Part B SLAs

**Table 2 – Community supported food systems geographic area**

<b>Community-supported food system</b>	<b>Geographic Area</b>
Community gardens	Bundaberg City; Burnett Part A and Burnett Shire Part B SLAs
School-based gardens	Bundaberg City; Burnett Part A and Burnett Shire Part B SLAs
Farmers' Markets	50km radius of study area
Community supported agriculture	50km radius of study area
Food box schemes	50km radius of study area
Farm gate and road side 'honesty' stalls	50km radius of study area
Food Cooperatives	Bundaberg City; Burnett Part A and Burnett Shire Part B SLAs
Local food procurement policies of government institutions	10km radius of study area

### 3.6 Key informants interviews

A series of semi-structured interviews were conducted with representatives (key informants) of community organisations working with groups at risk of food insecurity. The interviews captured their perspectives on food access issues facing their clients; existing programs addressing these issues and opportunities for future action (see Appendix 6 – Key informant interview questions). Ethics approval was provided for the key informant interviews by the Prince Charles Human Research Ethics Committee.

Community organisations who work with groups such as people with low income, single parents, elderly, youth, Aboriginal or Torres Strait Islander, Culturally and Linguistically Diverse groups and those with a health disability were identified through an extensive search of various databases and local directories, as outlined in the 'key informant data collection instructions' found in the key informant report.

Organisations were contacted by phone and those who were eligible and consented were interviewed. Interviews were audio-recorded then transcribed and analysed to identify key themes using NVivo® (qualitative data analysis software).

## 4.0 Prevalence of groups at risk of food insecurity

This section summarises the results of the socio-demographic assessment as well as the key informant interviews to identify groups at risk of food insecurity in the Bundaberg region. More detailed information is available in the individual community profile report.

### 4.1 Elderly

Elderly people make up a significant proportion of the population in the Region; much higher than the state average, with 17.6 per cent of the population living in Bundaberg Region aged over 65 years compared to 12.4 per cent of Queensland. It is likely that in many cases this is also combined with lower income levels or associated with an age pension which further increases the risk of food insecurity. Additionally, elderly people were also identified as being less likely to own a private vehicle and more likely to have physical or mental disabilities, meaning that access to food is further limited. Lack of food preparation and cooking knowledge was also identified as contributing to food insecurity for some sub-groups such as elderly men or people suffering from dementia.

### 4.2 Aboriginal and Torres Strait Islanders

Although Aboriginal and Torres Strait Islander persons make up only 2.8 per cent of the total resident population in the Bundaberg region, other data showed them to be a priority population group in relation to food insecurity. According to the census data, in the last five years there was a 17.5 per cent increase in Indigenous people living in the Bundaberg region. This is much higher than the average state growth within this population. Aboriginal and Torres Strait Islander peoples are at risk of food insecurity due to many factors, including remoteness, high food prices, poverty, inadequate transport and cultural transition<sup>5</sup>. In this region poverty, inadequate transport and cultural transition were identified as relevant factors. Loss of both access to and knowledge of traditional foods was identified as a food security concern.

Additionally, Aboriginal and Torres Strait Islanders people were also identified as experiencing other food security risk factors such as unemployment, low income levels, lower levels of education and lack of budgeting and general food preparation skills. It was recognised that they also experienced higher rates of illness and chronic disease and are therefore an important group to consider when implementing population health strategies.

*“They’re a disadvantaged group and have very poor health problems, prevalence in just the diseases with diabetes and heart disease and stuff like that.” (B011)*

### 4.3 Low income and unemployment

The median household income level in Bundaberg region is significantly lower than the Queensland average. Analysis of household income levels in the Bundaberg Region showed 3.5 per cent of the population earned a high income (\$2 500 per week or more), and 26.1 per cent earned a low income (\$500 per week or less) compared with 8.5 per cent and 17.2 per cent respectively for Queensland. Even when taking into consideration lower rental and mortgage costs in the region, the remaining discretionary income is still much lower and could be attributed, in part, to higher rates of unemployment and lower levels of education. Each of these factors increases the risk of food insecurity, particularly in households where all three factors are present. Low income was identified by key informants as a confounding factor contributing to food insecurity for people with a disability, youth, Aboriginal and Torres Strait Islanders and the elderly. The region was identified as having a high proportion of residents living in social and economic disadvantage according to the SEIFA Index of Disadvantage.

Key informants associated a lack of food and cooking skills, knowledge and motivation to those in low income and low socio-economic groups. Food budgeting was seen as an important issue for those on a low income and was compounded by other spending priorities whether they be for living necessities such as rent or medication or for lifestyle factors such as drugs and alcohol.

### 4.4 Other groups

Other groups in the Bundaberg region that may also potentially be experiencing food insecurity included:

- Young people (aged 15-24) while only representing 11.8 per cent of the population were identified as being at risk due to having a higher incidence of food insecurity. The National Nutrition Survey 1995 identified that 15 per cent of people aged between 18 and 24 years identified as being food insecure, well above the population average of 5 per cent<sup>25</sup>. Radimer, et al (1999) had similar findings in that the 18-30 year age group had a higher prevalence of food insecurity than any other age group<sup>4</sup>.
- Single parent families, particularly those who have low income and lack of skills and knowledge around food preparation and budgeting. A total of 17 per cent of families in the Bundaberg region were single parent families.
- Some immigrant groups (e.g. Filipino). While Bundaberg has a relatively small immigrant population (11.6 per cent born overseas) compared to other areas of the state (Queensland - 17.9 per cent born overseas), the relative isolation to people from similar

cultures and lack of access to traditional food sources was seen as a contributor to food insecurity at home.

*“There are definitely a variety of clients from all different countries, things are getting better now because of food supplies from the old country, the gaps are getting smaller.” (B017)*

- Men were identified within key informant interviews as being more at risk. Potential reasons for this that were discussed included being more likely to have a low income, be homeless, live in isolation (particularly for elderly men) and lack food knowledge and cooking skills.

*“The majority of our clients are male and whether that has some indication to why they are more in need. We do have families and we do have women that come as well but the majority are males.” (B005)*

- People with a disability were identified as at risk due to low income, difficulties with physically accessing food and ability to prepare food. 5.1 per cent of the resident population claimed the disability pension compared to 3.3 per cent of Queenslanders.

*“With the disabilities services sector ... they’re very low income and some of my people are low income as well. So you’ve definitely got issues around money and affordability and also access.” (B02)*

## **5.0 Cost and availability of food in Bundaberg**

### **5.1 Cost**

Within the Bundaberg Region there are 11 major supermarkets, eight minor supermarkets, 17 convenience stores and 15 service stations with attached convenience store. All major and minor supermarkets participated in the cost and availability survey but only 10 convenience stores and 5 service stations, as the remainder did not consent. The full results of this survey are reported within the Bundaberg CFA cost and availability report (contact author for details). The breakdown of the mean basket cost for the different stores types is shown in Table 3. The mean cost for the fruit and vegetable component of the basket is shown in Table 4.

**Table 3 – Cost (mean and range) of a Health Food Access Basket in Bundaberg**

Food Outlet Type	Mean	Range
All supermarkets (n= 19)	\$445.32	\$267.39 – \$525.91
Major supermarkets (n= 11)	\$417.13	\$267.39 - \$488.43
Minor supermarkets (n= 8)	\$484.07	\$425.37 - \$525.91
Convenience Stores (n= 10)* <sup>†</sup>	\$527.06	

\*Due to individual convenience stores missing a large number of items a hypothetical mean basket cost was calculated using the mean item price for convenience stores.

<sup>†</sup>Does not include service station data due to high number (11) of missing basket items.

**Table 4 – Cost (mean and range) of fruit and vegetables in Bundaberg**

Food Outlet Type	Mean	Range
All supermarkets (n= 19)	\$170.46	\$101.04 – \$223.13
Major supermarkets (n= 11)	\$158.53	\$101.04 – \$208.78
Minor supermarkets (n= 8)	\$186.87	\$159.14 - \$223.13
Convenience Stores (n= 10)	\$215.36	
Service Stations (n= 5)	\$117.90*	

\*Note two items missing (100 per cent orange juice, frozen mixed veg)

This data shows that the price of a healthy food basket in the Bundaberg region varies by the type of store. People who rely on minor supermarkets or convenience stores will generally be paying more for their food than those who can access major supermarkets. While the key informant interviews identified that most people do shop at supermarkets, some groups such as people who do not own a vehicle or people with a physical disability may not be able to access these stores and therefore rely on the more expensive options (see 6.0 Physical Access to Food). Unfortunately, people in these situations are also more likely to have lower income levels making it harder for them to afford food.

The average cost of the fruit and vegetable component for all supermarkets was 38.3 per cent of the average total basket cost. In the 2006 HFAB survey the proportion of basket cost for fruit and vegetables was 43.8 per cent for stores in a similar regional category<sup>16</sup>. This suggests that the price of fruit and vegetables within the Bundaberg region may be relatively cheaper than some other areas. This is positive for promoting consumption of fruit and vegetables as lower food prices are associated with increased purchase of items<sup>15</sup>. Within this study the price of fruit and vegetables was cheaper in major supermarkets compared to minor supermarkets and convenience stores. This further disadvantages people who rely on these smaller stores, particularly as the variety of fruit and vegetables is also reduced

compared major stores. Interestingly, the cost of fruit and vegetables within service stations is cheaper than other store types. Even when accounting for the two missing items (100 per cent orange juice and frozen vegetables), the cost is likely to be low compared to other store types. This may be explained by the tendency for some service stations in the area to stock wholesale or local fruit and vegetables at a discounted price. Quality of fruit and vegetable produce was not analysed as part of this project.

Home brand data for each basket item was also collected where available for supermarkets. A full basket analysis was not conducted using the home brand data due to difficulties in the number of substitutions that had to be made within the database; however, a basic comparison was conducted. An average cost for each food item was calculated for both brand and home brand products. Products within each food group were added to get a total cost for each food group. The difference in price was then calculated and is displayed in Table 5. Home brand data was not collected for either convenience or service station stores.

**Table 5 – Average cost of name-brand and home brand items for each food group**

Food Group	Brand Average	Home Brand Average	Difference
Breads & Cereals	\$28.69	\$19.09	\$9.60
Fruit	\$13.95	N/A	N/A
Vegetables	\$21.21	N/A	N/A
Meat & Alternatives	\$26.97**	\$19.76	\$7.21
Dairy	\$31.14	\$25.47	\$5.67
Non-Core Foods	\$9.14	\$6.58	\$2.56

\*\* This figure is the sum of those items only for which a home brand equivalent was also available

Although no total basket cost comparison was made, the data available show that home brand items are significantly cheaper, especially for ‘breads and cereals’ and ‘meat and alternatives’ products. Other sources of low cost foods were identified by key informants and included markets, roadside food stalls and food co-operatives however, no survey of the actual cost of foods from these sources was undertaken.

### 5.2 Affordability

Income is an important factor to consider when determining whether the cost of the HFAB basket is affordable. Unfortunately, the different methods used to calculate household income and the HFAB mean that a direct comparison between food cost and income is not able to be made. However, other similar studies have used a comparison with Average Weekly Earnings (AWE) data to determine proportion of wage spent on the food basket<sup>19,20</sup>.

The ABS reported that the AWE for Queenslanders in May 2008 (same period as the survey was undertaken) was \$850.30 per week<sup>21</sup>. This means that on average 26 per cent of the AWE would need to be spent to purchase the HFAB basket in the Bundaberg Region. This compares to the Illawarra food basket study where 29 per cent of the AWE was spent on the basket but is less than that found in an Adelaide study where 35 per cent of the AWE was spent on a healthy food basket<sup>19,20</sup>.

Another consideration is the average household income of people within the Bundaberg Region. While AWE figures are not available at the study area level, individual income data from the 2006 Census showed that 65.8 per cent of the population earning what is considered a low income (\$599 or less per week)<sup>14</sup>. Furthermore, median household weekly income for the three SLAs (Bundaberg City \$676 per week; Burnett Part A \$794 per week; Burnett Part B \$791 per week) was also less than the Queensland median of \$1033 per week. This data indicates that the average weekly earnings for people in Bundaberg are likely to be below the state figure and therefore the cost of the HFAB proportionately more.

Key informant interviews provided more qualitative data around the affordability of food. Income and cost were not the only important factors but ability to budget and other financial stresses such as cost of living (e.g. rent, fuel, etc) or cost of lifestyle habits (e.g. drugs, alcohol, smoking and gambling) were also relevant. These issues are further discussed in 7.0 Social Determinants of Food Insecurity. Groups identified as having difficulty affording food included low income groups, especially those on income support including the old age pension.

### 5.3 Availability

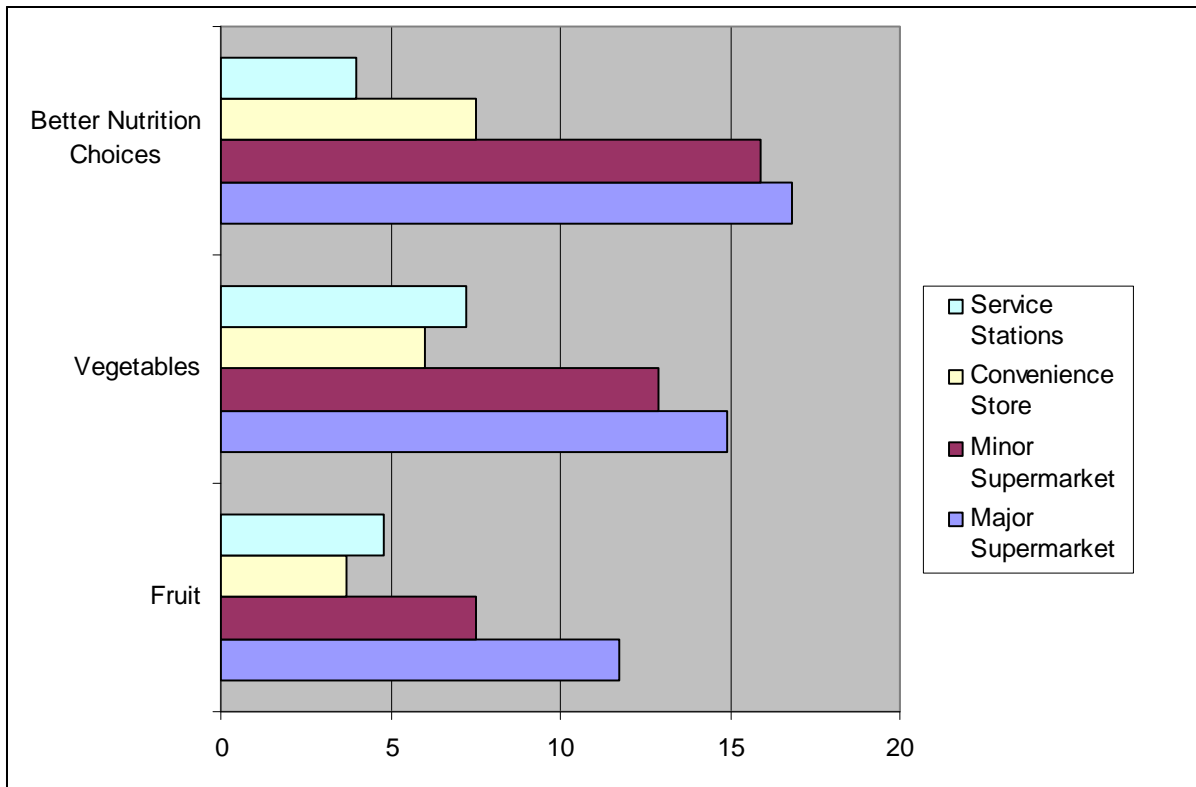
The number of items missing from the HFAB was counted to assess the availability of basic food items on the day of the survey. Within the Bundaberg Region, 11 of the 19 (58 per cent) supermarkets stocked the full list of food basket items. The median number of items missing from stores that did not stock the full list was three (range 1 – 9) out of the total 44 items.

Minor supermarkets were more likely to be missing items from the food basket with six out of eight (75 per cent) stores missing items compared to only two out of 11 (18 per cent) major supermarkets with missing items. None of the convenience stores or service stations stocked the full list of food basket items.

To determine access to healthy foods, the survey also measured the availability of 15 of each of the most commonly consumed fruit and vegetables in addition to 17 food items

considered to be “better nutrition choices”. Lists of these foods are included in Appendix 5. Figure 5 shows the average number of these items available for both major and minor supermarkets and convenience stores.

**Figure 5 – Availability of fruit, vegetables and “better nutrition choices” in Bundaberg**



Availability of food, particularly healthy food is an important component of food security. The data shows that the overall availability of food, including fruit and vegetable varieties and better nutrition choices within supermarkets in the Bundaberg Region is good. However, minor supermarkets and convenience stores were less likely to stock the full range of basket items and more likely to have only a basic range of fruit options. People who rely on these types of stores may not have the same access to healthy choices as those who can access major supermarkets.

Furthermore, supermarkets and convenience stores are not the only source of a range of healthy foods in the community. Grocers, butchers, markets, service stations and other retail and community programs are also important food sources for the community. Collecting cost and availability data for these types of stores would provide further information on food access for this community.

## 6.0 Physical access to food

Physical access to food in Bundaberg was assessed via the food outlet audit, GIS mapping and data collected during Key Informant Interviews. The full results of these can be found in the CFAC Food Access in Bundaberg Report and CFAC Qualitative Assessment of Food Security in Bundaberg Report.

### 6.1 Number and type of retail food outlets

The food outlet audit identified 221 food retail outlets in the Bundaberg region which are listed by category in Table 6.

**Table 6 – Retail food outlet distribution**

Food Outlet Type	Number of Stores
Major supermarket	11
Minor supermarket	9
Convenience store	17
Service station with convenience store	15
Butcher	14
Fishmonger	8
Poultry store	2
Fruiterer and Greengrocer	7
Bakery and cake shop	18
Takeaway– Franchise store	18
Takeaway – Local independent store.	24
Restaurant/café	78
Delicatessen	0
Specialty Food Store	0

To provide a measure of accessibility to selected outlet types, the number of outlets was compared with the population in Bundaberg as follows:

Supermarkets (major and minor) = 1 store per 3605 people

Convenience stores (including those attached to service stations) = 1 store per 2253 people

Takeaways (franchise and independent) = 1 store per 1717 people

This indicates that physical access and exposure to takeaway outlets is more than twice as great as access to supermarkets and fresh food.

## 6.2 Location and density of retail food outlets

### 6.2.1 Supermarkets

Figure 6 maps the location of supermarkets within the Bundaberg region along with SEIFA Index of Disadvantage, public transport routes and an 800 metre radius indicating feasible walking distance. Figure 7 shows supermarkets located in the central parts of the study region.

The majority of supermarkets are located within the Bundaberg City SLA. There are four supermarkets located in the major coastal suburbs within Burnett Part A SLA. There are no supermarkets within Burnett Part B SLA.

Supermarkets were generally located where there was the highest population density and high proportion of disadvantaged households and were serviced by a bus route. Areas that have a high proportion of disadvantaged households but are not located within an 800 metre buffer of a supermarket include the northern districts of Burnett Part B; Moore Park; surrounding districts of Burnett Heads; Elliot Heads, East Bundaberg; Thabeban; Svensson Heights and portions of North Bundaberg.

Figure 6 – Supermarkets and SEIFA Index of Disadvantage

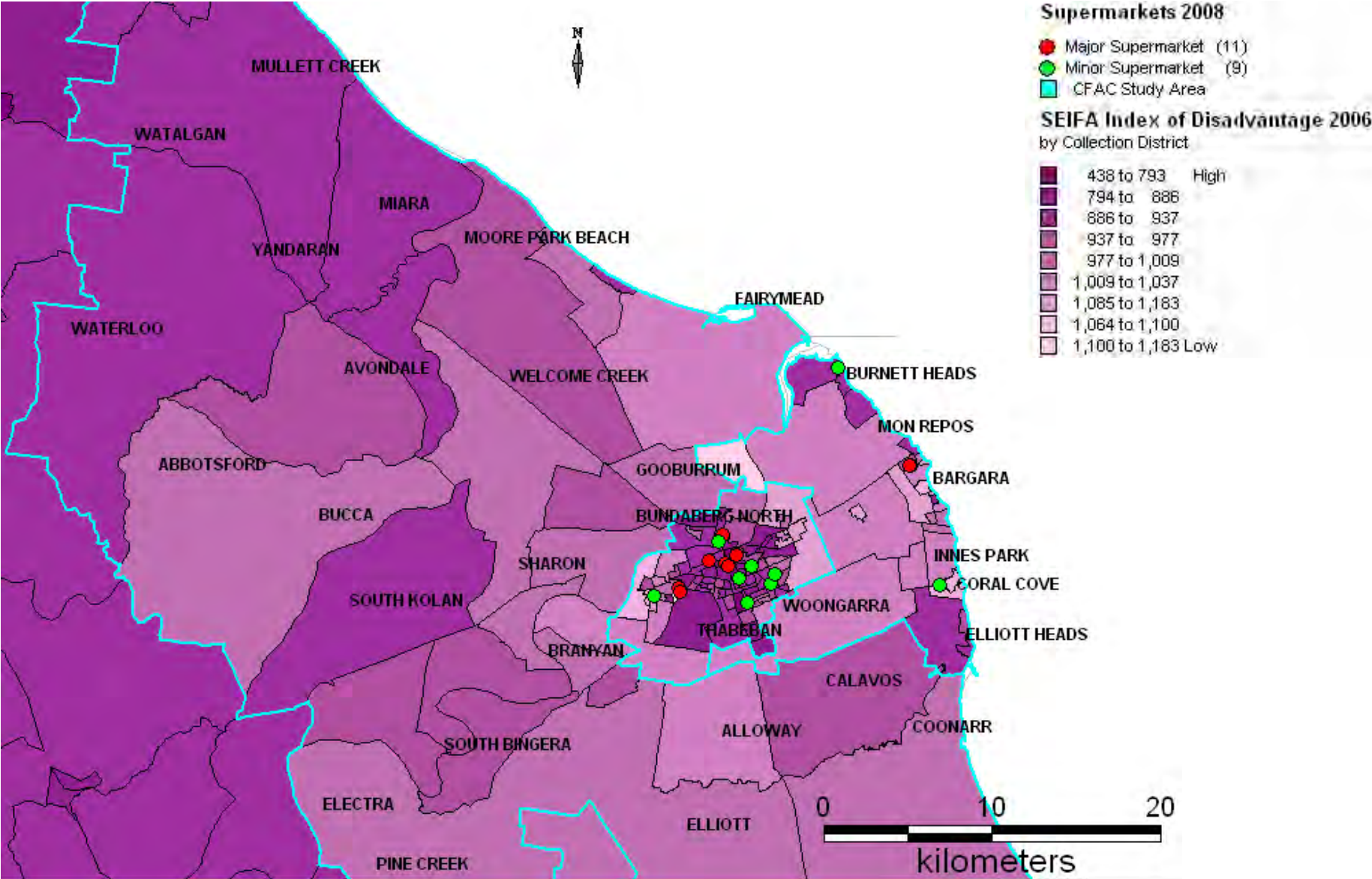
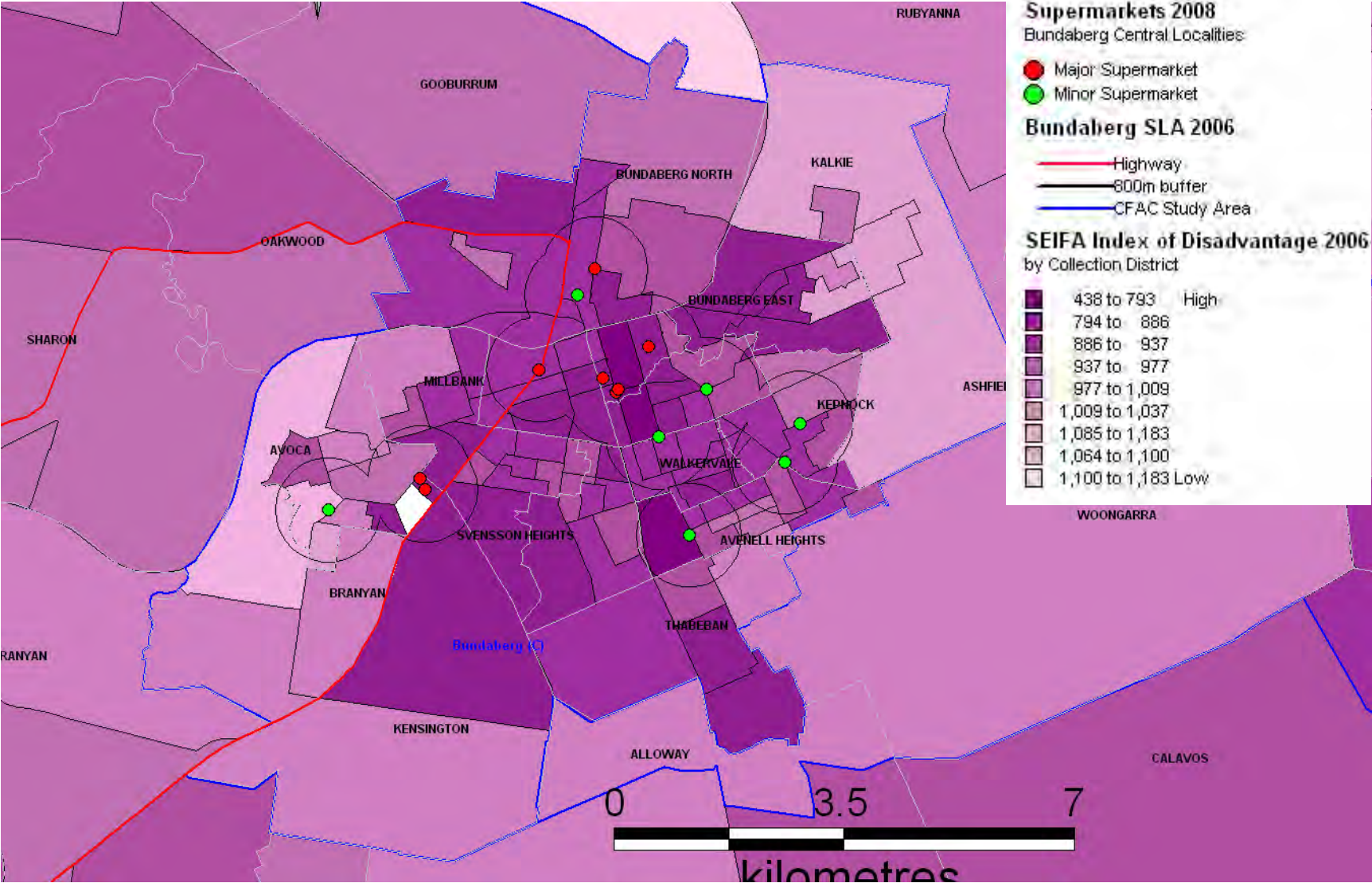


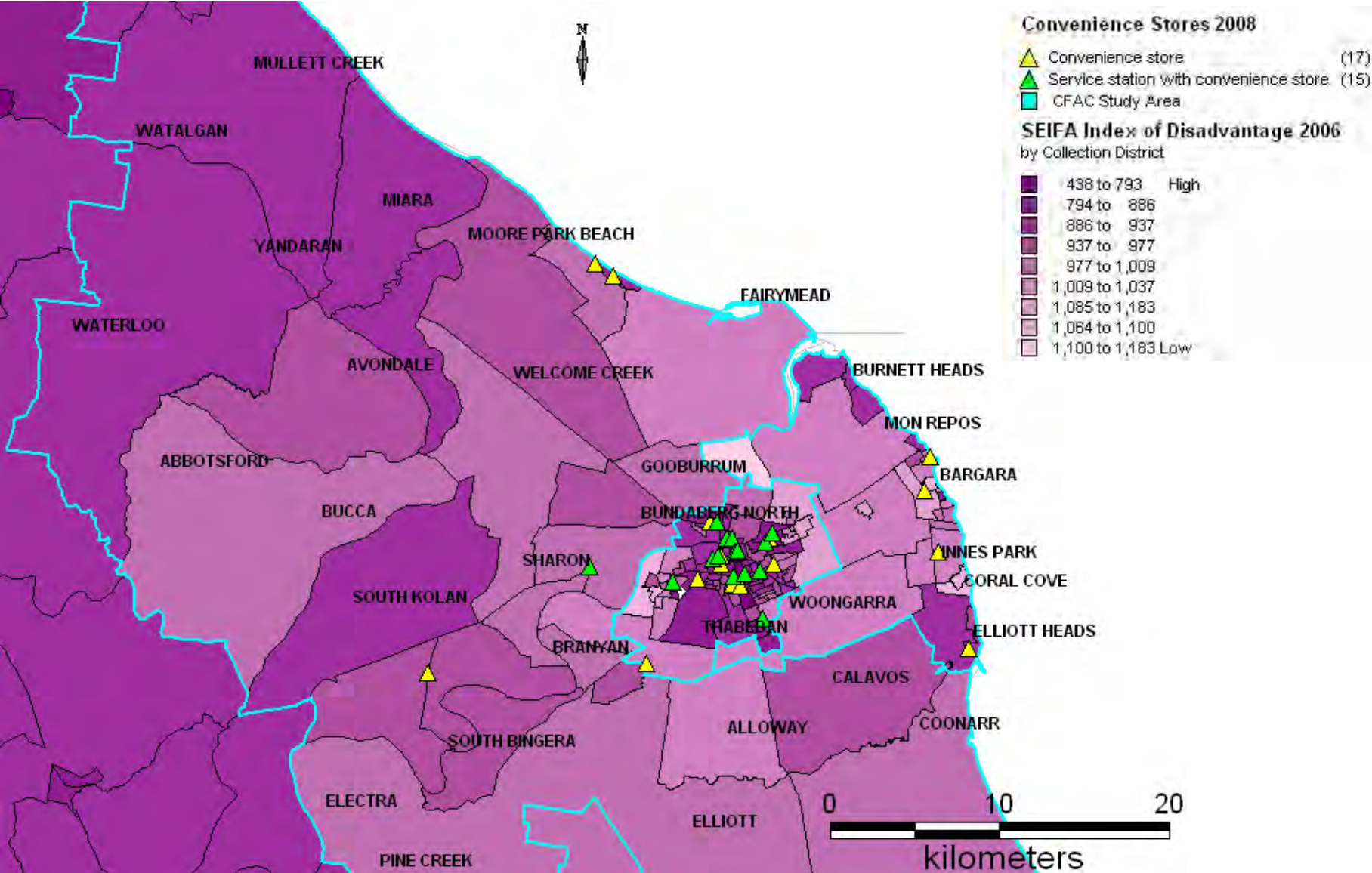
Figure 7 - Supermarkets in Bundaberg (central)



### **6.2.2 Convenience stores**

Figure 8 shows the distribution of convenience stores across the study area with the SEIFA Index of Disadvantage as an overlay. Convenience stores are slightly more widespread than supermarkets however, the general pattern remains the same with most stores located in the central suburbs of Bundaberg and much fewer in the surrounding areas. Nearly all of the highly disadvantaged areas that are not accessible to a supermarket also do not have good access to a convenience store.

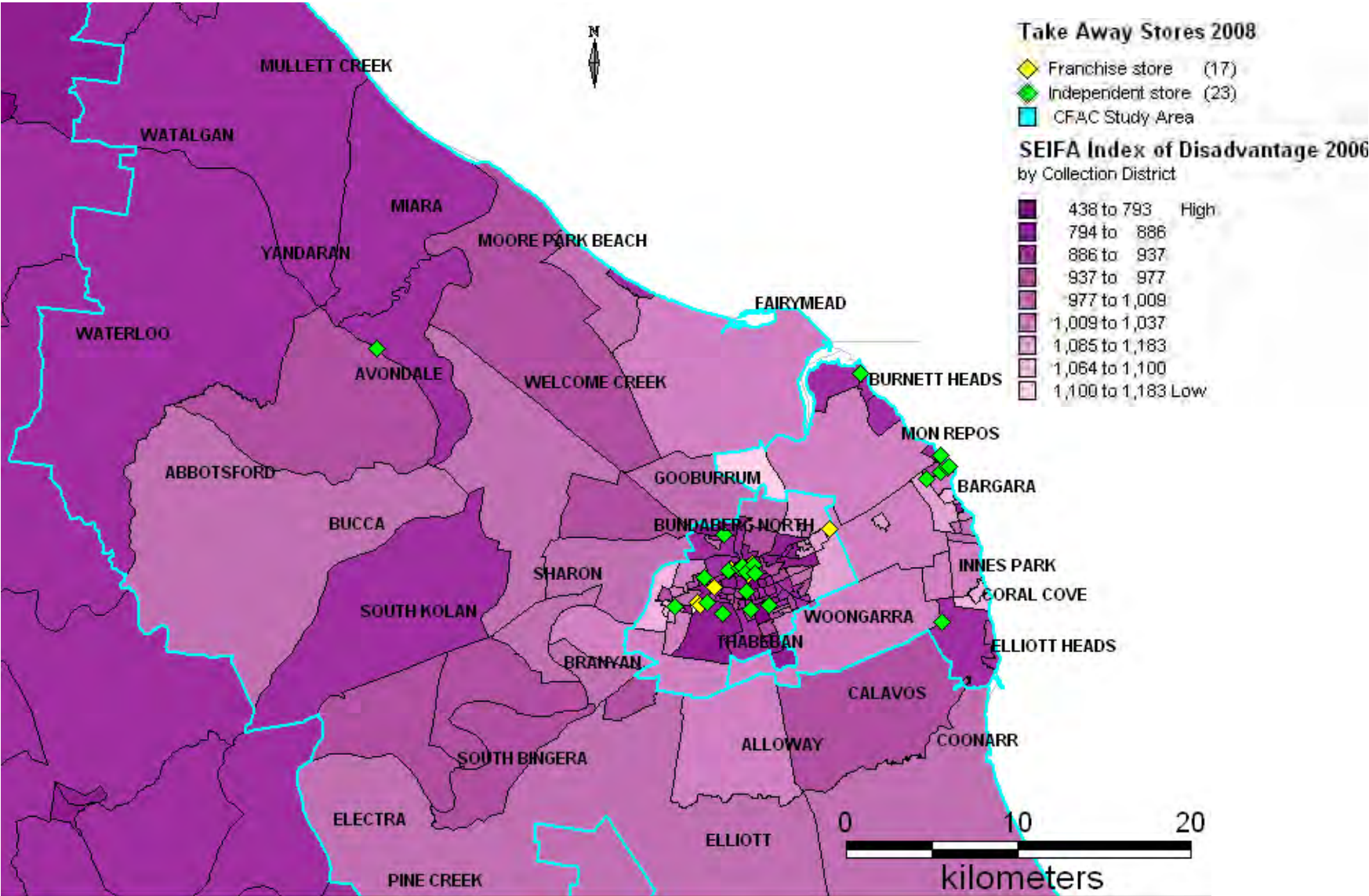
Figure 8 – Convenience stores and SEIFA Index of Disadvantage



### **6.2.3 Takeaway food outlets**

Figure 9 show the distribution of take away food outlets which is similar to that of other store types with the majority of outlets located in the central suburb areas. There is a slightly greater spread of takeaway outlets as indicated by the 800 metre buffer and therefore slightly better access to these than to supermarkets, which is not the desired outcome.

Figure 9 – Take away stores and SEIFA Index of Disadvantage



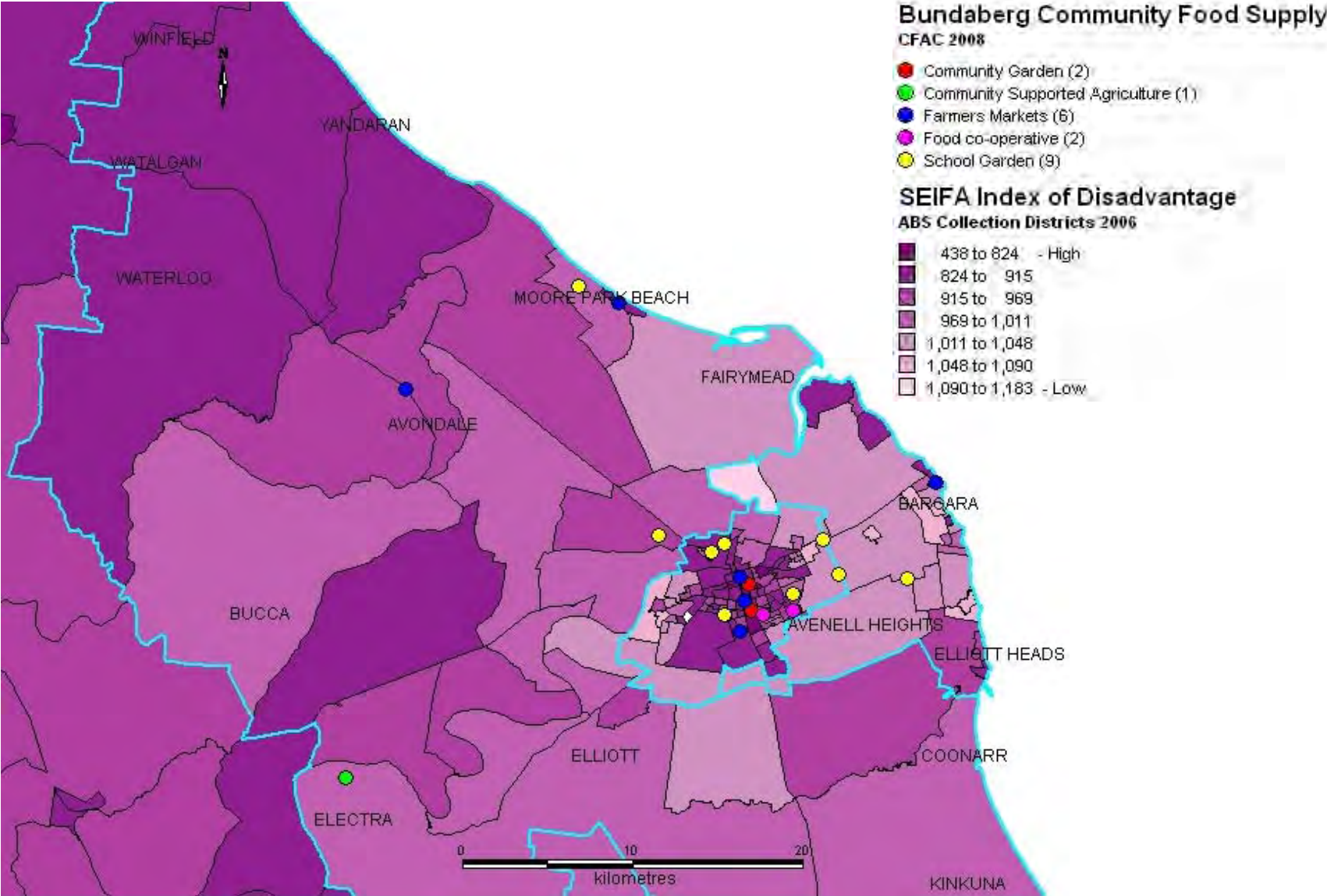
#### **6.2.4 Community supported food resources**

Location of community supported food programs are shown on Figure 10. Most of the community supported food programs are located in the central Bundaberg area. Some are on or nearby to bus routes, others are not.

There are a number of school gardens. These may provide access to food for those within the school community and occasionally for adjacent facilities

Key informant interviews identified that people may also access road side food stalls as cheap food options. Although not mapped many of these food stalls are located outside the central Bundaberg area (different to the retail food outlets) so offer an option to those households living in areas that generally have poor access to food. However, these road side food stalls have limited variety and households would have to own a car to access many of them (unless living in close proximity).

Figure 10 – Community supported food systems and SEIFA Index of Disadvantage



### 6.3 Transport access: public

The only form of public transport available in the Bundaberg region is bus. Figure 11 below maps the bus routes in conjunction with supermarket location. There is an additionally bus route (not shown) that travels from the City Centre out to Innes Park, Coral Cove & Elliot Heads. This route includes a minor supermarket at Coral Cove and a convenience store at Elliot Heads.

There are bus services Monday to Friday from 6:30am to 6pm; however, there are very limited services available before 8am and after 5pm. Services on Saturdays run to around 12pm. There are no services on Sundays or public holidays.

The mapped route data show that public transport best service those people in the central Bundaberg suburbs and nearly all supermarkets (both major and minor) fall on a public transport route. Some areas that have been previously identified as having limited access to supermarkets and higher proportions of disadvantage are able to access public transport including portions of North Bundaberg, Thabeban, East Bundaberg, Moore Park, Elliot Heads and Branyan. However, the Western and Southern regions of the study area have no access to public transport.

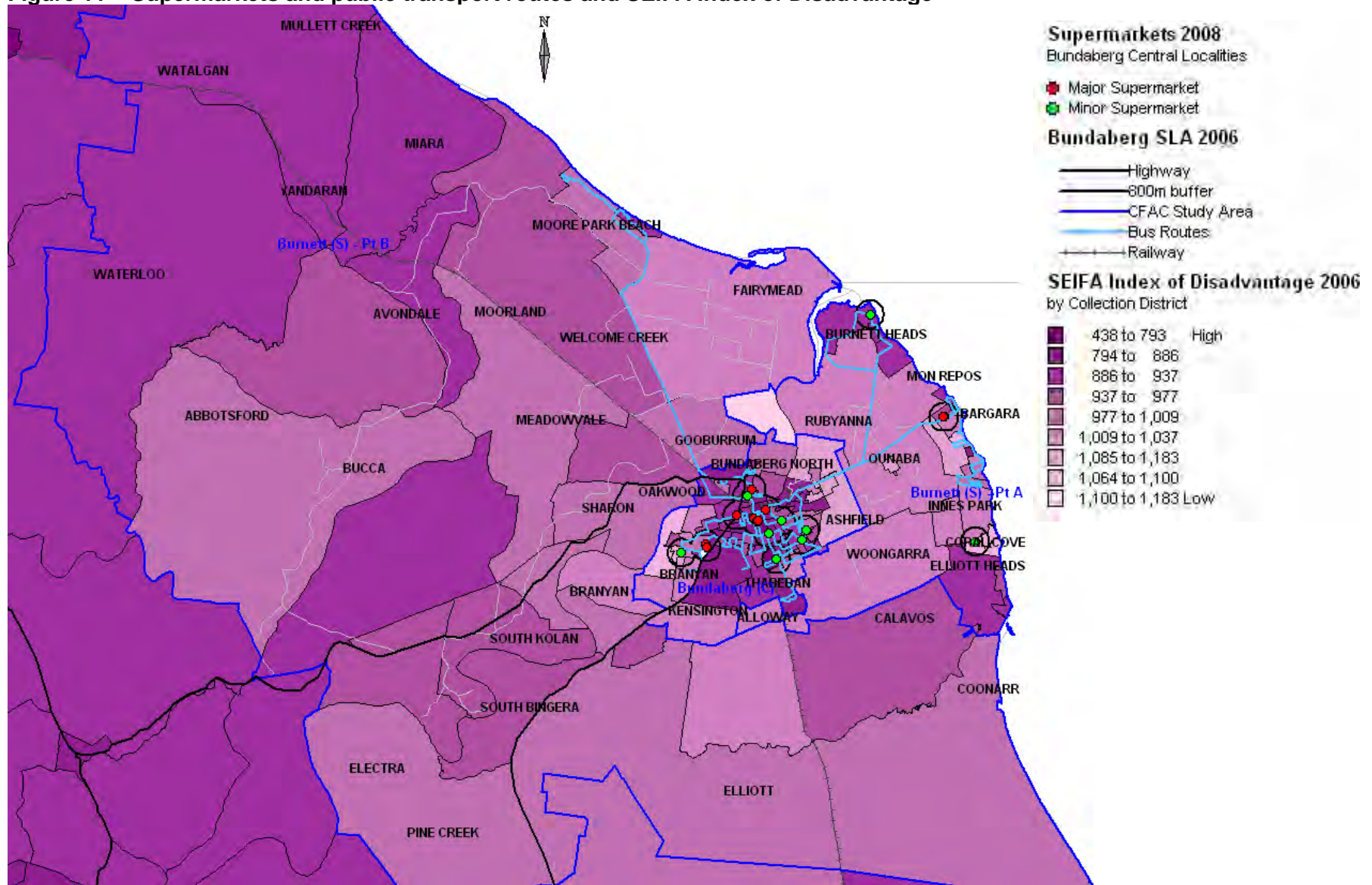
Transport was the most commonly cited barrier to food access within key informant interviews. The majority of providers indicated that their clients were reliant on public transport, walking or on transport options provided by their organisation (mini buses, taxi vouchers, fuel cards). Both positives and negatives of the Bundaberg public transport system were identified by interviewees. Within central areas of Bundaberg, key informants identified that the system had improved and was generally accessible. However, for outlying areas and some demographic groups, access to and the convenience of public transport was a significant issue. This was especially the case for those who were elderly and/or where a lack of mobility may preclude the use of public transport, or for those with a number of children making public transport difficult or expensive.

*“The public transport is pretty good because the buses will stop wherever and they’ll try and take them to their door if it’s fairly close as well. But the issue is with our clients is that they usually can’t get on the bus.” (B04)*

*“A number of our clients live on the coast, particularly Moore Park where accommodation’s a bit cheaper. The public transport system out there is very poor and therefore transport would be a major issue.” (B019)*

*“If you are unemployed or a pensioner, public transport’s probably not too bad. If you are working the public transport in Bundaberg is a joke. Unless you’ve got a job that’s between 9 and 3 virtually it’s no good. And even for clients that come here, we have a bus route here, the services from the outlying areas all terminate in the centre of Bundaberg then you’ve got to wait for a service to go to the hospital or Sugarland or whatever, so you got to catch a couple of buses. For some people that’s quite confronting so they’ll only go to the main street.” (B015)*

Figure 11 – Supermarkets and public transport routes and SEIFA Index of Disadvantage



## 6.4 Transport access: private and assisted

Access to private transport was identified as an issue within the socio-demographic statistics gathered as well as the key informant interviews. ABS Census data showed that 11.5 per cent of households within the area did not have access to a private vehicle. Key informant interviews suggested that the many people did not have the financial resources to run a private vehicle. For those who could afford to run a car, key informants indicated the cost of fuel and car maintenance was an issue. The lack of a private vehicle significantly limited the types of food that could be accessed, with many relying on local stores.

*“Most of them just walk around, they walk and they live close to town and stuff so... There’s a few families that have got cars and that but like I said, low income so they don’t have the money to fix those cars. So when they’re broken down it’s hard. And if they are living out of town. We have some families there that just don’t have transportation all the time to come in and there’s no public transport out in those areas too which is a problem.” (B014)*

In Bundaberg, the loss of licenses due to ill-health or disability among the elderly was an issue, with the elderly choosing to drive at off peak times or having to resort to public transport.

*“Absolutely, transport is an issue full stop, and to food definitely. For a start you’re talking about ageing, the majority of our clients are ageing, what they catch a bus, they’ve lost their license they can’t drive anymore. They’ve got to catch a bus they’ve got the person they’re caring for at home. So they’ve got the worry of if anything goes wrong while they’re out or they’ve got to pack them up and take them with them, catch a bus, go and get the groceries and lug them home.” (B010)*

Key informants also identified that for some groups of clients there were assisted transport options. These options could be formalised such as taxi vouchers or a directed bus service or less formal whereby volunteers would provide an ad hoc service.

*“Some of our members will come on the weekly shop run that we do here and pick up their groceries along the way. So that sort of helps them otherwise they would really struggle or they’d have to pay for a taxi.” (B07)*

## 6.5 Where do people source food

The mapping of the food outlets provided a visual representation of the food sources available across the study area. However, this does not give any indications of how these are used and who uses them. Key informants were able to provide information on where their clientele shopped and some of the reasons behind those choices.

In Bundaberg the majority of service providers indicated that clients used supermarkets. There were a number of choices and what type of supermarket was used depended on the financial and/or access circumstances.

*“Quite a few of them go to Aldi. They shop at IGA in town. They generally shop at those, what we would think of as the cheaper supermarkets. Some of them obviously go to Coles and Woolworths as well. Sometimes there are transport issues so they may shop a bit at the corner store because that’s an easy thing about transport. They don’t have to worry about carting kids and groceries home on the bus.” (B013)*

The use of local shops was by those without access to transport, who preferred the familiarity or who were unable to travel long distances due to physical or mental illness or found them more accessible as they were often less busy than supermarkets. A lack of comprehensive, inexpensive public transport system also put the onus back on the “local” or “corner” shop as the major provider of groceries. However, it was noted that the price of food in convenience stores was more expensive and the variety of food available less than that in supermarkets. A reliance on convenience stores may have a negative impact on these other determinants of food security.

*“A lot of our people have to shop at the corner store because it’s the only way to get their groceries home and they’re paying a lot more than someone that goes and loads up at the supermarket. It’s okay to say you can catch the bus. I couldn’t catch the bus with my weekly shop. You just couldn’t and by the time you got home your frozen goods wouldn’t be frozen and stuff like that as well. So a lot of our low income people don’t have access to the transport.” (B020)*

*“I guess a lot of them would go locally to a smaller shop. Because they normally, they might have a neighbour watch the care recipient while they just run out and grab a couple of things. So a lot of them would go locally, simply because they don’t have the time. They do access the supermarket as well.*

*One instance I remember of an 85 with severe back problems, had a husband very demented and had 2 hours to catch the bus from North to Sugarland, purchase her groceries and be back on that bus and home again. She was given 2 hours to do all of that and to me that was ridiculous. So, I suppose the majority would go to the supermarkets, the big ones, but those other reasons come in to it why they shop locally.” (B010)*

In addition to using the local store, the easy access to fast food restaurants was also raised as an issue. Figure 9 shows that these types of outlets tended to be more widely distributed than other store types. Key informants also felt the low cost and home delivery option also increased access and therefore usage of these store types. The use of takeaway outlets by young people and single men in particular, as a form of convenience, was also raised.

*“A lot of my young people, most of them come in with money to spend throughout the day, to buy their lunch rather than having anything packed from home. And when they buy their lunch it’s always McDonalds, or sausage rolls or meat pies or chips and that kind of thing. Just very fast, easy options of food rather than taking into consideration so much the price and then healthy eating, those kinds of thing.” (B002)*

*“I do notice they access fast food a lot. Because it’s probably easier to go and buy \$10 worth of chips and feed your family then cook. That’s that big family again. But also if they’re having hypos or if they’re feeling hungry they tend to buy just something that’s very easy.” (B014)*

Markets in Bundaberg were seen as a viable option for some but not all population groups.

*“I imagine they’d just use the usual supermarkets and that. I know some of the older people here go to the markets. A lot of them go to the markets. But the young people go nowhere near the markets, and in fact I would doubt a lot of the young people who come out here, doubt if any of them would do much shopping.” (B019)*

Bush tucker was also identified by key informants as a viable supplement to the food supply.

*“One of the things is too, even though there are a lot of Aboriginals here now that are urbanites there’s still a section that does rely on native foods.*

*Simply because to go to the shops is too dear and expensive for a lot of them. And, nearly all of us are on pensions and it just doesn't go far enough..." (B003)*

*"Just probably local supermarkets and stuff and if they've got access to traditional foods out in the community. Yeah probably, there's traditional land here so they go out and do fishing and that too. But IGA seems to be the big one with them." (B014)*

## 6.6 Discussion

Access to food in Bundaberg varies depending upon where you live and your socio-demographic circumstances. People who live in the central parts of the study area tend to have good access to all types of retail food outlets and public transport. These areas also have the greatest population density and greatest proportion of low socio-economic household so this distribution aids food security for those people. However, people who live in these areas that do not have good access to food may include the elderly, low socio-economic families, young people and people with a disability. These groups are less likely to have access to private transportation and more likely to have difficulties in using public transport systems during to physical health or affordability. This is compounded by the fact that these groups will then tend to rely on more expensive or less healthy sources of food as these are closer or often delivery options (e.g. convenience or takeaway food stores).

People living outside the central area of Bundaberg generally have poor access to food, especially if they do not have access to a private vehicle. Although there are some transport services to the major coastal communities, key informants report that these services are infrequent which may make it difficult when shopping for groceries. While these areas with poor access tend have lower population densities and lower rates of socioeconomic disadvantage, those who are from lower socioeconomic backgrounds face even further food security risks.

Areas of greatest need in relation to access to food are those with a relatively high population density, high levels of socio-economic disadvantage, are not within walking distance of a supermarket and have poor public transport access; these include northern districts, parts of Thabeban, East Bundaberg, Moore Park, Elliot Heads, Branyan and some areas of Burnett Heads. While assisted transport options were able to improve access to food for some at risk groups, particularly for the elderly and people with a disability, these services were unable to cope with the demand in the Bundaberg region.

## 7.0 Social determinants of food insecurity

Key informant interviews identified a number of social determinants that they saw as contributing to food insecurity within the Bundaberg region. These were categorised into affordability characteristics and access characteristics (not transport related). Further information on the social determinants of food insecurity present in the Bundaberg region is reported in the CFAC Key Informant Interview Report.

### 7.1 Affordability

A number of key themes emerged related to affordability. Many informants identified that for their clients' food was not a priority either due to other living expenses such as housing and transport costs or due to the cost of lifestyle priorities or addictions like alcohol, drugs, cigarettes and gambling.

*“Some people don’t put the priority on the food. They’ll buy their cigarettes or whatever else and then have nothing left to eat.” (B005)*

*“We seem to have more and more clients coming through with more mental health issues, psychiatric issues, depression and anxiety. A lot of those clients we can see they do drink and they smoke, and they might take drugs, so more of their money, their income support is being spent on that. So their nutrition is probably not that great anyhow, so that’s really not helping their health and helping them to deal with the barriers.” (B020)*

There was also generally a consensus that the rising cost of food combined with low incomes was a significant contributor to food insecurity. Some informants particularly identified the high cost of healthy foods when compared to less healthy options

*“Look nobody could live on a pension. I couldn’t. The pension is appalling, who could live on it? So there would be very little money there for food by the time they’d paid their bills. The cost of food has gone through the roof. I don’t shop now, my husband shops but when I go with him, I’m absolutely horrified at how much food has gone up. How do people afford it? And it keeps going up. You know, when does it stop, or what are we going to do about it? I see it as a crisis. I do not believe that people can afford to eat at the cost of food these days. So that would be a major one. Not enough income and the high cost of food.” (B010)*

*“I think a lot of them like to buy the healthier stuff but it’s always cheaper for them to buy a pie and a sausage roll – for a main course meal. It’s a lot quicker and a lot cheaper.” (B 001)*

An overarching factor that was identified was the ability of families to budget for food. Food was often seen as the only variable budget item and therefore squeezed when other costs were high. The ability of families to budget for food was divided into those families who were efficient at budgeting but income did not stretch far enough; and those families who lacked budgeting skills.

*“In disabilities services I find a lot of those guys are probably a bit wiser with how they spend their money. They tend to shop quite well in that they don’t eat out quite so often because they do think about where their budget’s going. More money issues rather than food I see it.” (B002)*

*“I think budget’s a big problem. We’ve done a number of programs and surveys, and budget always seems to be a problem in the community. I think it’s knowledge and awareness. They’ve never been taught to budget their money but you have to be on a low income. It’s not much money to play with out there.” (B014)*

## 7.2 Personal barriers to food access

Service providers identified a number of barriers to households being food secure. These could be divided into personal factors and system factors. Personal factors included limited knowledge and skills and lack of time.

Most service providers identified a lack of cooking skills as one of the key barriers to being food secure and being able to maintain a level of food security. In some cases this related to technological skill – how to use the equipment and in other cases related to the ability to menu plan and cook meals from a range of foods. Others however, acknowledged a broader issue related to the inability to be resourceful and problem solve.

Single older men, single parents, young people and people with a disability were all identified as needing cooking skill interventions. There were indications from some service providers that skills were adequate but that clients were “lazy” or “could not be bothered”. For some it was a value judgement, however for others there was recognition of the reality of everyday life and the stresses on families. The inability to cook or the lack of desire to cook was also

linked to social isolation for some groups such as elderly men. Another point raised was that this lack of skills and motivation to prepare your own food is now generational, where young adults haven't learnt to cook because their parents also never cooked.

It is interesting to note that cooking skills were raised by the majority of service providers and for many this encompassed some food and nutrition knowledge. Only a very small number identified a lack of nutrition knowledge as a separate issue.

*"I think with the young people I suppose it depends on what you grow up with. A lot of them have just grown up with quite easy food, not necessarily set meal times and things like that. A very unstructured learning in relation to food and healthy food. So I guess education wise they've been taught what they've grown up with. So education wise its about letting them know about what's out there, what are some healthy options and what are some even cheaper options. Just how to prepare cheap, easy meals rather than just the easy option." (B02)*

*"I think one of the biggest skills that some of these people lack is the ability to be resourceful and the ability to problem solve. They see a problem, that's it, I can't do it. They don't even think of how I can get around it. Or it's somebody else's fault for the problem. Some of these people have been burnt or the wrong things have been done by them but they simply carry that sort of attitude throughout their lives. It's everybody else's fault. I can't afford a car or I can't afford food or somebody's ripped me off. It's all everyone else's fault. Lack of self responsibility for the circumstances that they are currently in is a big thing." (B020)*

*"It seems to be the elderly gentlemen that when the wife dies and the wife's done all the cooking they have the problems. If a partner dies they're not motivated to cook a nutritious meal just for themselves." (B009)*

While the ability to cook was identified as a critical issue there was recognition that many families lacked the basic equipment to prepare a meal. This may have been due to their living conditions at the time or due to financial difficulties which meant that utility services were no longer available. Food storage is an issue for those who are homeless. A lack of cooking equipment however, was not seen as an issue across all service providers.

*“And once again from that, there’s always the provision of well do you have a cooker, a stove? And strangely enough, some of our clients didn’t have a stove. It’s a very strange concept to think how can you have a house without a stove. These people just lived on convenience food. And I think that was quite a realisation, a very stark process to me, going oh, we have to go back a few more steps and then that brings in can you afford a stove, do you have gas, do you have electricity? All sorts of things go on, and once again primary focus food. If you had a focus of food then surely you’d have a stove to cook food but if that’s not your primary focus then it doesn’t matter. They’ve got a cooker at Maccas.” (B018)*

*“If you’re living in rental accommodation, and the majority of clients would be living in – slumlord wouldn’t be the word to use – but it’s not the best of accommodation because they can’t afford to be paying \$250 a week. Even if you are paying \$180/190 a week, chances are that the only thing that works on the stove are the things on the top. So you know it’s not real flash, or if it is it’s not real efficient use.” (B015)*

“Lack of time” was identified as an issue, however most service providers framed time as the compression of time in which families were prepared to spend on food preparation and eating.

*“And I think there’s another element to where we’ve come with healthy lifestyles is this notion that nobody has time anymore. It’s not one that I personally sit with because we’ve all got the same amount of time in a day; it’s how we prioritise that time. And, if you don’t think food and healthy lifestyle is important then you don’t prioritise it. If you think sitting down and playing a gameboy is your priority, you prioritise it.” (B018)*

### 7.3 System factors affecting food access

Key informants also identified a number of system factors beyond those already mentioned that impact on access to food including:

- The reactive and sometimes restrictive nature of the welfare system
- Marketing of unhealthy food choices
- Availability of local produce
- Quality of produce
- Loss of land for agricultural use and native foods.

*“Well, I don’t know whether they help or they hinder, if I’m going to be really honest. Because when you’re giving free food away that allows me to buy more drugs, because I don’t have to worry about where my food’s coming from. So is that helping? Sometimes it can be but sometimes it’s not. You may as well give them more money for drugs. It’s a real difficult situation. It’s one that sometimes you’re fighting with internally all the time.” (B20)*

*“Our food goes to Brisbane and then it’s transported back here before we buy it. It’s a good one isn’t it!” (B010)*

*“The competition of the large supermarkets [is an issue] but a lot of people will go to the smaller places for a lot of their fruit and veg because they know that the fruit and veg in supermarkets is not up to scratch.” (B09)*

*“But another thing too the governments have got to wake up to the fact that all our cane farms or our vegetable growing areas that they’re closing down and putting houses on and then the farmers are pushed further out and if they go further out there’s no ground to grow anything. So were going to finish up having to import so much, which is ridiculous, especially when we’ve got so much food here that we could utilise if they’d only brought the prices down a bit.” (B03)*

## 8.0 Local food production resources

This section reports local food production within and around the study area. Further information can be found within the CFAC Bundaberg Local Food System Report.

### 8.1 Part A: Commercial food system

Figure 12 shows the geographic area of data collection for the commercial food system. Refer to the methods sections for the statistical areas used.

**Figure 12 – Geographic catchment area for commercial food data**

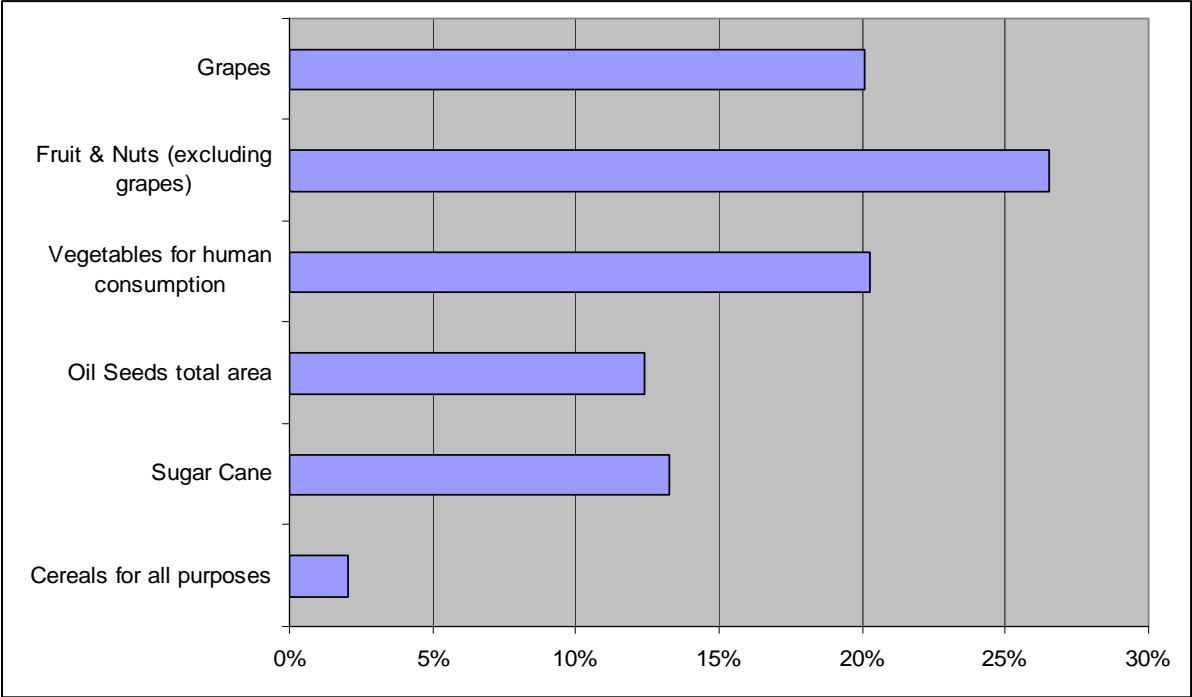


The Wide Bay-Burnett Statistical Division accounts for 2.6 per cent of farm land or 17.4 per cent of the total number of farms in Queensland. Of the total land area of the Wide Bay-Burnett Statistical Division 71.5 per cent of the land is allocated to farming.

#### 8.1.1 Cereals, vegetables, fruit and nuts

Figure 13 shows the area's contribution to land used for crop production in Queensland for a range of major crops.

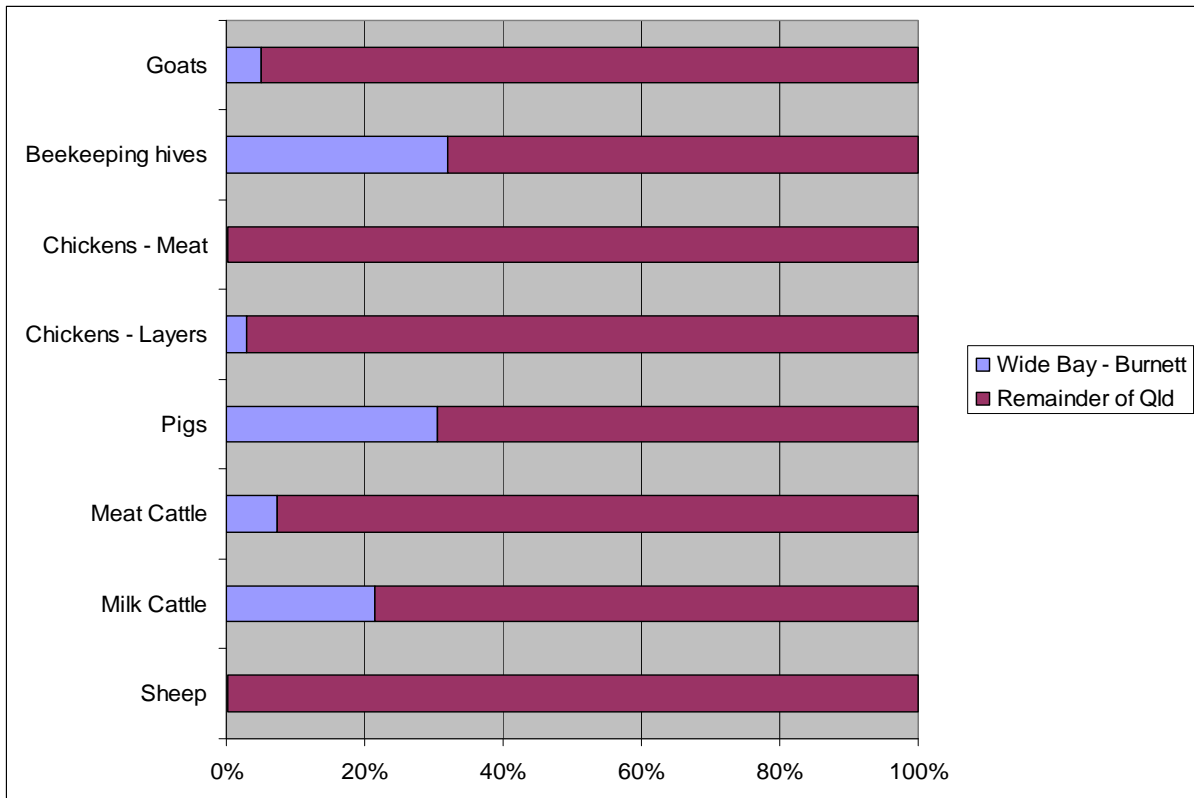
**Figure 13 - Wide Bay-Burnett contribution to land use for crop production in Queensland**



**8.1.2 Livestock**

The Wide Bay-Burnett Statistical Division also contributes to Queensland livestock production. Figure 14 shows that the Wide Bay-Burnett area contributes most significantly to pig production (30.47 per cent), beekeeping (31.97 per cent) and milk cattle (21.38 per cent) within Queensland.

**Figure 14 – Wide Bay-Burnett contribution to livestock production in Queensland**



### 8.1.3 Fisheries

The geographic area for this section of the report includes farms within a 100km radius of the three SLAs which form the main study area. There were eleven registered aquaculture facilities farming crayfish (1), prawns (2) and barramundi or other fish (8).

Table 7 displays the various fishing types, catch and value of wild catch fisheries within the study area. The principle form of wild catch fishing activity was trawler catching with the highest catch and gross value over other fishing types. Unfortunately all information is limited in that it does not distinguish types of catch and relates to the year 2005.

**Table 7 – Fishing type and turnover in 2005**

Fishery Type	Number of Boats	Catch In Tonnes	Approximate Gross Value (\$)
Line	65	41.5	236700
Net	148	484.9	2265100
Pot Crab	129	265.9	2318500
Pot Spanner	41	330	1154800
Trawler	303	504.6	7870300
Trawler Bream	7	22.6	199500
Trawler Other	288	473.2	7582000

**8.1.4 Food related manufacturers and wholesalers**

There were 19 food manufacturing and processing establishments identified within the Bundaberg study area. Of these many were snack food or multi-processors (11) and there were also six preserved fruit and vegetable or nut manufacturers which may reflect the large crop production in the area. There were also a number of food wholesalers and distributors within the region (see Table 8).

**Table 8 – Food wholesalers and distributors in the Bundaberg region**

Type of Distributor/Wholesaler	Total Number
Packaged frozen foods	3
Dairy products	2
Poultry and poultry products	2
Confectionery	3
Fish and seafood	5
Meat and meat products	1
Fresh fruits and vegetables	5

Note - Some distributors distribute more than one type of product so may be listed multiple times.

**8.2 Part B: Community supported food systems**

There are few community supported food systems within the Bundaberg Region study area. Figure 9 in the Physical Access to Food section maps the location of these programs but each is discussed further below.

**8.2.1 Community gardens**

Only two community gardens were found to be in the study area at the time of this report. One provided food for the organisations kitchen, volunteers and some was sold through a market garden. The other was under development.

**8.2.2 School gardens**

Of the 38 schools within the study area, eight schools identified that they had a school garden. Schools with a garden were also asked to provide information on what was grown, who the produce was distributed to and how long the garden had been in operation. The garden of the one school who responded was part of their agricultural program and had been in operation for 20 years. The produce was distributed throughout the school as well as to a local fruit and vegetable shop for retail sale.

**8.2.3 Farmers markets**

A total of three markets were located within a 50km radius of the study area. None of these were specific food or farmers markets; all were general mixed markets where bric-a-brac and other items were also sold along with fresh fruit and vegetables. Market organisers were

contacted to identify what proportion of the food sold was produced locally however, there were no respondents.

#### **8.2.4 Food co-operatives**

There were two food co-operatives identified within the study area. Both of these were run by charitable organisations and operated similarly to a food bank where most of the food items were seconds or approaching their best before date. Participants would pay a membership fee and then items could be purchased at a low price.

#### **8.2.5 Community supported agriculture**

There was one community supported agriculture program identified in the study area. This was a food box system where members were supplied with a weekly box of vegetables for a specified price.

There are also a number of farm gate and road side “honesty” stalls within the study area. These were identified by several participants in the key informant interviews. No register or database of these stores existed so it was not possible to get an accurate list or location details. However, they may be a source of food for some people within the study area.

#### **8.2.6 Local procurement policies**

Information on local food procurement policies was collected from one government institution within the study area. This facility was a hospital. The food service manager identified that some foods including a range of fruits and vegetables, chicken and silverside were purchased from local producers or wholesalers but there was no local procurement policy in place. Purchase of other items locally was limited by the food service system where the majority of food is purchased pre-prepared via tender agreement.

### **8.3 Local food initiatives**

The key informant interviews also identified a number of current initiatives in the Bundaberg Region that assisted residents to access and/or afford food. These included:

- Low cost cafes
- Low cost grocery providers
- Community gardens
- Local markets
- Home delivery programs
- Assisted transport programs
- Meals on Wheels
- Emergency food relief (food hampers)

- Emergency food relief (food vouchers).

While the usefulness of these programs was acknowledged, a number of barriers and issues were also identified. There was a high demand for transport and delivery programs and it was stated that the need for these services could not be met by current programs. Delivery services were also noted as being too costly, particularly for the demographic groups that may need to access them. It was identified that there was a lack of transport options to community based food services like markets.

Informants identified that clients sometimes felt a stigma attached to using services such as low cost meals or grocery providers and emergency food relief. Some identified that clients also did not like the food provided by these services. Many of these services also had limited capacity in terms of reach (e.g. those living outside of township may not have been able to access the service) and funding to provide ongoing assistance. Some community organisations also queried the long term benefit of these programs to actually change food security circumstances.

*“The other option is, I don’t know whether they still do it, but they give money out. One of the agencies will give you a voucher to go and shop at IGA for example. One of the negative sides of that is that people go through the supermarket and they are really, really frowned upon by the checkout people. As if to say “you’re one of those people”. That can be really degrading, it can stop people from actually accessing food when they really need it. Yeah, that happened to me once, I went for my first voucher and it was really degrading. It was hard for me to go in there and then when I took the step to go and get a food voucher he was really awful to me.” (B007)*

*“We refer to some of the churches and we refer also to Salvation Army, Lifeline for some of their food packages. Even so, it’s very much just a quick fix and it’s not always, the food isn’t always there to last a month, it’s there to last maybe a week – if you know what to do with it. Another reaction is there’s not enough there. Then it’s down to the education and going well actually yeah there is, you’ll get a meal with that, a meal with this. And then it’s back to I can’t do that, that’s not real food. So it’s partly back to education again with that.” (B18)*

A range of strategies were suggested for implementation to improve food security through the key informant interviews. Service providers recognised that food was a priority issue

even though it was not necessarily recognised as such by funding agencies. There was also recognition that some clients had other priorities. There was also recognition that it was a difficult area to work in given the marketing power of food companies.

*“But there are so many other things to fund, things that are more high profile. Food is not really recognised as one of the needs is it. Yet you look at Maslow’s Hierarchy. What’s on the bottom? To build on? Your adequate diet and general hygiene. You fix that up and quality of life immediately improves.” (B004)*

The strategies suggested included:

- Food cooperatives – organisations identified these as a low cost grocery alternative as well as a way to re-distribute local fresh produce such as seconds that may otherwise be wasted.
- Farmer’s markets – while informants saw value in the existing community markets some identified the need for farmers markets that were focussed on distributing local produce and were food specific.
- Delivery services – these were highlighted as a need particularly for elderly people and people who had difficulties accessing transport, such as those with a disability or carers. It was noted that these used to be common services for a wide range of food items but are becoming increasingly rare.
- Eating escorts – this was identified as an approach that would be particularly useful for older people, especially those living alone or with mental or physical health conditions.
- Education – further education was identified as an important strategy to improve food security across all demographic groups. Topics for education that were identified included general healthy eating, food budgeting, shopping, cooking and food safety.
- Edible landscapes – were identified as an innovative way to encourage consumption of healthy foods like fruit and vegetables.
- Community gardens – were identified as a strategy that could help address food security by encouraging healthy eating, being a source of cheap food and providing opportunities for building other skills such as cooking.
- Cooking classes – it was suggested that cooking classes would be a good strategy to address lack of food preparation skills and could be combined with other forms of education

- Access to cooking equipment – improved access to cooking equipment such as basic utensils as well as appliances for some low income groups and people with unstable accommodation would be beneficial.

*“What we miss too and I just thought of this then is when we were younger the milkman came everyday, the baker came everyday, the butcher came every couple of days the fishmonger came once a week, the fruiterer came. It was all home delivery. These days, there is a fruiterer here in Bundaberg. There is a fruiterer that comes around all the pensioner units. But, I don’t think there’s any milk delivery here now, bread deliveries, meats, nope all that’s gone. So they’ve got to go out to access all these things. And I know it’s dearer to have them delivered but you know...maybe it’s something we need to look at. Even if it was peculiar to the older and disabled people so that they could access food, quality food.” (B04)*

*“I suppose one of the big things is education. You can educate and they don’t take it on board but if they do you know they are getting off on the right foot at least. So when they become older and have their own families hopefully you’re breaking that educational cycle. I’d also like to see a lot more community based stuff rather than big stuff and shopping centres. I’d like to see a lot more local stuff being sold. Cheaper options and stuff like that, whole foods.” (B02)*

*“...some sort of community garden that can manage that kind of stuff I think is a good idea. Although I haven’t got involved in it myself. Maybe involving young people in that – and I know that sounds easy to do, but it’s not.” (B013)*

## 8.4 Discussion

The Wide Bay-Burnett is a significant contributor to the production of food for Queensland across a wide number of industries including fruit and vegetables, livestock and fisheries. However, there are relatively few manufacturing and processing outlet in the study region. This indicates that the majority of food produced leaves the community for manufacturing and retail sale. Data collected from the key informant interviews support this, with several participants stating they were concerned that produced grown in the region is transported to centralised storage areas in capital cities before being purchased by large retail outlets and brought and then distributed for local sale. This practice is a potential concern as it increases food miles and also potentially impacts on food price and food quality. These factors could contribute to reduced food sustainability and reduced food security. However, it is difficult to

fully understand the food system of the area from the data collected alone. Further input from local food producers, transporters and retailers would provide a clearer understanding of the local food system as well as barriers and enablers for modifying this system to enhance food sustainability and food security. Potential initiatives that could be put in place would be further localisation of some parts of the commercial food system and ensuring the preservation of local agricultural land.

There are few community-supported food programs in operation in Bundaberg and it is unknown how large an impact this has on food supply in the community. Key informants suggested that community supported food programs such as markets, community garden and food co-operatives could potentially reduce food insecurity by adding to the food supply and also addressing some of the personal barriers to food insecurity such as affordability and food preparation skills. Furthermore, some types of community-supported agriculture may also help to re-localise parts of the commercial food system

A range of initiatives exist in the Bundaberg region to help relieve food security including low and no-cost food and meal programs, delivery and transport services and emergency food programs. It was noted that there were a high demand for most of these types of services and that more needed to be done to meet local needs. Additionally, some types of services such as emergency food programs, while seen as necessary for some groups only helped temporarily relieve food insecurity. It was identified that these initiatives were quite reactive and restrictive. They were not seen as sustainable as they did not help address the underlying contributors to food insecurity.

## **9.0 Conclusion and recommendations**

Food security is determined by people's local food supply and their capacity and resources to access and use that food<sup>2</sup>. Where there is limited or uncertain availability and access to food, food insecurity exists<sup>2</sup>. Some sections of the Bundaberg community are at risk of food insecurity. Priority groups include the elderly, those on a low income and Aboriginal and Torres Strait Islanders. Other at risk groups are youth, people with a disability, some culturally diverse groups and those living outside the central service area. Food security may impact on these groups by one or more of the following means cost and affordability issues, availability or variety of food, access issues, personal barriers and broader food system issues. It is recommended that any actions made to improve food security in the Bundaberg community should consider these issues in relation to the priority groups mentioned above.

## 9.1 Cost and affordability

The average cost of food in Bundaberg region is comparable to that found in other studies; that is about 26 per cent of the average weekly earnings<sup>20</sup>. However, a large percentage of people living within the Bundaberg region are on a low income so affordability of food is a relevant issue for this community. This is compounded by a lack of budgeting skills and competing spending priorities that exist for some high risk groups. There is a significant variation in the cost of food from different types of retail outlets and this can also impact on affordability for those who rely on smaller stores. There are a number of national, state and local level strategies that could be undertaken to improve cost and affordability of food in the Bundaberg region.

Continued monitoring of food prices, not just within supermarkets but also for other store types such as convenience stores, butchers, bakeries and fruit and vegetable outlets, is important. The development of a national food basket survey tool should be a high priority. It is recommended that such a tool allow for easy comparison with income data so that affordability, not just cost, of food can be estimated. Regular national monitoring of food prices within major supermarkets is important to compare between time periods, states and ARIA (Accessibility/Remoteness Index of Australia) classifications. However, the same tool should be available at state and local levels so that localised data can be collected (potentially as part of CFAs) from a broad range of store types to assist in informing local level food security strategies. Investigation of reasons behind price variation between stores (e.g. buying power, economy of size) would also be beneficial. Cost and availability data from community food sources (e.g. farmers markets, food co-operatives) would also be useful in determining how these programs impact on affordability at a local level. Key informants raised the issue that there was a general perception that healthy food is more expensive than unhealthy food options. Investigation and modelling into cost of healthy foods compared to costs of less healthy foods at a state or national level is important to ensure our food supply is both affordable and supportive of health.

At a local level, informing key stakeholders of the issues around cost and affordability of food is an important first step when promoting food security; helping them to provide accurate and practical advice to their clients. Encouraging minor supermarkets and convenience stores to look at how they can subsidise their prices to be more affordable and competitive would assist in providing better access to those who rely on these types of stores. Furthermore, improving public transport access to major supermarkets and planning for new stores in high risk areas by local planning departments would increase access to more affordable food sources. Local governments and existing community organisations could also support the

development of community food programs such as co-operatives and markets which may increase access to less expensive food. At an individual level, practical food budgeting programs based on the income and price data collected as part of this program may be beneficial for those groups at risk. These could be incorporated into existing support programs.

## 9.2 Availability

Overall, availability and variety of food within the region is good. However, smaller store types (minor supermarkets and convenience stores) have reduced availability so people who rely on these stores will have less choice. Encouraging minor supermarkets and convenience stores through local incentives to increase the range of healthy food choices and consider options to subsidise and promote healthy food could improve availability.

Availability of culturally appropriate foods may be an issue for some groups (Aboriginal and Torres Strait Islanders and culturally diverse populations). Investigation into local availability of culturally appropriate foods is required before further recommendations can be made.

## 9.3 Access

Access to food outlets was seen as a major contributor to food insecurity in Bundaberg. Access appeared to be good for people living within the central areas of the region however, factors such as physical ability to use transport systems, affordability of transport and easy access to unhealthy food types were issues for some groups. Access to food for people living in the outlying areas of the region was comparatively poor and would be especially difficult for people without access to private transport as public transport is limited in these areas. Access to food is the biggest issue for low income families who do not have access to a private vehicle and the elderly and people with a disability who find it difficult to access store by foot or by public transport.

It is recommended that food security issues are considered by local planning authorities and transport advisory groups during the planning of new food retail and transport services to ensure they meet those geographic areas and population groups of need. Potential options would be to increase the frequency of services and extend service hours as well as consider additional routes, such as a ring route linking outlying areas with the existing central bus services and services to the local markets. The development of local cost-effective food delivery programs including meal, food box or door to door grocery vans (e.g. the “milk man”) could also assist in improving food access. These could be supported through local legislation and both local and state funding. At a state and national level, increased funding

for assisted transport services run by community organisations is also important. High priority groups include the aged or people with a disability who have difficulty accessing both private and public forms of transport. Furthermore, support for development of community supported food programs such as food co-operatives and community gardens within high risk residential areas could also improve access to food while addressing affordability and food skill issues.

#### 9.4 Personal skills

A lack of personal skills around food preparation and cooking were commonly raised as major barriers to food security for many in the most at risk group. Lack of time, motivation, budgeting skills and access to cooking equipment are compounding factors.

Implementing cooking and food budgeting programs such as community kitchens could assist in the development of better personal skills. Working with local community organisations to ensure these suit the needs of the groups at risk and are effective and sustainable would be an important consideration. One on one type strategies, such as eating escorts, could be further investigated by local support organisations for higher needs groups such as those living with a physical or mental disability.

#### 9.5 Food system

The food system is a complex system with only parts of it investigated as part of the study. From the assessment it is evident that the region plays an important role in the production of food in Queensland and this was well recognised by the community. However, there was a concern that access to this food locally was inadequate and needs to be improved. The development of systems in conjunction with commercial food producers that support local farmers as well as provide better access to more affordable food, such as farmers markets, edible landscapes, co-operatives and community supported agriculture could improve food security and encourage a sustainable food supply. These strategies could be incorporated in local government community, social and economic planning. Furthermore, in an agricultural community such as Bundaberg people were concerned that the link between farmers and the local community was not as strong as in the past. Enhancing the rural-urban interface could assist in community development as well as benefit both the agricultural industry and community wellbeing.

Another issue that was realised during this study was that data on the food system was difficult to gather as many different sectors were involved and often data was not collected with health outcomes in mind. Developing better working relationships between the food,

agricultural and health industries at a state and national level so that data can be shared and partnerships and programs can be developed could help in monitoring the food system and food security. This could include ensuring a sustainable food supply right through to influencing food advertising.

Community food assessments are a useful tool for highlighting some of the issues and contributing factors to food insecurity in the Bundaberg region. The above recommendations for action and advocacy at both a local and broader government and industry level may help address some of these issues. It would be useful for further community food assessments to be undertaken in the future to identify changes in food access at a community level for the Bundaberg area.

## Appendix 1 - Socio-demographic characteristics and food insecurity

Socio-demographic characteristic	Association with food insecurity
Aboriginal and Torres Strait Islander peoples	At higher risk of food insecurity due to many factors, including remoteness, high food prices, poverty, inadequate transport and cultural transition <sup>5</sup> .
Elderly people (aged 65 years and over)	Frail elderly residents may have an inability to shop for themselves or prepare food without assistance; a low mean income, with reliance on government pension and allowances and where a significant proportion of income is spent on rent or mortgage <sup>22,23,24</sup> . Elderly Australians who rent and/or live alone are at higher risk <sup>22</sup> .
Young people (aged between 15 - 30 years)	The National Nutrition Survey 1995 identified that 15 per cent of people aged between 18 – 24 years identified as being food insecure, well above the population average of 5 per cent <sup>25</sup> . Radimer, et al (1997) had similar findings in that the 18-30 year age group had a higher prevalence of food insecurity than any other age group <sup>4</sup> .
Households with children aged 18 years and under (either couple or single parent)	A study by Nolan et al. (2006) examining the prevalence of food insecurity in three disadvantaged suburbs in Sydney found that those households with children under the age of 18 years (whether couple or single parent) were more than twice as likely to identify as being food insecure than households with no children <sup>26</sup> .
Lone person households	A number of studies have shown that people living alone are more likely to experience food insecurity <sup>4, 24</sup> . This may be related to lower levels of discretionary income.
Overseas born residents	Barriers can exist for new immigrants to access to culturally appropriate foods and to adopt healthy foods from their new country <sup>27</sup> . Speaking language other than English at home may also be associated with increased risk of food insecurity.
Low or uncertain income	Literature identifies that those who have low or uncertain incomes are more likely to experience food insecurity <sup>4, 5, 2</sup> . When disposable income is limited, food is likely to be one of the first discretionary items to be altered <sup>5</sup> . A low disposable income will also impact on the ability to obtain food at the lowest prices due to lack of transport, storage or money to buy in bulk. This could be further compounded by poor kitchen and cooking facilities <sup>12</sup> .
Unemployment and income support	Being unemployed is a significant risk factor for food insecurity <sup>4, 5</sup> . In the 1995 National Nutrition survey, 23 per cent of unemployed persons identified being food insecure <sup>25</sup> . It is likely that this is due to low/uncertain incomes and/or being reliant on government allowances and benefits as their primary source of income. However, Radmier et.al found that unemployed people were still more likely to identify as being food insecure, even after income has been controlled for <sup>4</sup> .
SEIFA Index of relative socio-economic disadvantage	The Socio-Economic Disadvantage Index is based on 17 variables measured including low income, low education and high unemployment. A higher SEIFA score indicates a relative lack of disadvantage where lower scores indicate greater disadvantage
Home ownership/Rental accommodation	Food insecurity risk has consistently been found to be greater amongst those living in rental accommodation, particularly those in shared rental accommodation compared to non-shared accommodation; elderly renters and people living in government owned rental properties <sup>4,25,22,26</sup> . The cost of rent and mortgage

	repayments is also a factor impacting on food security.
Households without private motor vehicle	Households without a motor vehicle may experience greater difficulty in physically accessing healthy food, especially if public transport is limited. Further, reliance on public transport will likely limit the amount and range of foods that can be purchased <sup>28</sup> . Groups such as the elderly and disabled, may particularly be at risk if reliant on public transport or walking to access their groceries <sup>28</sup> .
Homelessness	Living without secure shelter greatly increases the risk of food insecurity. While difficult to accurately measure, it has been noted that homelessness has been increasing in Australia, especially amongst younger people <sup>5</sup> . Booth (2001) has recently identified a high level of stress and anxiety associated with the ability to acquire food and the poor quality food supply and diet for those who were homeless <sup>29</sup> .
Lower levels of education	A number of studies have indicated that people with lower levels of education are less likely to meet the recommendations for healthy eating, especially in relation to fruit and vegetable consumption and more likely to buy and consume higher amounts of takeaway meals <sup>30,31,32</sup> .
People with disabilities	For those with disabilities, difficulties in being able to access healthy food can be centred on both financial and physical problems. Booth and Smith (2001), noted that in relation to this group, employment exclusion and exploitation, along with social service inadequacy, predisposed them to poverty and by extension, to increased risk of food insecurity <sup>5</sup> . This is further compounded by physical inaccessibility, whereby those with a disability may require assistance with purchasing and/or preparing food.

## Appendix 2 - Food retail outlets definition

Categories	Operational Definition	Example
Major supermarket	Mainly engaged in the sale of groceries (fresh foods, canned and packaged foods, dry goods) of non-specialised (conventional) food lines. May contain a butcher or baker. The store has five or more registers.	Woolworths Coles Bi-Low Aldi Franklins (no frills) IGA
Minor supermarket	Mainly engaged in the sale of groceries (fresh food, canned and packaged foods, dry good) of non-specialised (conventional food lines). The store has between two and four registers.	727 Food works Independent grocers
Convenience store	Mainly engaged in the sale of a limited line of groceries that generally includes milk, bread and canned and packaged foods. The store has one register and does not provide fuel.	Local corner store Seven eleven Night owl
Service station with convenience store	Mainly engaged in retailing automotive fuels (e.g., petrol, diesel, gas) in combination with convenience store or food mart items.	Shell Coles express Caltex safeway/woolworths BP connect
Butcher	Mainly engaged in the sale of fresh meat. Including wholesale stores with direct to public sales.	Conventional butchers, shops that exclusively stock meat and fresh poultry.
Fishmonger	Mainly engaged in the sale of fresh seafood. Including wholesale stores with direct to public sales and takeaway stores also providing a range of fresh seafood.	Fishmongers, takeaway stores selling fresh seafood. Stores that exclusively stoke fresh seafood. Wholesale fishmongers with direct to public sales.
Poultry store	Mainly engaged in the sale of fresh poultry. Including wholesale stores with direct to public sales.	Shops that exclusively stock fresh poultry. Wholesale poultry stores with direct to public sales.
Fruiterer and Greengrocer	Mainly engaged in the sale of fresh fruit and vegetables. Including wholesale stores with direct to public sales.	No subcategories
Bakery and cake shop	Mainly engaged in the sale of bread biscuits, cakes, pastries or other flour products with or without packaging.	Bakeries (eg. Brumbys, Bakers Delight) and shops that are mostly oriented towards the sale of cakes and pastries.
Takeaway– Franchise store	Mainly engaged in the preparation and sale of meals (excludes donuts drinks, ice-cream etc.) and light refreshments that are ready for immediate consumption. Table service is not provided and the meal can be eaten on	McDonalds, Hungry Jacks, KFC, Red Rooster, Domino's Pizza, Pizza Hut, Subway, noodle box,

	site, taken away or delivered. The food is prepared and sold from a standard menu and payment is required before the food is consumed. The food shop is a franchise/chain store with food being sold in specialised packaging	
Takeaway – Local independent store.	Mainly engaged in the preparation and sale of meals (excludes donuts, drinks, ice-cream etc.) and light refreshments that are ready for immediate consumption. Table service is not provided and the meal can be eaten on site or taken away or delivered. The food is prepared and sold from a standard menu and payment is required before the food is consumed. The shop is not a franchise store and food is not sold in specialised packaging.	Noodles, kebab, fish and chips, burgers, pizza. Fried chicken shops.
Restaurant/café	Mainly engaged in the preparation and sale of meals and light refreshments for consumption on the premises. Table service is provided in which customers generally order and are served while seated and pay after eating, however in some cafes customers may order at the counter and the meal is delivered to their table. These stores may provide this type of food services in combination with selling alcoholic beverages and providing takeaway services.	Restaurants Cafes
Delicatessen	Mainly engaged in the sale of specially packaged or fresh products such as cured meats and sausage, pickled vegetables, dips, breads and olives. May also provide dine in meals	Delicatessen
Specialty Food Store	Mainly engaged in the sale of a limited line of groceries (fresh foods, canned and packaged foods, dry goods) or mixed specialised food line. The definition of specialty food store is restricted to convenience stores, fishmongers, butchers, poultry stores, greengrocer/fruiterers and bakeries.	Convenience store, fishmonger, butcher, poultry store, greengrocer/fruitier, bakery.
Specialty food store pocket	A shopping precinct in which a convenience store, butcher, greengrocer and bakery are all located in close proximity. A fishmonger and poultry store may also be present but is not specifically required for this definition.	A local community shopping precinct.
Farmers Market	A predominantly fresh food market that operates regularly within a community, at a focal public location that provides a suitable environment for farmers and food producers to sell farm-origin and associated value-added processed food products directly to customers. ( <a href="http://www.farmersmarkets.org.au/about.jsp">http://www.farmersmarkets.org.au/about.jsp</a> )	A weekend market

Food Co-operative	A group organised to buy directly from a wholesaler and save substantially on groceries. Group members order in bulk and divide their order among themselves. ( <a href="http://www.ncba.coop">www.ncba.coop</a> )	
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### Appendix 3 - Definitions of community supported food programs

<b>Category</b>	<b>Definition</b>
Community Gardens	Community gardens are places where people come together on a shared piece of land to grow food. Food that is grown is available to those who participate in the garden
School Gardens	School gardens are similar to community gardens but located within schools. The participants are generally school children but could include the broader community. Food that is grown may be used in school tuckshops, cooking education of given to participants and their families.
Farmers Markets	For the purpose of this assessment, farmers' markets will include specific food markets as well as general 'mixed' markets selling food. For the purpose of this assessment 'locally produced food' will include secondary products as well as primary produce (e.g. preserves and bread will be included).
Food Co-operatives	A 'food co-operative' will be defined as a group organised to buy directly from a wholesaler and save substantially on groceries – where group members order in bulk and divide their order among themselves
Community Supported Agriculture (CSA)	CSA' will include subscription farming, community farms, box schemes and farm gate/road side stalls. Seasonal mobile fruit and vegetable vendors were excluded due to the lack of variety offered and limiting effect of seasonality on availability. Reliable data is not available on mobile vendors as there is no routine regulation by Local Governments.

#### Appendix 4 - Healthy Food Access Basket 2000

Basket Item	Unit size surveyed	Total amount in HFAB	Basket Item	Unit Size Surveyed	Total amount in HFAB
Cereal Group			Meat/Meat Alternatives Group		
Loaves of white bread	680g	6800g	Tinned corned beef	340g	340g
Loaves of wholemeal bread	680g	6800g	Tinned meat & onion/vegetables	400g-425g	820g
White flour	2kg	2.5kg	Beef mince	1kg	1kg
Wholemeal flour	1kg	2.5kg	Rump steak	1kg	1kg
Weet-bix	750g	1500g	Frozen chicken	Size 11	2kg
Rolled oats	1kg	750g	Tinned smoked oysters	85g – 105g	170g
White rice	1kg	5kg	Large eggs (min50g)	660g	1320g
Tinned spaghetti	420g-425g	1275g	Sausages	1kg	1kg
Instant noodles	85g	1020g	Tinned ham	450g	1kg
Sao biscuits	250g	1kg	Dairy Group		
Fruit Vegetable & legume Group			Fresh full cream milk	2L	8L
Apples	1kg	6kg	Fresh reduced fat milk	1L	1L
Orange	1kg	11kg	Powdered milk, whole	1kg	1kg
Banans	1kg	5kg	Powdered milk, skim	1kg	1kg
Tinned fruit salad, in natural juice	400g-450g	3520g	Long life milk	1L	4L
Orange juice (100 per cent)	2L	4L	Cheese	500g	2kg
Tomatoes	1kg	5kg	Non-Core Foods		
Potatoes	1kg	10kg	Unsaturated margarine	500g	1500g
Pumpkin	1kg	1.5kg	White sugar	2kg	3kg
Cabbage	Half	1.5kg	Canola oil	750mL	750mL
Lettuce	Whole	1.5			
Carrots	1kg	2kg			
Onions	1kg	2kg			
Frozen vegetables	500g	2.5kg			
Tinned peas	420g-440g	880g			
Tinned baked bean	420g-425g	1700g			
Tinned beetroot	425g-450g	450g			

## Appendix 5 - HFAB fruit and vegetables and better nutrition choices

Fruit	Vegetables	Better Nutrition Choices
Apple	Potato	Baked Beans
Banana	Tomato	Fresh Reduced Fat Milk
Rockmelon	Onion	Tinned Fruit In Natural Juice
Peach	Lettuce	Bottled Water
Pear	Pumpkin	Lean Meat
Pineapple	Cabbage	Wholemeal Bread
Grape	Cauliflower	Canola Oil
Strawberry	Green Beans	Low Fat Dry Biscuits
Orange	Carrot	Yoghurt
Watermelon	Broccoli	Diet Cordial
Other stone fruit	Sweet potato	Orange Juice 100%
Other citrus fruit	Capsicum	Diet Soft Drink
Mango	Mushroom	Poly/Mono - Unsaturated
Pawpaw	Sweet corn	Margarine
Kiwi fruit	Cucumber	Dried Fruit
		Red Kidney Beans
		Dried Legumes
		Tinned Bean Mix

## Appendix 6 - Key informant interview questions

Thank you for your willingness to be involved in this interview. The purpose of the interview is to gain an understanding of food issues for your clients, what is being done and what needs to be done to address these issues. As mentioned in the background information this interview will be used to contribute to the Community Food Assessment report for the (insert area).

As outlined in the background information today we will be discussing local food issues such as access, supply and affordability of food and how this affects your client group. We will also discuss some of the services available in the community to address these issues and your ideas on what more could be done. You might like to refer to the diagram from time to time to assist your thinking. The interview is a semi-structured so while there are some guiding questions please feel free to discuss your thoughts and opinions further.

Firstly, can you tell me a bit about your clients (who are your clients, how many; is this increasing; is this due to food security)

Where do your clients source food? Why

Probe: transportation difficulty, availability and variety of food, or hours of operation.)

Affordability (price of food, income, spending priorities)

Access (what type of transport is used, do they have transport, how reliable is it)

Do you think affordability and access issues affect the food they buy? How?

Other factors that affect food security of your clients (cooking skills and knowledge, family priorities, cultural preferences, cooking facilities, health issues, time and convenience)

Local transportation initiatives (probe; home delivery, MOW, social networks, community bus, taxi vouchers)

Food initiatives (Probe: farmers markets, co-operatives, other meal delivery, re-distribution)

Do your clients ever access these sources, why or why not? Are they effective?

What else could be done to make it easier for people to get enough healthy food (community, government, businesses, individuals)

Are there any other issues around food access and availability in our community that we haven't spoken about already today?

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