



## /// Vegetable and fruit supply to South West Queensland

*An information paper  
November 2006*

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Thank you to the South West Queenslanders who gave their time to contribute to this report.

The *Vegetable and Fruit Supply to South West Queensland information paper* presents information on the current supply of vegetables and fruit to South West Queensland. The paper highlights food supply issues in South West Queensland and outlines key intervention points to address these food supply issues.

Investigating the food supply to South West Queensland is a priority project of the South Area Population Health Services and recognises nutrition as a key factor that impacts on the health of people living in rural and remote areas of southern Queensland.

Good nutrition is essential throughout the life cycle, and all Queenslanders need access to good quality and affordable food to support health and wellbeing. Vegetables and fruit are a key component of a healthy diet, and their consumption is a good indicator of the nutritional status of the population. Queenslanders do not eat enough vegetables and fruit, and South West Queenslanders are no exception.

Addressing risk factors such as good nutrition and regular physical activity through coordinated interventions, in partnership with a wide range of organisations outside the health sector, is the way forward. The *Food Outback project* has been initiated by Queensland Health to take action around the key intervention points identified in this paper. Our aim is to work with communities and organisation across South West Queensland to improve the supply of vegetables and fruit and to increase the consumption of vegetables and fruit in the population.

I encourage everyone with an interest in the health of rural and remote Queenslanders to use this information in planning and implementing projects that will improve the health of our communities.



**Mr Greg Reynolds**  
**Acting Director**  
**Southern Area Population Health Services**

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## /// Executive summary

This information paper has been prepared as part of the Food Supply in Rural and Remote South West Queensland project. This information paper, and its companion report the *South West Queensland Nutrition Survey 2004*, contain the results of a situational analysis of food supply to the region.

This paper describes the current availability of food, accessibility of the food supply and consumption levels of vegetables and fruit in South West Queensland. The paper highlights food supply issues within South West Queensland and provides direction on strategies to address these food supply issues.

In South West Queensland:

- there is low consumption of vegetables and fruit
- there is limited availability of basic fresh vegetables and fruit
- vegetables and fruit are more expensive to purchase
- there is a variable quality of vegetables and fruit.

Key intervention points have been identified to improve the vegetable and fruit supply in South West Queensland communities, drawing on the experience of similar projects throughout Australia. Four key intervention points must be addressed to improve the food supply and increase the consumption of vegetables and fruit in South West Queensland:

- food transport
- local food stores
- local food production
- demand for healthy food.

Many of the factors influencing the food supply in South West Queensland fall outside the role of the health system. Partnerships and collaborative effort is required between industry, state and local government departments, local businesses and community organisations to achieve the necessary change to improve the food supply and increase consumption of vegetables and fruit across South West Queensland.

Queensland Health has prepared this paper as a basis for forming partnerships within South West Queensland to improve the food supply and promote the consumption of vegetables and fruit. The aim is to engage stakeholders with this paper as a focal point, and work with communities and organisations to address the key intervention points.

## Fruit, vegetables and health

The nutrients provided by vegetables and fruit are essential for health. Eating more vegetables and fruit may be the single most important dietary change needed to improve the health of the population and reduce the risk of disease. Evidence is clear that improving the consumption of vegetables and fruit leads to improved nutritional status and contributes to overall improved health status (World Health Organisation, 2004).

There is overwhelming evidence that people who regularly eat a diet high in vegetables, legumes and fruit have lower risks of coronary heart disease (CHD), stroke and several major cancers. There is also evidence to suggest other health outcomes such as type II diabetes, chronic obstructive pulmonary disease and cataract may be reduced by diets high in vegetables and fruits (World Health Organisation, 2004).

Diets high in vegetables and fruit contribute many nutrients and phytochemicals that are essential to maintain and/or protect good health. Phytochemicals found in whole vegetables and fruit have been shown to have a protective effect against risk of many chronic diseases.

Increasing vegetable and fruit consumption can contribute to reducing the energy density of the diet, which is a key component in efforts to prevent and treat overweight and obesity. Vegetables and fruit add bulk to the diet and have benefits in weight control by displacing other foods, especially those high in fat and energy (Australian Fruit and Vegetable Coalition, 2003). Being overweight or obese is strongly associated with increased mortality and the risk of developing a range of chronic diseases. Overweight and obesity are one of the fastest growing health risks facing Queenslanders today and can be addressed by a diet high in vegetables and fruit (National Health and Medical Research Council, 2003).

## Food supply, nutrition and health

Food supply refers to the processes by which food gets from the producer to the consumer. It includes processing, transport, storage, wholesaling and retailing of food (Queensland Public Health Forum, 2002). It is these processes between producer and consumer which affect the price, quality and variety of food available.

For people to eat a healthy diet, healthy food must be available in the local food supply and individuals must have the capacity and resources to access and use that food ie. nutritious food must be both available and accessible. The term food security is often used to describe the impact of food supply on the population. Food security, for the purpose of this report, is defined as the access and availability of nutritionally adequate and culturally acceptable food for all people by socially acceptable means (Marks, G. 2003).

Food insecurity exists when individuals and communities are unable to acquire appropriate and nutritious food on a regular and reliable basis. Certain groups are more likely to suffer food insecurity within Queensland including Aboriginal and Torres Strait Islander people, people living in rural and remote areas and people with low incomes.

Addressing the food supply is important, as poor nutrition, along with other lifestyle risk factors (physical inactivity, smoking and excessive alcohol consumption) play a role in the development of chronic diseases. A less than ideal food supply can lead to poor nutritional intake amongst the whole population, but particularly among vulnerable groups. Improving food supply has the potential improve the health of the whole population. Ensuring a variety of nutritious food is available at affordable prices, has the potential to contribute to decreasing the unequal health disparity between vulnerable groups within the population.

## Why focus on food supply in South West Queensland?

Improving the food supply and increasing the consumption of vegetables and fruit are priorities for action in numerous national and state nutrition strategies, specifically *Eat Well Australia: an agenda for public health nutrition 2001-2010* (SIGNAL, 2001), the *National Aboriginal and Torres Strait Islander Nutrition Strategy and Action Plan* (SIGNAL, 2001) and *Eat Well Queensland 2002-2012: Smart eating for a healthier state* (Queensland Public Health Forum, 2002). Aboriginal and Torres Strait Islander people and people living in rural and remote areas are identified as priority population groups within these strategies.

Improvements to the food supply in rural and remote South West Queensland also supports whole of government strategies such as the *Blueprint for the Bush* which aims to build a sustainable, liveable and prosperous rural Queensland (Department of Communities, 2006).

Addressing the food supply in South West Queensland is a priority as

- People living in remote areas suffer greater burden of chronic diseases compared to people living in urban and regional areas. They are more likely to die of coronary heart disease, stroke, diabetes, chronic obstructive pulmonary disease, asthma and lung cancer and they are more likely to be overweight or obese, and physically inactive.
- South West Queensland has a higher proportion of Aboriginal and Torres Strait Islander people (10.3 per cent) compared to the Queensland average (3.1 per cent). Relative to the non-Indigenous people of Queensland, Aboriginal and Torres Strait Islander people in Queensland have higher death and hospitalisation rates due to all causes (Queensland Health, 2004).
- Rural and remote areas, such as South West Queensland, have consistently been shown to have higher cost and lower availability of basic healthy food than their urban counter parts (Queensland Health, 2005).

### **The Food Outback Project**

The Food Outback project has been initiated by Queensland Health to take action around the key intervention points identified in this paper.

The aim of the Food Outback project is to improve the supply and consumption of fresh vegetables and fruit in South West Queensland. This will include:

- increasing the affordability of vegetables and fruit
- increasing availability of a variety of quality vegetables and fruit in South West Queensland in the food supply
- increasing access of the South West Queensland communities to vegetables and fruit.

This information paper forms the basis for the strategies outlined in Food Outback project. The paper captures the results of a situational analysis conducted as part of the Food Supply in Rural and Remote South West Queensland project. It contains a review of the consumption and current supply of fresh vegetables and fruits in South West Queensland. Key intervention points are identified to improve the food supply and increase the consumption of vegetables and fruit in South West Queensland communities, drawing on the experience of similar projects throughout Australia.

This information will empower people and organisations to take action, by having relevant local information on the current food supply in South West Queensland and providing a clear pathway for action that can be taken to continue to improve the food supply.

The information contained in this paper is being distributed across South West Queensland to promote discussion within communities, industry and government sectors to explore opportunities for partnerships that will reduce the cost and increase the quality and variety of vegetables and fruit in the region.

To register your interest in the Food Outback project contact:

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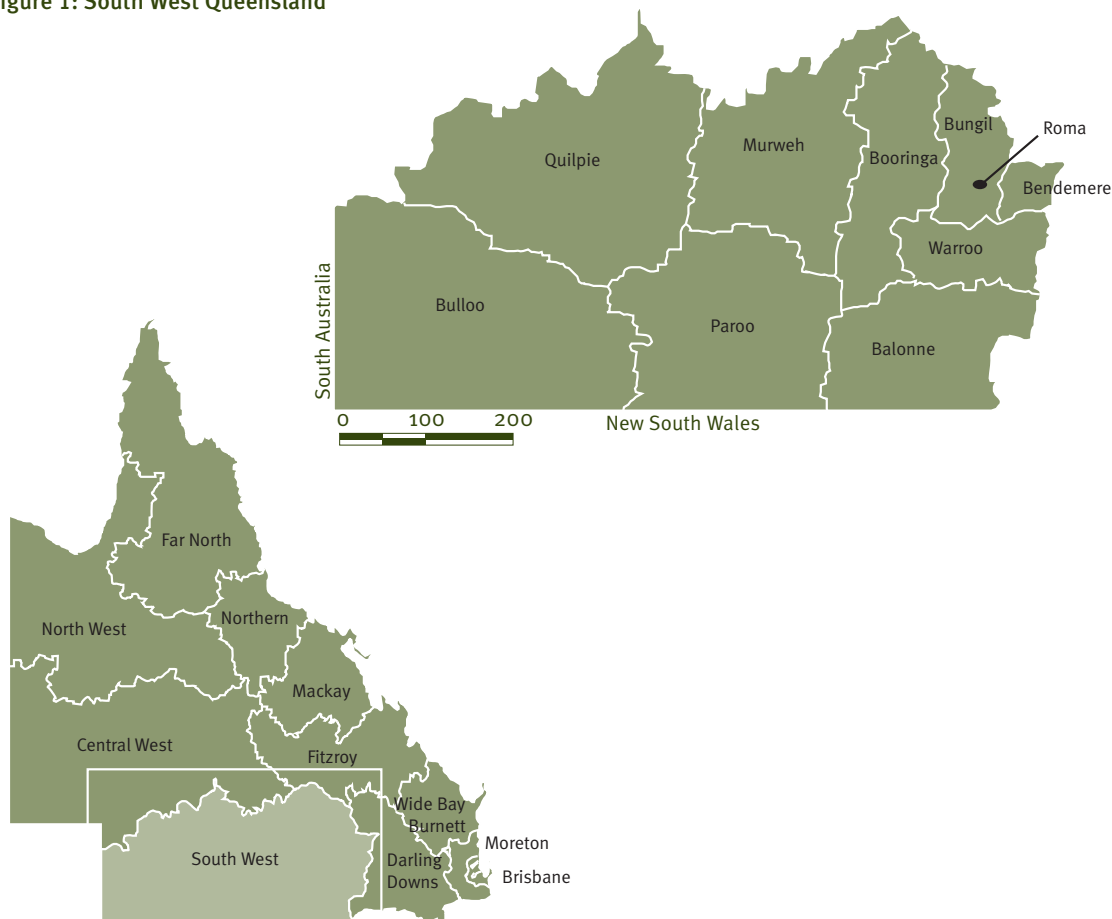
### Description of South West Queensland

#### 2.1 The land

In this report South West Queensland is defined as the South West Statistical Division (Figure 1) which covers 319,858 square kilometres. South West Queensland is bordered by the South Australian state boundary to the west and the New South Wales state boundary to the south. It covers the ten local government areas (LGAs) of:

- |             |           |
|-------------|-----------|
| ■ Balonne   | ■ Murweh  |
| ■ Bendemere | ■ Paroo   |
| ■ Booringa  | ■ Quilpie |
| ■ Bulloo    | ■ Roma    |
| ■ Bungil    | ■ Warroo  |

Figure 1: South West Queensland



## /// 2 Description of South West Queensland

### Remoteness

The majority of the towns within South West Queensland are classified as 'remote' or 'very remote' using the Accessibility/Remoteness Index for Australia Plus, version 2 (ARIA ++) (Table 1). This classification highlights the inaccessibility of this region as distances are enormous between towns and access to services is limited.

**Table 1: Accessibility and remoteness classification for towns, South West Queensland**

Local government area (LGA)	Major towns	ARIA ++ classification for town
Roma	Roma	outer regional
Bungil	Outer Roma Injune	outer regional remote
Bendemere	Wallumbilla	remote
Balonne	St George Dirranbandi Mungindi Thallon Bollon	remote remote remote remote very remote
Warroo	Surat	remote
Booringa	Mitchell	remote
Murweh	Charleville Morven Augathella	remote very remote very remote
Paroo	Cunnamulla Eulo Yowah	very remote very remote very remote
Quilpie	Quilpie	very remote
Bulloo	Thargomindah	very remote

Source: Office of Economic and Statistic Research, 2005

### Climate

Large variations in temperatures are seen in South West Queensland. Maximum temperatures commonly reach the low to mid 40s in summer while minimum overnight temperatures below freezing are relatively common during winter. South West Queensland has a semi-arid to sub-tropical climate with the average rainfall being between 300-500mm across the region.

### Land use

There is a great contrast of geography and therefore industries in South West Queensland. Primary industries, including agriculture and mining comprise the largest industry group in the region. Livestock is the main agricultural industry with very little vegetable and fruit produce grown in the area.

## 2.2 The people

The estimated resident population of South West Queensland was 26, 938 persons, representing 0.7 per cent of the state's, as at 30 June 2005 (Office of Economical and Statistical Research (OESR), 2006).

South West Queensland has a low population density (Table 2), a small population of people living across a large geographical area. Roma is the largest town within the region, with a population of 6,799 persons. The remainder of the population is widely dispersed living in small towns, on agricultural properties or around the major mining sites in the region. These vary dramatically in size and the services available to them.

Table 2: Population descriptors for South West Queensland

Local government area (LGA)	Population	Geographical size of LGA (km <sup>2</sup> )	Population density (persons/km <sup>2</sup> )
Roma	6,799	77	88.30
Bungil	1,965	13 340	0.15
Bendemere	985	3 930	0.25
Balonne	5, 623	31 145	0.18
Warroo	1,050	13 660	0.08
Booringa	1,834	27 825	0.07
Murweh	5,006	40 740	0.12
Paroo	2, 156	47 730	0.05
Quilpie	1, 057	67 610	0.02
Bulloo	463	73 805	0.01

Source: Office of Economic and Statistic Research, 2005

## /// 2 Description of South West Queensland

### Age structure

The age profile of the South West Queensland population is different to the Queensland population as a whole. Figure 2 highlights the differences in the age profiles of the South West Queensland and Queensland as at June 2005 (Office of Economical and Statistical Research, 2006). In the region there are:

- more children (aged 0-14 years)
- fewer persons in the younger working age groups (aged 15-24 years)
- more in the middle working age groups (aged 25-49 years)
- fewer in the older age groups (over 50 years).

**Figure 2: Population by age group and sex**  
South West Queensland and Queensland, June 2005



### Aboriginal and Torres Strait Islander peoples

In South West Queensland there is a high proportion of Aboriginal and Torres Strait Islander people (10.3 per cent, 2 530 people), compared to the Queensland average (3.1 per cent). The majority of the Indigenous population identify as Aboriginal (approximately 2 500 people) very few identifying as Torres Strait Islander (approximately 30 people). Aboriginal people in the region do not live in discrete communities managed by an Indigenous council; rather they live within the local government areas and towns, with more Indigenous people living in the 'very remote' towns of South West Queensland (Queensland Health, 2004).

### Socio-economic descriptors

Individual income levels are higher in South West Queensland however family and household incomes are lower than the State averages (OESR, 2004):

- median weekly individual income was \$401 in 2001 (Qld average \$360)
- median weekly family income was \$838 in 2001 (Qld average \$871)
- median weekly household income was \$ 688 (Qld average \$736).

In South West Queensland, whether Indigenous or non-Indigenous, a higher proportion of people live in disadvantaged circumstances compared to the Queensland population. There are very few people living in the quintile of most advantage (Quintile 5). Figure 3 shows that as the level of advantage increases, fewer people are living in these circumstances in South West Queensland. Indigenous people are over-represented in the most disadvantaged quintiles.

Figure 3: Index of relative socioeconomic advantage/disadvantage  
Indigenous and non-indigenous South West Queensland population, 2001



## /// 2 Description of South West Queensland

### /// 2.3 Their health

South West Queensland has a high proportion of people who are especially vulnerable to experiencing poor nutrition and poor health. These include:

- people on lower incomes
- Aboriginal and Torres Strait Islander people
- people living in rural and remote communities.

It is difficult to separate these factors as each combines and interacts to influence the health of the South West Queensland population.

*Health Determinants Queensland* (Queensland Health, 2004) provides a summary of the most important factors influencing health status of Queenslanders. The *Health Determinants Queensland* report highlights that people living in rural and remote areas, such as South West Queensland:

- suffer greater burden of chronic diseases compared to people living in urban and regional areas, whether they are Indigenous or non-Indigenous
- are more likely to die of coronary heart disease, stroke, diabetes, chronic obstructive pulmonary lung disease, asthma and lung cancer
- are more likely to be overweight or obese and physically inactive
- have worse health outcomes due to higher proportion of the population who are represented in the lower quintiles of socio-economic disadvantage
- have reduced access to some preventive and illness management services.

The poorer health of Aboriginal and Torres Strait Islander people due to nutrition-related chronic disease which is seen across Queensland is present in South West Queensland. Relative to the non-Indigenous population of Queensland rural and remote Aboriginal and Torres Strait Islander peoples have higher death and hospitalisation rates due to all causes (Queensland Health, 2004).

#### Key issues for South West Queensland

- Small population dispersed over large geographical area.
- Majority of the area is classified as 'remote' or 'very remote.'
- Very limited local commercial vegetable and fruit agriculture.
- Higher proportion of the population in socioeconomic disadvantage.
- Poorer health than urban counterparts.
- Poor accessibility to medical services and health professionals.

### Consumption of vegetables and fruit

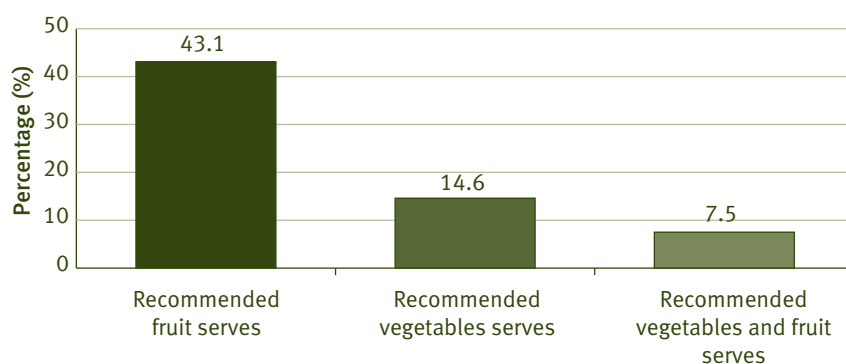
In late 2004, a nutrition survey was conducted in South West Queensland to investigate the consumption of vegetables and fruit amongst the population. The survey also investigated the population's knowledge of the national recommendations for vegetable and fruit consumption, other selected indicators of nutritional status and food buying practices. The full survey results are published in *The South West Queensland Nutrition Survey 2004* report (Southern Area Population Health Services, 2006).

The *Australian Guide to Healthy Eating* (AGHE) recommends that on average adults should consume at least five serves of vegetables and two serves of fruit every day (Commonwealth Department of Health and Family Services, 1998).

The *South West Queensland Nutrition Survey 2004* showed that South West Queenslanders, like other Queenslanders, consume vegetables and fruit in amounts well below the recommended levels that promote and support good health.

The survey found that less than eight per cent of the South West Queensland population surveyed consumed both the recommended vegetable and fruit serves. Of the South West Queensland population, ninety two and half per cent did not meet the national recommendations of consuming both five serves of vegetables and two serves of fruit each day (Figure 4) (Southern Area Population Health Services, 2006).

Figure 4: Proportion of South West Queensland population who reported usually consuming recommended daily serves of vegetables and fruit\*  
*The South West Queensland Nutrition Survey 2004*



\*weighted

More South West Queenslanders reported meeting the recommendations for fruit consumption (43.1 percent) than for vegetable consumption (14.5 per cent). This pattern is similar to other population surveys, where inadequate vegetable consumption is the greatest concern.

When compared to the Queensland population, more people in South West Queensland reported eating the recommended amounts of vegetables, but fewer reported eating the recommended amounts of fruit. However the rates are not largely different and overall consumption rates in South West Queensland are extremely low, as across the rest of the state.

It is a priority to address low consumption of vegetables and fruit in South West Queensland. These communities have the added barriers when trying to improve their consumption rates including:

- additional handling of fresh produce and increased transport time which may affect quality of vegetables and fruit
- additional transport and storage requirements can add to price
- smaller size of communities can often mean there is less variety supplied.

### /// 3 Consumption of vegetables and fruit

The specific issues affecting the supply of vegetables and fruit to South West Queensland will be outlined in detail in the next section of this information paper.

In South West Queensland on average the largest proportion of people reported consuming two serves of vegetables (30.3 per cent) and one serve of fruit per day (35.4 per cent).

#### Highlights from specific population groups

- South West Queensland women reported consuming more vegetables and fruit than men.
- People aged 30 years and over were significantly more likely than younger people 18-29 years to report consuming recommended serves of vegetables and fruit.
- Non-Indigenous people were significantly more likely to than Aboriginal and Torres Strait Islander people to report consuming recommended serves of fruit daily.
- People who lived more than 20 kilometres from town were more likely to report meeting the recommendations for both vegetable and fruit consumption.

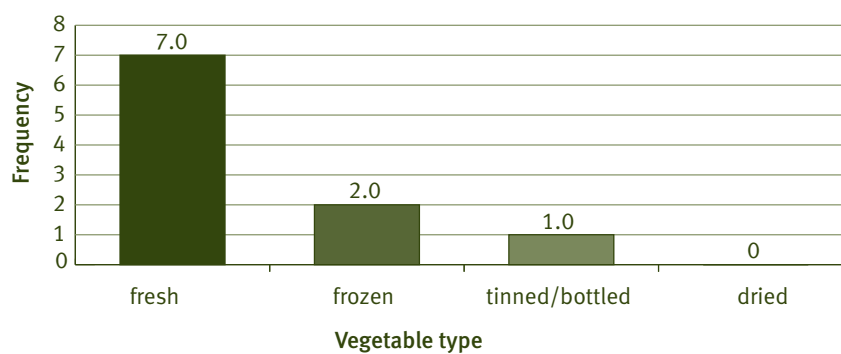
#### Preference for fresh vegetables and fruit

South West Queenslanders showed a strong preference for fresh vegetables and fruit, with most reporting daily consumption of fresh vegetables and fruit. Frozen and tinned/bottled vegetables were consumed only once to twice per week (Figure 5). All preserved forms of fruit (tinned/bottled, dried or juice) were reported to only be consumed less than once per week (Figure 6).

This was an unexpected finding, considering the large distances people live from their closest local town. This demonstrated that the South West Queensland population puts high value on fresh produce despite its perishable nature.

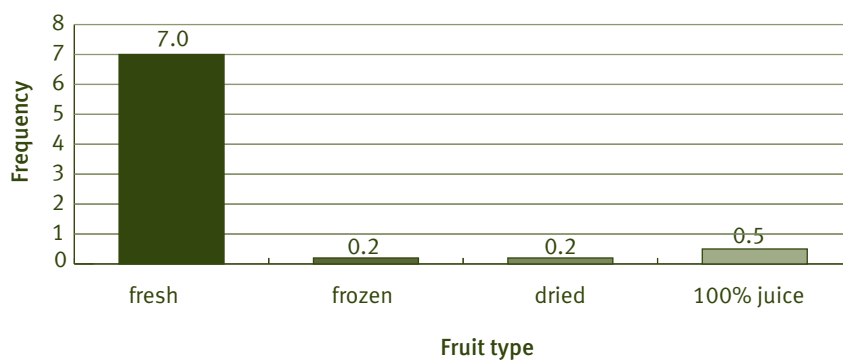
It highlights the opportunity to promote preserved types of vegetables and fruit such as frozen, tinned/bottled, and dried as a complementary strategy to increase vegetable and fruit consumption. Preserved vegetables and fruit if stored and transported appropriately provide similar nutrients as fresh vegetables and fruit. It is useful to substitute fresh with canned or frozen varieties when they are not in season.

Figure 5: Median weekly reported consumption by vegetable type\*  
*The South West Queensland Nutrition Survey 2004*



\*weighted

Figure 6: Median weekly reported consumption by fruit type\*  
The South West Queensland Nutrition Survey 2004



\*weighted

### Influence of demographic variables on consumption

Similar to other recent surveys, reported vegetable and fruit consumption in South West Queensland did not appear to be influenced by level of education or level of income or employment (Queensland Health, 2006).

However it is vital to acknowledge that those living in rural and remote areas, on lower incomes or in areas of less socio-economic advantage (all characteristics of the South West Queensland population) have significantly higher rates of overweight, obesity and chronic disease and will greatly benefit from increased vegetable and fruit consumption.

### Recommendations from the *South West Queensland Nutrition Survey 2004*

The report recommended that strategies to promote vegetable and fruit consumption in South West Queensland be developed and implemented for the whole population, including specific strategies to:

- promote consumption of vegetables and fruit to Aboriginal and Torres Strait Islander people, with particular emphasis on fruit
- promote greater consumption of long-life products such as tinned, dried and frozen vegetables and fruit
- reach groups with lower consumption including young adults and males.

### Key issues for South West Queensland

- South West Queenslanders consume vegetables and fruit in amounts well below recommended levels that promote and support good health.
- There is great potential for improvements to health for South West Queenslanders through increased vegetable and fruit intake.

### Recommended actions

- Raise awareness of the issue of low consumption of vegetables and fruit within the South West Queensland population.
- Work collaboratively with local community, government and non-government agencies to develop and implement strategies to increase the consumption of vegetables and fruit in South West Queensland.

## /// 4 Review of vegetable and fruit supply

### Review of vegetable and fruit supply

For people to consume a healthy diet, including the recommended number of serves of vegetables and fruit, a healthy food supply must be both available and accessible to all members of the community.

Food 'availability' is influenced by factors including the number and type of local food shops and the price, quality, variety and promotion of food found within these local stores (NSW Centre for Public Health Nutrition, 2003). Sufficient food supply needs to be available to the community in order for them to meet their nutritional requirements.

Food 'access' is defined as the ability of people to acquire food by using physical and financial resources (Marks G, 2003). It focuses on the capacity individuals, households and communities have to obtain and use the local food supply. Food access is influenced by a wide range of factors including: income, ability to transport food, preparation and cooking skills, skills knowledge and attitudes to make appropriate choices, other sources of food including home grown produce. There can be a healthy food supply available in the community, but if individuals, households and communities do not have the capacity to access that food supply their nutritional intake will be compromised.

This section of the report outlines the findings of a review of the availability and access of vegetables and fruit in South West Queensland.

### /// 4.1 Method

Three studies were conducted in 2004 to review the availability and access of vegetables and fruit in South West Queensland:

- Healthy Food Access Basket Survey
- South West Queensland Nutrition Survey
- 'Speak Out Tour' community consultation forums.

#### Healthy Food Access Basket (HFAB) survey

The cost and availability of basic healthy food items in South West Queensland was measured using the Healthy Food Access Basket (HFAB) survey. During the 2004 statewide HFAB survey, the stores in South West Queensland were over sampled to provide detailed information on the cost and availability of healthy food in South West Queensland. The results for South West Queensland were compared to the results for all 'very remote', 'remote' and 'outer regional' stores in Queensland, and also compared to the overall result

#### HFAB Survey

The Healthy Food Access Basket (HFAB) survey is a statewide cross-sectional survey of the costs and availability of a standard basket of basic healthy food items throughout Queensland. It has been conducted biannually across the state since 1998.

Information on costs and availability of a set number of items 'the healthy food basket' are collected and compared between remote locations and main centres. The variation in costs and availability of food in the basket is presented by ARIA+ remoteness categories including 'major cities,' 'inner regional,' 'outer regional,' 'remote' and 'very remote'.

The survey looks to answer the following questions

- Is there healthy food available for people if they want to buy it?
- How much do people living in different locations have to pay for basic healthy foods?
- How much does it cost to buy healthy food in rural and remote locations compared to less healthy purchases?

The HFAB reports for 1998, 2000, 2001 and 2004 are available on the Queensland Health website [www.health.qld.gov.au](http://www.health.qld.gov.au)

### **‘Speak out tour’ community consultation forums**

The South West Queensland community was invited to share their views on food supply issues at a series of community consultation forums. Forums were held in several towns across the South West Queensland including Cunnamulla, Charleville, Roma, Thargomindah, Quilpie and St George. A range of people attended each forum including community members, store owners, representatives from the transport sector and representatives from government agencies.

Those attending were encouraged to share their thoughts, both the positive and the negative aspects of the food supply in their town, to discuss the cost, availability and quality of healthy foods.

The results of the community consultation forums for each town are summarised in Appendix One.

### **Results of the review of vegetable and fruit supply in South West Queensland**

The following factors of the South West Queensland food supply have been examined as part of this review. The data from the three studies conducted will be presented under the following headings in this section of the report.

#### Availability

- Location and type of food stores that supply vegetables and fruit
- Cost of vegetables and fruit in food stores
- Availability and variety of vegetables and fruit in food stores
- Quality of vegetables and fruit in food stores

#### Accessibility

- Affordability of vegetables and fruit
- Knowledge of vegetable and fruit consumption guidelines
- How often people run out of vegetables and fruit
- Shopping habits

## /// 4 Review of vegetable and fruit supply

### /// 4.2 Availability of vegetables and fruit in South West Queensland

#### ■ Location of food stores in South West Queensland

Thirty-two stores were identified that provide vegetables and fruit across South West Queensland. All towns with population greater than 200 people have at least one local shop that sells vegetables and fruit.

The stores in South West Queensland were classified into three categories according to their ownership:

Chain stores	These stores are owned by a state or national companies, eg. Coles, Woolworths.
Independent	These stores are independently owned (although several shops may be owned by the same owners) however they belong to a 'banner' trading name, eg. Four Square, IGA, Five Star.
Banner stores	
Independent stores	These stores are independently owned and run.

The majority of the local food stores which supply vegetables and fruit in South West Queensland are small independently owned stores with just over half being attached to a banner trading name (Table 3). There are only two chain stores which are located in the larger centres of Roma and Charleville.

**Table 3: Location and type of food stores in South West Queensland, November 2006**

Local government area	Town	Store type			Total number of stores
		Independent	Independent banner	Chain	
Bulloo	Thargomindah	1			1
Quilpie	Quilpie	1	1		2
Paroo	Yowah	1			1
	Eulo	1			1
	Cunnamulla	2	1		3
Murweh	Augathella	1			1
	Charleville		2	1	3
	Morven	1	1		2
Booringa	Mitchell	3	1		4
	Amby	1			1
Bungil	Injune	1			1
Warroo	Surat		1		1
Roma	Roma		1	1	2
Balonne	St George	1	2		3
	Dirranbandi		2		2
	Mungindi		2		2
	Thallon	1	1		2
		<b>15</b>	<b>15</b>	<b>2</b>	<b>32</b>

### Cost of vegetables and fruit in food stores

The cost of fresh vegetables and fruit in South West Queensland was examined as part of the Healthy Food Access Basket survey.

The HFAB survey highlighted that in South West Queensland the cost of fruit, vegetables and legumes in a ‘basket’ was \$12.93 (7.3 per cent) higher compared with mean Queensland cost for stores surveyed (Figure 7). The cost of the total ‘healthy food basket’ for South West Queensland was \$53.75 (14 per cent) higher than the cost for total Queensland (Figure 8). The South West Queensland cost was not as high compared to all stores in the ‘very remote’, ‘remote’ and ‘outer regional’ categories, indicating there are some communities in Queensland that pay even more for vegetables and fruit than South West Queenslanders (Table 4).

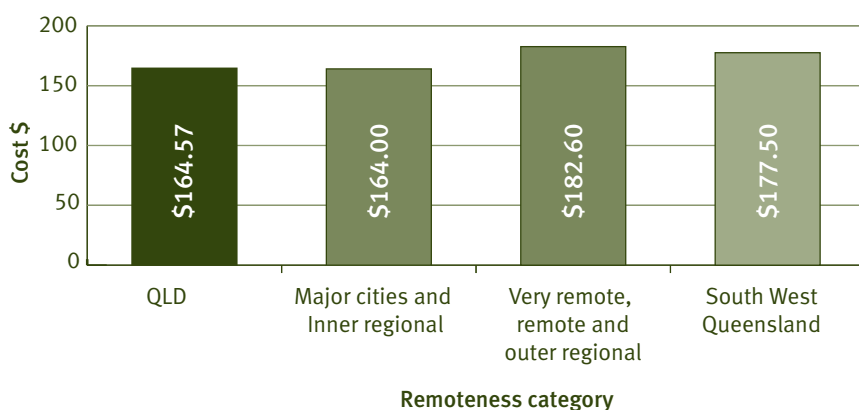
These results highlight that there is extra expenditure needed to purchase basic healthy food in South West Queensland compared to those living in major cities and inner regional centres.

The fresh vegetables and fruit that make up part of the healthy food basket in the HFAB survey are a sample of basic produce available in our markets today (Table 5). They are not considered to be high cost or luxury produce. The HFAB survey shows that basic staple vegetables and fruit cost more to purchase in South West Queensland.

To encourage people to eat more vegetables and fruit, people need access to a wide range of produce that allows for choice and variety in their diets. If people already pay more for basic staple produce, it is likely that a greater range and variety would cost even more – especially when economies of scale are considered. This makes cost of purchasing fresh vegetables and fruit a considerable barrier to increasing consumption for those living in South West Queensland.

At the community consultation forums, some community members expressed that the price of vegetables and fruit is expensive in South West Queensland. The community felt the contributing factors were freight and fuel costs associated with transporting the vegetables and fruit. Some people expressed that regardless of the price they would buy vegetables and fruit whereas others thought the high price was not acceptable and would go without.

Figure 7: Mean cost of fruit, vegetables and legumes in the basket  
HFAB Survey 2004



## /// 4 Review of vegetable and fruit supply

Table 4: Cost of vegetables and fruit and total food basket, HFAB Survey 2004

	South West Queensland	Queensland - Very remote, remote and outer regional	Queensland - Major cities and inner regional	Queensland
Total basket cost	\$ 448.10	\$ 455.80	\$ 389.70	\$ 394.35
Fruit, vegetables & legumes cost	\$ 177.50	\$ 182.60	\$ 164.00	\$ 164.57

Figure 8: Mean cost of the Healthy Food Access Basket HFAB Survey 2004

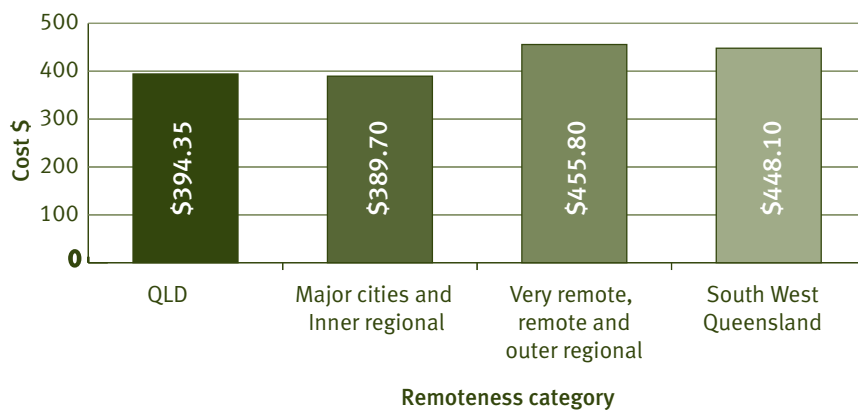


Table 5: Vegetables, fruit and legumes included in HFAB survey HFAB survey 2004

Vegetables and legumes	Fruit
Tomatoes	Apples
Potatoes	Oranges
Pumpkin	Bananas
Cabbage	Tinned fruit salad in natural juice
Lettuce	Orange juice (100%)
Carrots	
Onions	
Frozen vegetables	
Tinned peas	
Tinned baked beans	
Tinned beetroot	

### Availability and variety of vegetables and fruit in food stores

As part of the Health Food Access Basket survey the variety of fresh vegetables and fruit was determined by measuring the availability of 15 of the most commonly consumed vegetables and fruit (Table 6).

The HFAB survey highlighted that the availability of vegetables and fruit is limited within South West Queensland. An average of 2.2 vegetable items was missing and 4.95 fruit items were missing on the day of the survey (Table 7). The variety of basic vegetables and fruit (Figure 9 and 10), especially fruit, is more limited in South West Queensland than other very remote, remote and outer regional areas of Queensland.

The lack of available fresh produce was expressed at the community consultation forums, with people reporting fresh produce often not being available or out of stock. The limited variety of fresh vegetables and fruit was also reported, however better variety seemed to be available on days of delivery to stores and in larger towns where there was more than one shop, and therefore more 'competition' between stores.

**Table 6: Commonly consumed vegetable and fruit variety checklist**  
*HFAB Survey 2004*

Vegetable	Fruit
Broccoli	Apple
Cabbage	Banana
Capsicum	Grape
Carrot	Kiwi fruit
Cauliflower	Mango
Cucumber	Orange
Green beans	Other citrus fruit
Lettuce	Other stone fruit
Mushroom	Pawpaw
Onion	Peach
Potato	Pear
Pumpkin	Pineapple
Sweet corn	Rock melon
Sweet potato	Strawberry
Tomato	Watermelon

**Table 7: Mean number of vegetables and fruit missing stores,**  
*HFAB Survey 2004*

	Vegetables out of a total of 15	Fruit out of a total of 15
South West Queensland	2.2	4.95
Very remote, remote and outer regional	1.92	4.2
Major cities and inner regional	0.5	3.1

## /// 4 Review of vegetable and fruit supply

Figure 9: Availability of vegetable varieties (out of total of 15)  
HFAB Survey 2004

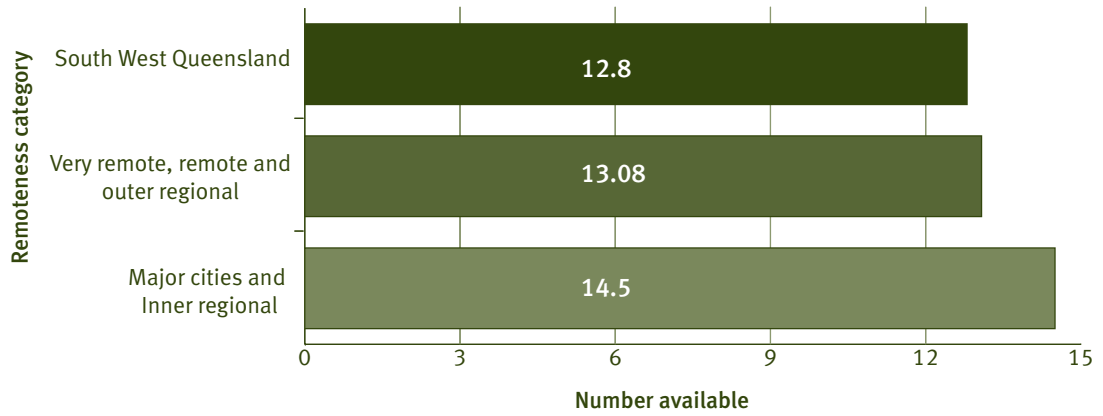
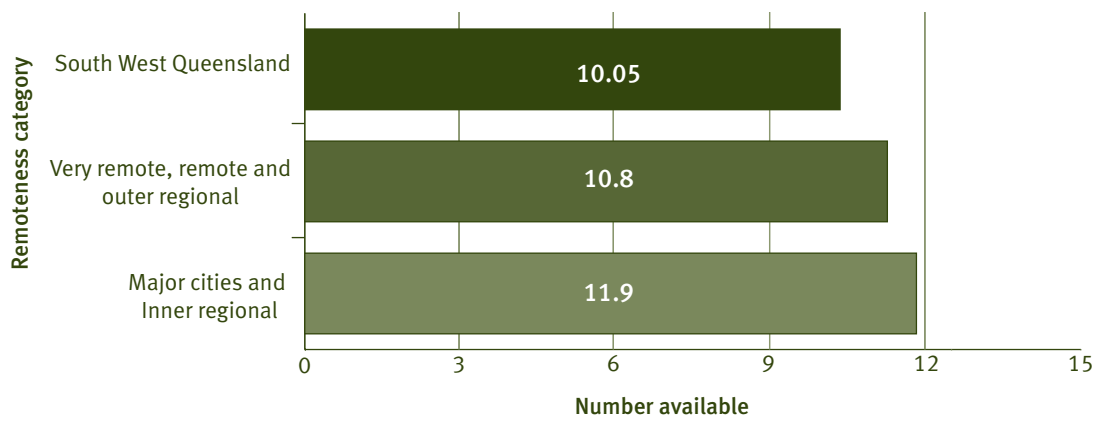


Figure 10: Availability of fruit varieties (out of total of 15)  
HFAB Survey 2004



### Quality of vegetables and fruit in food stores

The quality of fruit and vegetables was not measured in stores across South West Queensland as it is a complex and time consuming process (Appendix 2 contains a summary of investigations into methods for measuring quality). However, indirect measures of quality were taken including community perceptions of the quality of vegetables and fruit available as part of the South West Nutrition Survey and the community consultation forums.

The *South West Queensland Nutrition Survey 2004* reported that 4.5 per cent of people did not buy more vegetables or fruit immediately after running out because good quality produce or produce generally, was not available for purchase.

The largest proportion of people reported that the quality of fresh vegetables and fruit available for purchase in their closest town was good, very good or excellent. Approximately a third rated quality as fair, poor or 'other' which included answers such as the recognition of seasonal differences in fresh vegetables and fruit (Figure 11).

The community consultation forums supported the survey data, with community members expressing a wide range of views about the quality of vegetables and fruit. Some community members expressed that good quality vegetables and fruit were available to them, with others expressing disappointment at the poor quality of vegetables and fruit available.

The expectations of retailer and consumers have been shown to influence food supply in rural and remote communities (Hughes, Read and Marks, 1997). If the community is used to having a certain quality of produce available, it is difficult to know that it may be able to be improved.

Figure 11: Perceptions of the quality of fresh vegetables and fruit available for purchase in the closest town, *South West Queensland Nutrition Survey 2004*



#### Key issues for South West Queensland

- Majority of vegetables and fruit are supplied by small independent stores in South West Queensland.
- Limited availability of vegetables and fruit in South West Queensland.
- Cost of vegetables and fruit is more for South West Queensland communities.
- There is room for improvement in the quality and variety of vegetables and fruit made available in South West Queensland communities.

#### Recommended actions

- Identify strategies to increase the availability of a wide variety of quality vegetables and fruit in South West Queensland.

## /// 4 Review of vegetable and fruit supply

### /// 4.3 Access to vegetables and fruit in South West Queensland

Access to food is about being able to make use of the local food supply. Some key points to consider about accessibility of vegetables and fruit to South West Queenslanders include:

- the financial resources and affordability of vegetables and fruit
- knowledge of national vegetable and fruit consumption guidelines
- reasons for not purchasing more vegetables and fruit when running out
- shopping habits of South West Queenslanders.

#### Financial resources and affordability of vegetables and fruit

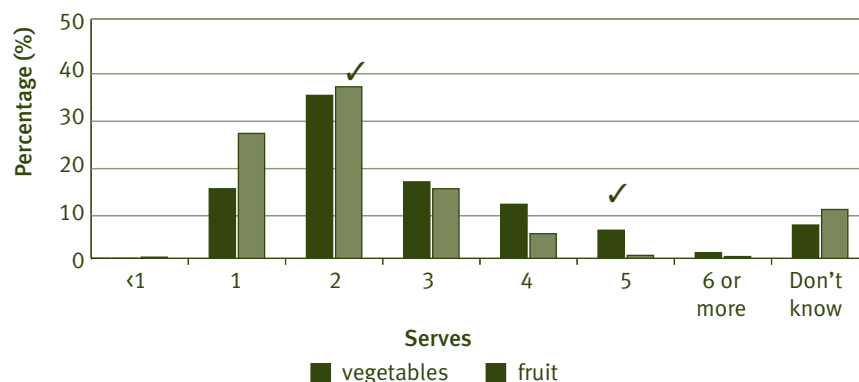
As highlighted in section two of the report, South West Queensland has a larger proportion of people living in disadvantaged circumstances compared to the Queensland population. The average family and household incomes are lower than the Queensland population.

For much of the South West Queensland population, vegetables and fruit are less affordable than elsewhere in the state, due to the higher price of vegetables and fruit and lower income levels. This may especially be an issue among the Indigenous population who live with higher levels of disadvantage (Figure 3).

#### Knowledge of national vegetable and fruit consumption guidelines

The *South West Queensland Nutrition Survey 2004* asked people about their knowledge of the national vegetable and fruit consumption guidelines. Only six per cent of people reported the correct response for recommended daily five serves of vegetables. As few as 37.1 per cent reported the correct response for recommended daily two serves of fruit. About 10 per cent of the population reported not knowing the recommended number of vegetable and fruit serves.

Figure 12: Reported knowledge of recommended daily intake of vegetables and fruit\*  
*South West Queensland Nutrition Survey 2004*



\* weighted

✓ recommended consumption

Those who reported the correct knowledge of the recommendations were significantly more likely to consume the recommended serves of vegetables and fruit each day.

Evidence in health promotion consistently shows that knowledge about health does not result in behaviour change, but that knowledge is necessary to contribute to an individual's capability to prepare for and be successful at changing behaviour (Nutbeam and Harris, 2004). This highlights the importance of ongoing activities within the community to ensure they are aware of the number of serves of vegetables and fruit required each day for good health.

### Running out of vegetables and fruit

More than a third of the respondents to the *South West Nutrition Survey 2004* reported running out of vegetables and fruit on at least one occasion in the last 12 months. The main reported reasons for not buying more fresh vegetables and fruit after running out were that it is 'usually not a priority,' 'it is a long distance to the shops' and 'lack of time.'

### Shopping for vegetables and fruit

The *South West Queensland Nutrition Survey 2004* found that most people took less than half an hour to get shopping home and shopped at least weekly. Of those who lived half an hour or more away from town, the majority used an insulated container to transport vegetables and fruit. However, 13 per cent of the population, who travelled longer than half an hour, did not use insulated containers. This indicates that future strategies should give attention to transport behaviours that maximise shelf life of fresh produce and keep food safe from potentially harmful bacteria.

The *South West Queensland Nutrition Survey 2004* found that people living in town generally got their fresh vegetables and fruit from their closest town. People who lived outside of town were more likely to get their fresh vegetables and fruit from another town, rather than the closest town or buy them through country order or grow their own (Southern Area Population Health Services, 2006).

#### Key issues for South West Queensland

- Vegetables and fruit are less affordable for many South West Queenslanders.
- Some South West Queenslanders travel long distances to transport their vegetables and fruit home.
- There is limited knowledge among the community of the recommended number of serves of vegetables and fruit to be consumed each day.
- On some occasions people run out of vegetables and fruit and are not able to access more straight away.
- Some people do not use insulated containers to maintain quality of vegetables and fruit between shopping and home.

#### Recommended actions

- Implement strategies to increase knowledge of vegetables and fruit guidelines.
- Further investigate factors that affect accessibility to vegetables and fruit in South West Queensland.

## /// 5 Key intervention points

### Key intervention points

The previous section outlined the availability and accessibility issues affecting the ability of South West Queenslanders to consume the recommended serves of vegetables and fruit required each day for good health.

There are improvements that can be made to food supply and consumption of vegetables and fruit in South West Queensland. Throughout Australia there are a number of projects that are being undertaken to address food supply and increase consumption of vegetables and fruit. These projects have been reviewed along with the data provided in the previous section of this report and key intervention points have been identified to improve the food supply and consumption of vegetables and fruit in South West Queensland.

Four Key Intervention Points have been identified for South West Queensland:

- **Food transport** *“Getting it outback”*  
Maintain and improve quality food transport systems to South West Queensland at affordable prices.
- **Local food stores** *“Buying it fresh”*  
Maintain consistent availability of a variety of affordable and quality vegetables and fruit in local food stores.
- **Local food production** *“Growing your own”*  
Increase the availability of fresh vegetables and fruit in South West Queensland through local production.
- **Demand for healthy food** *“Eating more”*  
Increase the demand for healthy food, including vegetables and fruit, among the community in South West Queensland.

Many of the factors influencing food supply fall outside the role of the health system. A collaborative effort with government and external agencies is needed to develop and implement sustainable strategies to improve the food supply and increase consumption of vegetables and fruit by communities across South West Queensland.

For each intervention point, examples of projects implemented in Australia have been captured and recommendations made for South West Queensland.

## 5.1 Key intervention point 1: Food transport

### Maintain and improve quality food transport systems to South West Queensland at affordable prices

An efficient and effective food transport and distribution system is essential for maintaining a reliable, affordable and quality food supply (NSW Centre for Public Health Nutrition, 2003).

The geographical isolation of South West Queensland necessitates a reliance on food that is transported long distances. Highly perishable produce like vegetables and fruit are most likely to suffer as a result of long transport routes, so it is important to review and assess the nature and quality of such transportation.

The freight systems used to transport vegetables and fruit to South West Queensland consist of one or a combination of the following:

- refrigerated truck
- un-refrigerated truck
- refrigerated rail freight.

Vegetables and fruit supplied to South West Queensland are primarily sourced from centralised secondary wholesale markets in Brisbane. Secondary wholesalers receive order and purchase produce from the Brisbane Markets on behalf of the stores in South West Queensland.

It takes approximately two to three days for produce to be delivered to South West Queensland, from the time it is bought at the markets to the time it is delivered at the store. The length of time taken is dependent on the method of transportation and the location of the store. Produce is usually stored at the secondary wholesalers for half a day and is then in transit for up to one and a half days.

#### Case study: Factors affecting quality of vegetables and fruit during transportation

Temperature and humidity management are absolutely critical for fresh produce if quality is to be maintained during transportation. Maintaining optimum temperature and humidity through the transportation process reduces moisture loss, minimises further growth, development and possible deterioration and disease development during transport (AUFTAC, 2000).

To investigate the conditions in which vegetables and fruit are transported to South West Queensland from Brisbane, data loggers were used to provide an indication of the air temperature and humidity of the transport systems freighting vegetables and fruit to South West Queensland. Seven data loggers were inserted into boxes of lettuce at the secondary wholesalers markets. Boxes were selected based on different combinations of direct and indirect rail and trucking routes, refrigerated and un-refrigerated transport systems and different transport companies. Data logger readings were obtained for the journey from the secondary wholesalers to the stores in South West Queensland.

Outcome:

Of the seven transport routes investigated, none were able to maintain consistent optimum temperature or humidity conditions for the produce being transported on the days tested. Some truck routes did reach optimum humidity but it was not sustained for the journey.

## 5 Key intervention points

### Freight systems projects in rural and remote Australia

The South Australian Department of Transport and Urban Planning developed a *Country Freight Improvement Strategy and action plan* to improve freight services to rural and remote communities in South Australia. This resulted in the development of the *Transport and handling of perishable products in remote areas guidelines* and *Country Freight Groupage and Scheduling Software System*.

The *Transport and handling of perishable products in remote areas guidelines* apply the principles of cold chain management to the freight of perishable goods to remote locations in Australia. They are available on the South Australian transport department website.

[http://www.transport.sa.gov.au/pdfs/freight/LAMP\\_update/remotearias.pdf](http://www.transport.sa.gov.au/pdfs/freight/LAMP_update/remotearias.pdf)

The *Country Freight Groupage and Scheduling Software System* is designed to:

- provide a freight booking system that will enable users to book freight, with a description of the goods, size, handling and temperature requirements
- analyse the freight bookings to group the orders received, calculate unit loads based on pallets to optimise truck utilisation, match this to vehicles available, determine pick up and delivery date options and costs, relay this information to the user and confirm the booking
- generate invoices, monitor shipment performance and facilitate payment upon delivery.

The Rural Indigenous Stores and Takeaway (RIST) project is looking to build healthy businesses, healthy food and healthy communities. RIST is a collaboration of jurisdictions in Australia with remote Indigenous communities. Health departments from the five jurisdictions of Queensland, Western Australia, Northern Territory, New South Wales, South Australia and the Australian Government have committed funding for the project for three years.

There are several branches to this project. The main branch will look at identifying minimum standards for a “healthy” remote store (further detail under local food stores key intervention point). Other arms of this project looking at food transport include:

- a review of work done covering transport systems and development of an options paper to streamline transport of perishable foods to remote communities in order to ensure a quality product at a reasonable price
- research into the feasibility and benefits of a subsidisation scheme.

Although the RIST project is specifically focussing on improvements in remote indigenous communities, the resources developed will be of great assistance and benefit across other remote areas of the state.

### Key issues for South West Queensland

- Reliance on freight is one factor contributing to the higher cost of vegetables and fruit to South West Queensland.
- Freight conditions can impact on the quality of vegetables and fruit supplied to South West Queensland.

### Recommended actions

- Conduct detailed freight studies in South West Queensland to map freight requirements of stores and other key food services in the community (restaurants, schools, local health services).
- Investigate group buying strategies to identify potential cost saving.
- Investigate the use of freight groupage systems software for great efficiency.
- Support secondary wholesalers, transport companies and stores to apply best practice for transport and handling of perishable food to South West Queensland communities.
- Investigate the food standards and Food Safety Code from a public health perspective to examine its implications for the food system.
- Investigate and advocate for subsidies if they are required to make vegetables and fruit more affordable to South West Queenslanders.

## 5.2 Key intervention point 2: Local food stores

### Maintain consistent availability of a variety of affordable and quality vegetables and fruit in local food stores.

A review of current projects being conducted in Australia highlight the important role that the local food retail outlets have regarding the food supply in any rural and remote community. In-store management can affect the availability, price, quality, variety and promotion of food (NSW Centre for Public Health Nutrition, 2003).

South West Queensland is characterised by small towns that have only one or a few food store outlets that supply vegetables and fruit to the community. Most of the stores in South West Queensland are independently owned which provides opportunity for working locally with store owners to improve the sales of vegetables and fruits.

The goal of any work with local stores is to increase the sales of vegetables and fruit. This has the potential to be a win-win situation because not only does it improve the health of the consumer, it has the ability to increase profit for local businesses.

The store owners in South West Queensland run their businesses in very challenging circumstances. Small food retailers are often unable to modify the range and price of their food due to insufficient volume, small margins, undercapitalisation in refrigerated storage and slow turnover of stock and thus risk of spoilage of perishable goods. These factors need to be considered when working with local store owners.

As reported from the consultation forums, most store owners are supportive and helpful to their local community by trialling new product lines required or ordering in special foods. There are great opportunities for local organisations and community members in South West Queensland to work with and support their local stores to promote and increase the sales of vegetables and fruit.

### Store projects in other rural and remote Australian communities

The Eat Well Outback South Australia Project aimed to improve the food access and supply to rural and remote regions of South Australia. The project included the development of the *Healthy Outback Store Manual* for stores serving rural areas. The manual includes information on:

- the Australian Competition and Consumer Commission (ACCC) Store Charter
- instructions on how to use an online food safety training course
- shop managers' right and responsibilities with regard to cold chain management and dealing with transporters
- what the local dietitian can provide
- posters with tips for storage of vegetables and fruit to maintain quality.

The Food West Project conducted in central Queensland focussed on increasing availability, quality and affordability of fresh vegetables and fruit in small remote communities in Central West Queensland. Ten remote stores with significant hardship were provided peer mentoring and training by an experienced store owner on the purchasing, transportation, handling, temperature control, presentation, variety, value adding and pricing of vegetables and fruit. This resulted in changes in store management practices with increase in quality and variety of vegetables and fruit for sale.

One of the main focuses of the RIST project being conducted across remote Australia is to identify some minimum standards for a "healthy" remote store, to ensure that food supply enables community members to meet their nutritional requirements. These minimum standards will include:

- guidelines on minimum amounts of core foods required to meet nutritional requirements of all sub groups in population
- system to identify and promote healthier food choices based on nutrient criteria
- guidelines on meal preparation and menus /recipes for healthy take-away
- minimum infrastructure requirements for the display and storage of healthy foods based on the population of the community.

Work is currently underway to develop resources for use by store managers on:

- maximising the shelf life of vegetables and fruit
- stocking guidelines outlining the quantities for a basic range of fresh fruit and vegetables based on population of a community
- a variety list outlining the minimum range of core foods that should be available in stores
- suggestions for instore promotions of healthy foods.

## /// 5 Key intervention points

Although the RIST project is specifically focussing on improvements in remote indigenous communities, the resources developed will be of great assistance and benefit across other remote areas of the state.

### Store policies

Numerous projects have been conducted to promote healthy food in stores within discrete Aboriginal and Torres Strait Islander communities across Australia. One of the key strategies for these stores has been to develop a stores policy. Unlike privately owned independent, banner or chain stores the Aboriginal and Torres Strait Islander stores are bound by decisions made by the Community Council. However the general principles of the store policies may still be able to be applied to stores in South West Queensland.

The ACCC has developed a Storecharter which is a voluntary service charter. The charter is designed to help stores comply with relevant law and encourage higher standards of trading. Participating stores are able to display the Storecharter logo.

Many examples of store policies are available including:

- *Mai Wiru Regional Stores Policy*, The Anangu Pitjantjatijara Lands
- *ALAP Food and Nutrition Policy*, The Arnhem Land Progress Association
- *The DATSIP Retail Store Unit Nutrition Policy for Remote Retail Stores*

### Key issues for South West Queensland

- Local stores have strong influence on food supply available to the community.
- Local store managers are important stakeholders in any strategy to addressing local food supply.

### Recommended actions

- Supporting local independent, banner stores and chain stores to ensure consistent availability of quality vegetables and fruit.
- Supporting stores to use ACCC store charter or develop a store nutrition policy.
- Supporting stores to upgrade cold storage and display facilities for vegetables and fruit.
- Developing mentoring relationship between store managers/wholesalers to share knowledge of vegetable and fruit marketing and sensible infrastructure investment.
- Providing training on vegetable and fruit storage, display, pricing and promotion.
- Promoting healthy takeaway foods in local food outlets.

### 5.3 Key intervention point 3: Local food production

#### Increase the availability of fresh vegetables and fruit in South West Queensland through local production.

Very few fresh vegetables and fruit are commercially produced in South West Queensland. The small range of melons, wine and table grapes grown at St George are the only vegetables and fruit grown in the region.

Approximately 30 per cent of the population in South West Queensland grow some of their own vegetables and fruit at home. People who live outside of town are more likely to grow their own vegetables and fruit (Southern Area Population Health Services, 2006). There is opportunity to build on this expertise and encourage interest in growing vegetables and fruit in the home garden. Promoting and supporting current interest in growing vegetables and fruits is one means of supplementing the food supply of local households (New South Wales Centre for Public Health Nutrition, 2003).

Community and school gardens are other interventions that can provide opportunity for vegetables and fruit to be grown in the local community. Community gardens involve a shared piece of land where community members can have a plot to grow their own vegetables and fruit. A key difficulty with community gardens is that they are time consuming to organise and manage, so need to be carefully planned and funded if they are to be sustainable (New South Wales Centre for Public Health Nutrition, 2003).

School gardens are often easier to co-ordinate and organise than a community garden as they have the organisational backup of the school and access to daily gardening workforce among the school pupils and staff. A significant benefit is that they stimulate interest in trying new vegetables and fruit, and promote and interest in fresh produce, with the hope of increasing vegetable and fruit consumption amongst the school community in the long term.

#### Case Study: Roma community garden

The Roma Community Garden group formed in November 2004 to create a space where the community can get together grow fresh vegetables and fruits and learn about growing produce in a difficult environment. The garden is open to the entire Roma community and currently has more than 20 members including five community based groups that hold plots.

The idea for the garden came from the local community nutritionist however the committee is largely made up of community members who drive the development of the garden. The garden has a combination of individual and communal plots so gardeners can either tend to their own plot or look after communal plots from which the produce is shared.

#### Key issues for South West Queensland

- Local vegetable and fruit production requires significant knowledge of local horticultural practices.
- Local community and school gardens need to be designed in a sustainable way.
- Soil and weather (environmental conditions) can be a barrier to effective local production of vegetables and fruit.

#### Recommended actions

- Promote the establishment of household gardens. Provide basic training in household vegetable and fruit production and/or by providing free seeds to start household gardens.
- Develop community and/or schools gardens in areas where they are well supported and can be run by local organisations including local government and/or Aboriginal and Torres Strait Islander groups.

## 5 Key intervention points

### 5.4 Key intervention point 4: Demand for healthy food

#### Increase the demand for healthy food, including vegetables and fruit, among the community in South West Queensland.

Simply improving the food supply will make a big difference to how much healthy food people buy. However the impact of improving the food supply is even greater when a comprehensive nutrition program is implemented to promote healthy shopping, cooking and eating habits. Programs are required to bring about change in community knowledge, skills and perceptions of vegetables and fruit and their ability to prepare them.

#### Current strategies in Queensland

Queensland Health launched the statewide *Go for 2&5*<sup>®</sup> fruit and vegetable social marketing campaign in October 2005. The campaign will run until 2009 and aims to improve the health of Queenslanders by promoting increased consumption of fruit and vegetables.

The overall aims of the Queensland *Go for 2&5*<sup>®</sup> campaign are to:

1. Increase awareness of the need to eat more fruit and vegetables.
2. Encourage increased consumption of fruit and vegetables.

The campaign's main message is that adults require at least two serves of fruit and five serves of vegetables everyday for good health. The campaign involves a multifaceted mass media campaign, with television the major advertising medium used to deliver the campaign messages. Outdoor advertising, point-of-sale promotions, food demonstrations, radio promotions and regional community events will be utilised at different stages of the campaign to reinforce the television advertising. Public relations activities during the campaign period will support the campaign messages. It is vital to ensure that the *Go for 2&5* campaign messages reach the South West Queensland.

The *Smart Choices Healthy Food and Drink Supply Strategy* is a joint initiative launched by Education Queensland and Queensland Health in July 2005. The strategy aims to ensure that food and drink supplied in Queensland schools is consistent with the *Dietary Guidelines for Children and Adolescents*. The strategy became mandatory in all government schools (primary and secondary) in Queensland on 1 January 2007.

The strategy covers all situations where food and drink is supplied in the school environment including:

- school tuckshops
- vending machines
- school excursions
- school camps
- school events – including celebrations and sports days
- fundraising
- classroom rewards
- food used as part of curriculum activities.

Rural and remote schools will require additional ongoing support to assist them to meet the requirements of the strategy in their circumstances.

There are a number of in-store promotion programs such as the 'Green Label System' developed in northern Queensland. This was developed on Saibai Island in the Torres Strait and is now used in a number of stores across the Torres Strait and Cape York in northern Queensland to assist people to select healthy food that are low in fat and sugar. The project involves 'shelf talker' and 'posters' that highlight food that meet the criteria for 'Green foods'. The promotion has worked well with the sale of green foods, including fruit and vegetables, increasing significantly in stores. An in-store promotion program may support other activities in South West Queensland to increase fruit and vegetable consumption.

Queensland Health also supports and provides training for health professionals to conduct a number of healthy lifestyle programs such as Lighten Up and Living Strong. *Lighten Up to a Healthy Lifestyle Program* is a group-based healthy lifestyle support program for adults, which employs a behaviour change approach to improving health and well-being and preventing chronic diseases. *Living Strong* is a weight management and healthy lifestyle program designed specifically for Aboriginal and Torres Strait Islander adults. Programs are delivered by trained health staff such as community health nurses and allied health staff, with support from Population Health Unit staff. Ensuring that health professionals in South West Queensland are trained in and supported to facilitate these programs for the local community will assist in increasing the demand from within the community to have a wide range of fruit and vegetables available.

### **Key issues for South West Queensland**

- Increase the demand for healthy food that promotes and supports changes to the local food supply.

### **Recommended actions**

- Support social marketing campaigns and ensure they reach South West Queensland.
- Conduct community based programs to promote healthy eating in various settings including the school and child care setting.
- Using in-store promotions, specials and display techniques, promoting both fresh and frozen vegetables and fruit.
- Promote, deliver and support existing healthy eating programs within the community, eg. Lighten Up to a Healthy Life Style, Living Strong, Fun not Fuss with Food.

### /// 6.1 'Speak out tour'

#### Introduction

The public health nutrition team from the South West Population Health Unit conducted a series of six speak out sessions across South West Queensland to discuss food supply and nutrition issues with community members. Speak out sessions were held in:

- Quilpie
- Charleville
- St George
- Cunnamulla
- Thargomindah
- Roma.

Posters were displayed depicting what food supply is and its affect on the community's health and nutrition. Community members then had the opportunity to discuss both the negative and positive aspects of the food supply in their town with nutrition workers. The following tables summarise comments received from the community in relation to food supply in their town.

#### Quilpie

**Wednesday, 27 October 2004**

##### Cost

- Don't know how we're going to deal with cost – don't think we can do much about it.
- Groceries are expensive out here but that's reality of living in remote Queensland.
- Store prices are about the same as Brisbane.
- I don't think anyone should/does begrudge paying extra for good food.
- "Good food is expensive" – won't buy fruit and vegies, if they cost too much – but I will buy cigarettes.
- If I really want a lettuce and it costs \$4.00 I will buy it.

##### Availability and variety

- Population is declining therefore Quilpie can't support huge choice.
- We get used to the routine because that's all we've got to choose from.
- We do have food – we've got everything, we need.

##### Quality

- Opinion – "Quality better in one store".
- Other general comments
- Fresh 'reduced fat' milk is always the first to go – leaving no other alternative than to buy 'full cream' milk.
- Bakery promotes choice by offering fruit salads, sometimes + chicken / salad wraps – thinking about a juicer.
- Hard to predict what customers are going to buy eg. skinny chinos – may end up with excess skim milk + you have to throw it out
- In Cunnamulla, Bruce Wilson's Fruit and Vegie truck delivered to your door.
- We know what's achievable and what's not.
- Isn't so much of a floating population here.

## Charleville

Thursday 28 and Friday 29 October 2004

### Cost

- Cost of food is good.
- Cost sometimes too high.
- GST – They didn't realise that people would be paying so much more for basic healthy food.
- We're always going to pay more, out here 'cause of freight.'
- We shop around to get the best deal.
- I don't think things are expensive.
- Basic healthy food costs more out here, we shouldn't have to spend more.
- Meat is good value out here.
- The Charleville stores offer us good value in-season fruit.
- I don't think things are expensive out here.
- Cost of fruit & vegies in grocery stores has much room for improvement.
- Meat-lines are expensive.
- We're fortunate on price in Charleville.
- Bit expensive.
- Prices are comparable to other western towns.
- Most grocery lines available at reasonable price.
- Fruit and vegies much dearer.

### Availability and variety

- Availability of healthy foods is good.
- Want a far better range of health foods, eg. rice flakes.
- We'll supply fancy lettuce but they won't buy it.
- Half the time stores don't have what you want.
- Availability of most grocery lines ok.
- Fresh fruit and vegiesetables very hard to get – no variety.
- Hard to buy "diet" food eg. Weight Watcher's need more low – fat, sugar, fat foods.
- Need more variety in bread lines.
- Specialist grocery lines not available – no demand.
- Variety is limited – compared to the variety of 'junk food' available.
- Variety needs to be improved.
- Good variety.
- Why is choice of lines available being reduced?

### Quality

- Quality of food is good.
- Off season fruit and vegies – poor, but that's normal.
- It appears that Charleville gets what's left from the larger chains, ie. There is no fairness or priority for outback.
- Quality of fruit – sometimes not good.
- Alfalfa sprouts are better here than in Toowoomba.
- Fruit and vegies – we struggle with quality.
- Quality of fruit and vegies in grocery stores has much room for improvement.

## /// 6 Appendices

- We buy and we can still cook with lower quality fruit and vegies.
- Freshness is a problem – Quality too.
- Can't get a variety of 'good quality' good fruit.
- Quality is adequate.
- Things arrive frozen in Charleville.
- We don't do too badly out here with quality.

### Other general comments

- Waste in my store depends on time of year.
- Sometimes, if the qualities not there or price too high, you just go without.
- Would like to see services expanded and up-dated. They're not putting money into rural/remote centres anymore.
- There's no problem with eating well in South West Queensland.
- The town needs a good health store – health foods.
- Let's have health for Charleville – Good healthy food & habits.
- Need a shop that only sells healthy diet food (eg. restaurant) and you know anything there is good food.
- I buy 'specials' a lot (before due date) and freeze, eg. yoghurt.
- I'd like to be able to taste-test the fruit.
- You've got to shop around.

## Cunnamulla

Wednesday 3 November 2004

### Cost

- Cost of healthy food.
- Fruit expensive compared to away.
- So you might still buy it but not so much of it or you just buy something else that's cheaper.
- Prices expensive.
- If you want it you just got to buy it no matter what the price.
- I buy at fruit and vegies. shop – expensive.
- Expensive but good quality eg. 65c mandarin.
- IGA sales start on Wednesday – this coincides with pension days.
- Some things cost more – other things are cheap.
- If I **really** want something I'll buy it, no matter how expensive.
- Some just can't afford to buy it – like big families.
- If costs go up we will still buy fruit and vegies.
- Fruit and vegies bit expensive but take freight / handling into consideration – its not okay, to be more expensive.
- Lower income earners can't afford fruit and vegetables
- Fruit and vegies. Expensive – got to do with rain.
- Broccoli expensive – but you buy it anyway, expensive all round / all over the place – including the city.
- Very expensive, eg. \$2.20 per peach, 65c per mandarin.

### Availability and variety

- Yes – you can get some things – availability!
- Availability low / limited as to what you can get.
- Availability.
- Variety.
- So much more fruit available in other places.
- No problem with availability of healthy food in general – except when items are in the sale catalogue.
- Some baby foods not available here, eg. compared to Mt. Isa.
- Reduced fat, dairy products difficult to get.
- You've got to ask to get something in – limited access to diet foods.
- Limited choice.

### Quality

- Hard to get decent oranges and apples. (apples are floury).
- If quality is poor, I don't buy fruit and vegies.
- I think quality is ok.
- Quality of fresh fruit and vegies.
- Quality is better than Brisbane.
- If quality is poor we will still buy fruit and vegies.
- Quality is quite good, actually.
- Apples and bananas not great this year.
- Won't buy poor quality fruit and vegies – will buy expensive stuff if really want it.
- Quality not very good.

## /// 6 Appendices

### Other general comments

- Q-Link Rail Reference group: consists of QR Station Master, Eddie Mills, Mayor, Paroo Shire Councillor. Purpose is to review the Q/Rail services to Paroo Shire; cold storage issues.
- Fruit and vegies. shop supplies twice per week. Tuesday and Friday.
- Cunnamulla is fortunate in having three general stores, two corner stores and a fruit and vegie shop.
- We use to get a truck that came from Brisbane – St. George – Cunnamulla with good fruit and vegies – once a month - but stopped because wasn't viable, also difficult.
- Kids lunches are / look the best – healthier on pay days. Wednesday or Thursday of each week.
- We grow: celery, onions, carrots, rockmelon, cucumber, watermelons (beautiful), pumpkins, tomatoes, potatoes and cauliflower. Have to put gypsum in soil – that fixes minerals in bore-water.
- Being so isolated.... government should subsidise freight costs.
- Nutrition message is passed on from kids to families through the school.

## Thargomindah

Tuesday 9 November 2004

### Cost

- I know they don't put a big 'mark-up' on their products.
- Still buy fruit and vegiesies if I want it, no matter what cost. I think other peoples' purchases are influenced by cost.
- You can see the difference in prices between Brisbane and here. The higher cost affects me more, because I eat lots of fruit and vegies.
- We all complain about the cost but ...if I want it I pay for it!
- Sometimes I won't buy things because they're too expensive, eg. early season fruit – mangos, grapes.
- Price – yes expensive, price per piece is expensive.
- I buy away – Cunnamulla, St. George et. because of cost.
- You get in healthy food and there is so much wastage, you need demand eg. \$13 over 8 months don't have to share wastage costs - in big picture not that much \$.
- Fruit & Vegies: wastage from over-ordering. But we make a loss if we under order as well.

### Availability and variety

- They get a pretty good range out here, if there's something you want, they'll try to get it for you.
- We know we're getting the best of what's available.
- Is there some rule/reason why we can't buy locally, ie. grapes from Cunnamulla, melons from St. George, meat from Cunnamulla?
- Take-away at Shell, pub and Oasis – owners are being healthy now!
- Oasis cook provides healthy food – 'weight watchers' and pub too!

### Quality

- Quality good.
- Tourists even don't buy heaps when they pass through.

### Other general comments

#### Transport issues

- Emerald Refrigeration Haulage contracted to Jackson (catering group) used to also drop off supplies for St. George, Cunnamulla, Thargomindah on the way to Jackson. This service stopped at the end of 2003. This truck bought cold produce for the shops - sometimes good quality, sometimes poor .
- Use to order Wednesday on evening and goods would be brought Thursday via Emerald. Now place orders Sunday arvo and Tuesday afternoon – brought out Wednesday, packed 8.00am, rail picks up at 10.00am, train leaves Wednesday afternoon – arrives Charleville, Thursday at lunch time, Cunnamulla on Friday am and in Thargomindah at lunch time (finish).
- QR now charge per volume – 30-40 per cent of what the customer buys goes to freight = 30c /kg. QR – no freight charging standards – it's hard to know what QR will charge for freight – will they go with volume / weight - charging per kilo for small stuff, whatever is the more expensive. Freight should (QR) be charged per kilo – they guestimate volume – 1m or 2m high or not: 1.2 m or 1.5m.
- Thargomindah Transport: Freight, sustainability of business. Thargomindah transport charge per pallet.
- Cater lost contract for Santos – they got someone else.
- I don't know if Thargomindah rail freight is going to meet the new accreditation standards, may not provide 'cold car' on the rail service anymore.
- Thargo uses Cunnamulla 'reference group' for QR issues.
- Council should have a market garden – to provide to Donna to sell.
- Garden in Hungerford.
- Certain standards to be in a 'banner group'. \$2,000 to fix fridge (display fruit and vegies) broken again.
- Zone Rebate: It does cost more to live out here. Should be increases 'Thargomindah Special Zone' – Cunnamulla only \$30.

### St George

Monday 1 November 2004

#### Cost

- Cost will affect buying practices, I won't buy, if it is too expensive.
- "It's expensive" – the difference between us and eastern consumers is unacceptable.
- Shop at Roma because of the savings eg. baked beans \$1.05, St. George \$1.23.
- As usual higher prices makes me not buy it!
- With the cost of fuel everything is going to cost more out here.
- Prices of bread, milk and meat ridiculous.
- I find fruit and vegetables the worst prices eg. \$10 for cauliflowers no matter what the season.
- Fresh food expensive – especially fruit and vegetables.

#### Availability and variety

- Food Supply is as good as anywhere else (availability) but we pay the price.
- The stores can get things in.
- Limited range of fruit.
- Locally grown food – rockmelons, grapes and onions may be exported directly overseas – investigate, why, not sold locally – maybe they are?
- Local produce: rockmelons, grapes, watermelons, onions and home grown citrus trees.

#### Quality

- Quality – comes in fresh everyday except Monday. Straight on truck all the way from Brisbane.
- Double standards of "grading" eg. a couple of spots at Gatton isn't good enough to go to the wholesaler but by the time we get it out here, there are lots of spots.
- Our 'seconds' that we can't send to market are probably better quality than, what is being sent out here.
- Quality okay! Meat, damn good, meat not expensive.
- Other general comments
- We need to work on breakfasts.
- Kids will buy healthy food if it is offered.
- Please push 'State Policy' re: Healthy tuckshops e.g. NSW.
- "Fruit Bowls" in state primary school.
- The tuckshop has been more profitable since its gone 'healthy'.
- It's a matter of presentation and looks appealing.

## Roma

Monday 12 November 2004

### Cost

- Quality and price fluctuate each week.
- Cost not too bad as living by myself but families would find it harder.
- Organic food is overpriced.
- Lots of fruit and vegies discarded because of high standards – families used to eat specialty foods can't afford others.
- Fruit and vegies, very expensive – pension doesn't go far.

### Availability and variety

- Local backyard growers don't have an opportunity to sell to the public.
- I buy fresh fruit and vegetables – not frozen ones.
- Buy fresh potato and carrots – and frozen beans and greens.

### Quality

- Quality is quite good.
- Quality of fruit and vegies is an issue, particularly tomatoes, bananas, strawberries etc. They look ripe but are not.
- We are quite lucky - if you are further west, it gets worse. I lived in Mitchell and the variety and quality is not as good.
- Fruit and vegies are often firm and without 'taste'.
- Wouldn't mind second grade produce if it was local and tasted good.
- Concerns me that you can buy fruit "out of season".

### Other general comments

- Use to have a fruit barn in town.
- Would be good to set up buying co-operatives. Have a group who buy fruit and vegies together. Get fruit and vegies through United Organics.
- Fruit and vegies don't taste the same as it used to or when you grow it.
- Concerned about pesticides used – broccoli and strawberries have lots of pesticides.

### 6.2 Measuring quality

Good quality vegetables and fruit, displayed well are more appealing to both buy and eat. To increase the consumption of vegetables and fruit it is important to ensure good quality vegetables and fruit are available.

Vegetable and fruit are highly perishable products and need to be kept at a constant specific temperature and humidity to prevent spoiling. Poor handling of vegetables and fruit produce can result in general degradation, contamination, nutrient loss and/or changes in chemical composition.

Objectively measuring the quality of fresh fruit and vegetables is a difficult and complex task. Each fruit and vegetable variety has a different method of measuring quality. Many methods have been developed and there are different criteria for colour, texture, disease and blemishes that determine the quality each vegetable and fruit product.

#### Methods for measuring quality

The Food and Agricultural Organisation/World Health Organization (FAO/WHO) Codex Alimentarius Standards describe the minimum standards for some vegetables and fruit. It also includes specifications for 'extra' class and class 1. These are in-depth and lengthy criteria for assessing the quality of vegetables and fruit, eg. the standard for pineapple is eight pages long.

At the Brisbane Central Market, trained produce surveyors monitor the quality of the fruit and vegetable produce. They do individual assessments on produce and handle disputes regarding quality. They have general produce specification which gives a broad outline of the minimum requirements of produce for sale at the Brisbane Markets and more detailed specification that outline the classifications for various vegetables and fruit eg. extra class or class 1.

Large retail chains have their own standards for measuring quality. For example the Coles Quality Specification covers colour, size, bloom, shape, defects, temperature, packaging and presentation for fruit and vegetables. There are different specification for every variety of vegetables and fruit.

#### Measuring quality in South West Queensland

Objective assessment of fruit and vegetable quality was not conducted in South West Queensland as the project team did not have the knowledge, skills or expertise to measure quality in this way. Additionally partnerships with local store owners has not been firmly established, and measuring quality of produce for sale in these stores may have been threatening, if it was viewed as 'health inspectors' coming in to criticise produce.

Two indirect measures of quality were taken of fresh vegetables and fruit in South West Queensland. Respondents to the South West Queensland Nutrition Survey 2004 were asked their perception of vegetable and fruit quality available for purchase in their nearest town and a case study was conducted of the temperature and humidity during transport to identify if these factors may be affecting the quality of produce delivered to South West Queensland.

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