



MCKELL INSTITUTE QUEENSLAND

# Mapping Food Insecurity

AN INDEX *for* CENTRAL  
& NORTH QUEENSLAND

JULY 2020



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# CONTENTS

<b>FOREWORD</b>	<b>6</b>
<b>EXECUTIVE SUMMARY</b>	<b>7</b>
<b>PART ONE: FOOD INSECURITY IN AUSTRALIA</b>	<b>9</b>
The Foodbank Hunger Report shows that the rate of food insecurity is significant.....	10
Food insecurity is a function of inequality.....	11
Food insecurity affects mental health.....	13
About Central and North Queensland.....	14
<b>PART TWO: THE FOOD INSECURITY MODEL</b>	<b>16</b>
Key Findings.....	18
The McKell Institute Food Insecurity Index.....	19
There are pockets of marked disadvantage in Central and North Queensland.....	19
Mount Morgan.....	19
Ravenshoe.....	19
Collinsville.....	19
Good food is more expensive in Regional Queensland.....	19
Obesity rates are higher in Regional Queensland.....	19
<b>PART THREE: FOOD RELIEF IN CENTRAL AND NORTH QUEENSLAND</b>	<b>21</b>
Food relief NQ.....	22
Disaster relief.....	22
In North Queensland, disasters happen all the time.....	23
How is food provided when a disaster happens?.....	24
The North and North West Queensland Monsoon Trough, February 2019.....	26
Queensland's summer of disasters and the Rockhampton flood, January 2011.....	28
Disaster planning: North Queensland.....	29
<b>CONCLUSION</b>	<b>31</b>
<b>REFERENCES</b>	<b>32</b>



# FOREWORD

Australia is a relatively prosperous country, ranked in the top 15 nations in the world for living standards and unmatched in the OECD for its 29 year-long period of sustained economic growth.

Beneath the overall picture of relative economic strength, however, lies another sadder story. A significant and growing proportion of the population do not have enough to eat. Their food insecurity can be sustained, resulting from unemployment or low income, or it can be periodic, caused by sudden expenses or family emergency.

Even before the coronavirus pandemic, which has created economic turmoil and exacerbated inequality, it was estimated that over the course of a year one in five Australians would at some point go hungry.<sup>1</sup>

Australia has a well-developed system of charities which provides food relief to those most in need. Emerging from churches and other small scale charitable projects, the food relief sector has become highly professionalised in recent decades.

Organisations such as Foodbank, commissioners of this report, act as a vital connecting point, taking donations from farmers, manufacturers, retail and wholesale providers; consolidating that food and distributing it through local charity partners to people in need.

But food relief requires a physical presence and in Queensland that presence is largely limited to the state's south east corner.

Following on from *Mapping Opportunity*, an earlier Mckell Institute report which sought to map regional disparities in Australians' access to economic opportunity, this report considers regional variability in food insecurity within Queensland. Specifically, it asks two questions:

- 1 What is the level of hunger in North, Far North and North West Queensland and is it, consistent with general trends for regional Australia, higher than that observed in metropolitan areas?**
- 2 What need is there for greater food relief provision in Townsville and Cairns, both in normal circumstances and in times of natural disaster?**

As you will see as you read ahead, the Report uncovers regional disparities which have not been so clearly mapped before, revealing significant indicators of food insecurity in Central and North Queensland and vulnerabilities in food supply, particularly during the increasingly prevalent periods of natural disaster.

# EXECUTIVE SUMMARY

The Mckell Institute's examination of food insecurity in Central and North Queensland makes a number of key findings:

- 1 Food insecurity is a significant and growing problem in Australia with research suggesting as many as one in five Australians experience food insecurity in the course of a year.**
- 2 Food insecurity in Central and North Queensland is likely to be significantly greater than it is for Queensland as a whole. On the Mckell Institute's *Food Insecurity Index*, Central and North Queensland have a food insecurity score 20 per cent higher than the Queensland average and 60 per cent higher than the most food secure part of the State, inner Brisbane.**
- 3 Queensland's three most northern federal electorates, Leichhardt, Kennedy and Herbert are indicated to have the highest prevalence of food insecurity.**
- 4 The provision of food relief in North Queensland is less well developed than it is in South East Queensland and in other parts of Australia.**
- 5 North and Central Queensland are vulnerable to natural disasters and becoming more so as a result of climate change. The lengthy supply chains involved in feeding North and Central Queensland create a particular vulnerability during times of natural disaster.**
- 6 A 2012 Federal Government recommendation to create greater food storage capacity in North Queensland does not appear to have been acted upon.<sup>2</sup>**

In order to answer the questions posed, the Mckell Institute has, for this research, developed a bespoke indicator of food insecurity, the *Mckell Institute Food Insecurity Index*. The Index is based on a number of economic measures which are known to correlate with food insecurity, including low income, sole parenthood and disability.

The Report is structured into a number of parts, beginning with an explanation of food insecurity, a little studied field in Australia, and moving to include a description of the Central and North Queensland regions, application of the Food Insecurity Index and a discussion of the on the ground systems seeking to address need for food at this time.

This is the first comprehensive study of food insecurity in Central and North Queensland ever to have been conducted and, as you will see, it indicates the likelihood of a significant and unaddressed level of need.





## PART ONE: FOOD INSECURITY IN AUSTRALIA

**Food insecurity research in Australia is a relatively new field and there is no universally agreed means of testing the level of food insecurity across a population.**

Unlike the United States where the Department of Agriculture (USDA) has created a complex 18 question model, the Household Food Security Survey Model (HFSSM) which allows for the degree of food insecurity to be presented on a universally accepted scale, no official government or agreed academic definition of food insecurity exists in this country.<sup>3</sup>

THE AUSTRALIAN INSTITUTE OF FAMILY STUDIES DESCRIBES FOOD INSECURITY AS COMPRISING THREE COMPONENTS:

- inadequate access to food,
- inadequate supply of food and
- the inappropriate use of food, by which it means for instance eating food which is not cooked properly for want of knowledge or facilities.<sup>4</sup>

Whilst the definition is sound, the AIFS does not conduct any own source research to establish the level of food insecurity in Australia.

The Australian Bureau of Statistics tests food security through two tests, the National Nutrition and Physical Activity Survey (NNPAS) and the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

The NNPAS asks a sample of 12,000 Australians 'In the past 12 months, were there any times that you ran out of food and couldn't afford to buy any more?' and 'When this happened, did you or members of your household go without food?'<sup>5,6</sup>

That survey, last conducted in 2012 found that 4 per cent of the population were food insecure.<sup>7</sup>

The National Aboriginal and Torres Strait Islander Health Survey finds a far greater prevalence of food insecurity among indigenous Australians with 22 per cent reporting they had run out of food and been unable to buy more. In this group, the prevalence of food insecurity was higher among those living in remote areas, with 31 per cent of remote indigenous Australians reporting food insecurity compared to 20 per cent living in non-remote places.<sup>8</sup>

The ABS notes a series of significant limitations with its own food insecurity analysis. Its definition is narrow, asking only if people had run out of food for financial reasons rather than assessing either the adequacy or appropriateness of supply and in asking such a sensitive question, the ABS itself acknowledges that under-reporting may occur.<sup>9</sup>

The likelihood that the ABS under-reports food insecurity is supported by two significant academic studies. A comprehensive literature review undertaken by researchers from Deakin University in 2019 "Measuring and Understanding Food Insecurity, a Systematic Review" found that single question tests like that used by the ABS consistently underestimate the level of food insecurity by more than 5 per cent.<sup>10</sup>

An Edith Cowan University survey undertaken in 2014/15 used an academically rigorous online tool to survey more than 2,000 Australians on their level of food insecurity. The survey entitled "Utilising a multi-item questionnaire to assess household food security in Australia" was published in the Health Promotion Journal of Australia in 2018. In it, researchers used an abridged version of the USDA's Household Food Security Survey Model, making it possible to test whether participants had sometimes cut back on the size of meals or eaten non-nutritious foods for financial reasons. This more

detailed survey resulted in a finding that up to 36 per cent of Australians experienced food insecurity at some time.<sup>11</sup>

## The Foodbank Hunger Report shows that the rate of food insecurity is significant

The most recent and comprehensive study of food insecurity in Australia is the Foodbank Hunger Report 2019. The 2019 Report estimates that one in five Australians – or 21 per cent – have been in a situation where they have run out of food and been unable to buy more.<sup>12</sup> Foodbank's estimate is based on a survey of 1,000 Australians and is backed by further, separate surveys of people accessing food relief across the country.<sup>13</sup>

In the nearly three decades the organisation has operated, Foodbank has reported consistent increases in demand. Last year demand for food provided through its service increased 22 per cent across Australia and 24 per cent in Queensland, with the charity providing support to 249,412 Queenslanders of a total population of 4.7 million over the course of 2018-19.<sup>14</sup>

Just who experiences food insecurity and why are complex questions. The 2019 Foodbank Hunger Report found that women are more likely than men to have experienced food insecurity in the last 12 months (27 per cent of women surveyed compared to 18 per cent of men) with the prevalence bearing a correlation to women's greater likelihood of having experienced domestic violence in their lives (53 per cent of women, 32 per cent of men) and their higher rates of single parenting.<sup>15</sup>

Other risk factors for food insecurity include indigeneity, migrant backgrounds (particularly asylum seekers), insecure housing, misuse of alcohol and tobacco, unemployment and a lack of transport.<sup>16</sup> The quality of food available can also be a factor of location, with the Royal Australian College of GPs citing research indicating that poor quality fast food can be up to 2.5 times more prevalent in poor rather than affluent areas.<sup>17</sup>

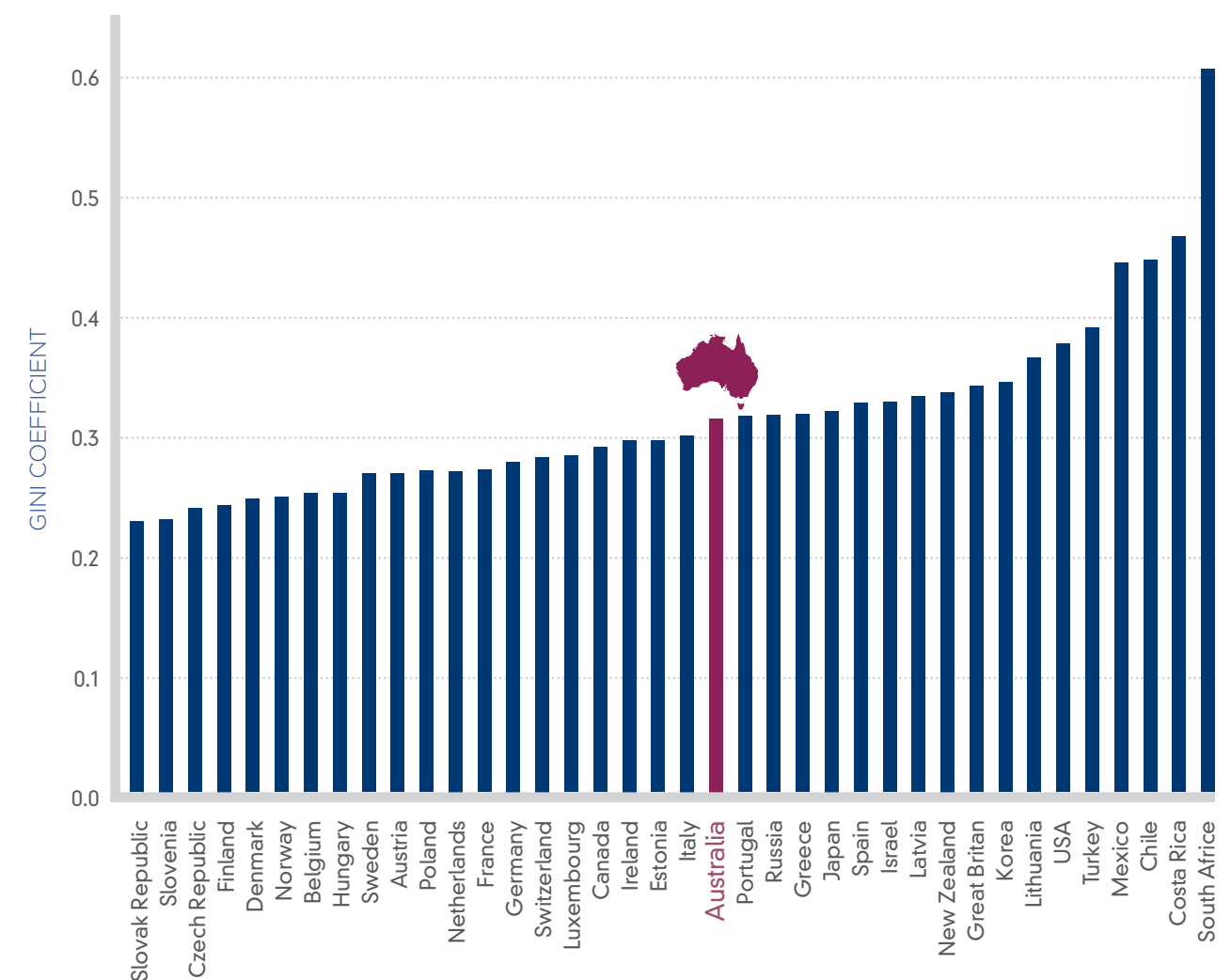
## Food insecurity is a function of inequality

With the pre-COVID-19 single person's rate of Newstart (not including rent assistance) set at \$559 per fortnight (rising to \$604.70 for those with a dependent child or children)<sup>18</sup> and the disability pension including pension and energy supplements sitting at \$933.40,<sup>19</sup> it is little wonder that many Australians live with a baseline level of financial stress.

While welfare payments have remained steady in real terms over recent decades, the overall level of social inequality has increased. The most widely accepted international comparator of inequality is the Gini coefficient, a scale on which perfect equality would be indicated by a Gini co-efficient of 0 and perfect inequality by a Gini co-efficient of 1.

On that measure, Australia sits in the less equal half of OECD countries.<sup>20</sup>

FIGURE 1.1 INCOME INEQUALITY IN THE OECD



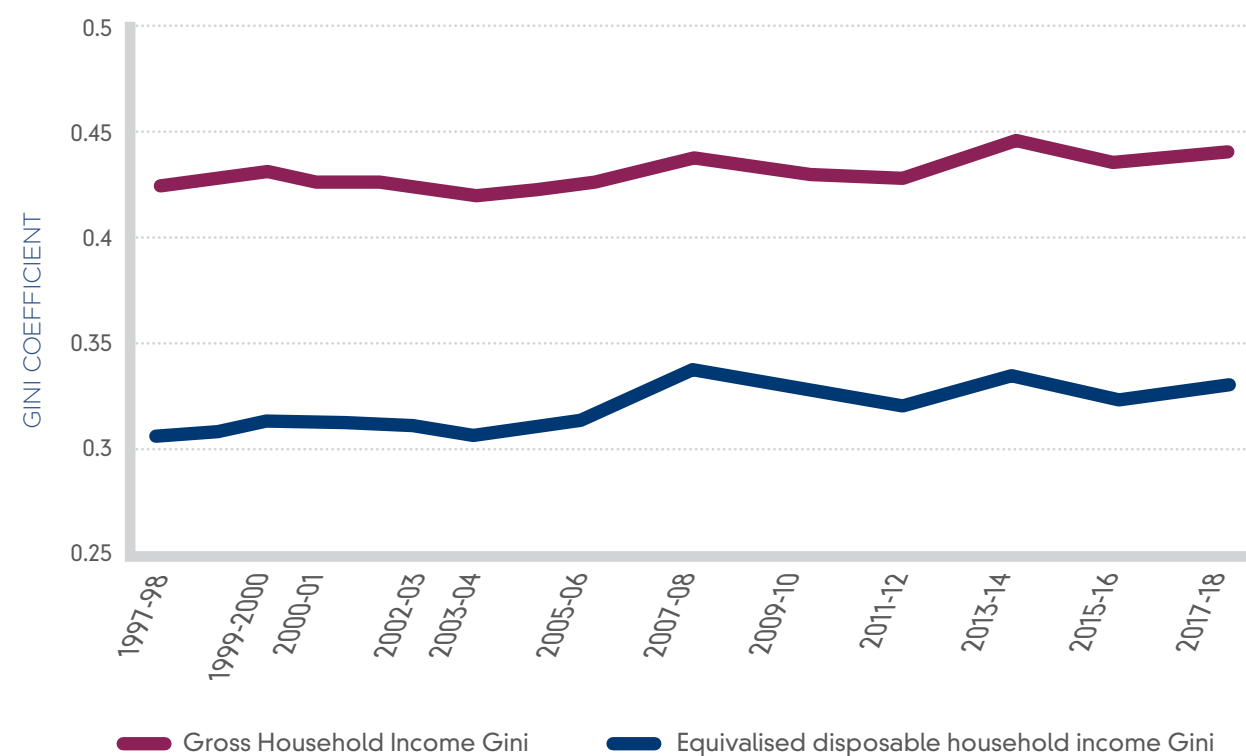
Source: The OECD





PHOTO COURTESY OF FOOD RELIEF NQ.

FIGURE 1.2 INCOME GINI COEFFICIENT CHANGES IN AUSTRALIA



Source: ABS Household Income and Wealth 1997/98 – 2017/18

**Note:** the blue line represents the Gini adjusted by the ABS for household composition and income tax to create an overall disposable household income Gini. It is notable that by that measure, inequality has increased at a faster rate than demonstrated by gross household income alone.

More worryingly for Australia, that level of inequality is getting worse.<sup>21</sup>

For many on low incomes, the food budget becomes regarded as discretionary.<sup>22</sup> The Foodbank Hunger Report showed that the most common reported cause of food insecurity (49 per cent) was food spending being pushed aside by an unexpected bill or expense. The second most common identified cause of food insecurity was the simple act of living on a low income (42 per cent) while 34 per cent identified that they had skipped food in order to pay a mortgage or rent.<sup>23</sup>

### Food insecurity affects mental health

While food insecurity is a function of overall disadvantage, it also hastens the spiral into it. In *The Price of Inequality*, the Nobel prize winning economist Joseph Stiglitz illustrates the cognitive

resources that the poor expend for day-to-day survival and how this compares to the better off who do not spend as much.

The Stiglitz survey asked individuals who had just exited a grocery store how much they had spent at the store. The less well-off / poor, were able to precisely respond, in minute detail, as to what was in their shopping bags and how much money was spent whereas the higher income earners could not. The cognitive resources expended on such minute decision making distract the mind from other matters.<sup>24</sup>

The trend is borne out by Foodbank's Australian research. Among those surveyed by Foodbank, 44 per cent of women and 39 per cent of men experiencing food insecurity said their mental health suffered.<sup>25</sup>

Half of the mothers surveyed (26 per cent of fathers) said being short of food caused them to feel like a bad parent.<sup>26</sup>

About Central and North Queensland

There is no formal definition of what constitutes North Queensland, though it is generally accepted as the region from Mackay north with the largest city Townsville performing the unofficial function of northern capital.

Far North Queensland is Cairns and Cape York, with the North West comprising the grazing and minerals province centred on Mount Isa. Central Queensland is generally defined as the area from Rockhampton west.

For the purposes of this Report, North and Central Queensland have been defined in terms of Queensland’s six northern-most federal electorates: Leichhardt, Kennedy, Herbert, Dawson, Capricornia and Flynn and an average of 150,000 persons have been assumed to be living in these electorates.

The six electorates comprising the Central and North Queensland region have a combined population of 953,362: Leichardt (175,449), Herbert (159,998), Kennedy (155,394), Dawson (156,313), Capricornia (150,720) and Flynn (155,488), which is roughly 20 per cent of the population of the state of Queensland – 4,703,193 persons.<sup>27</sup>

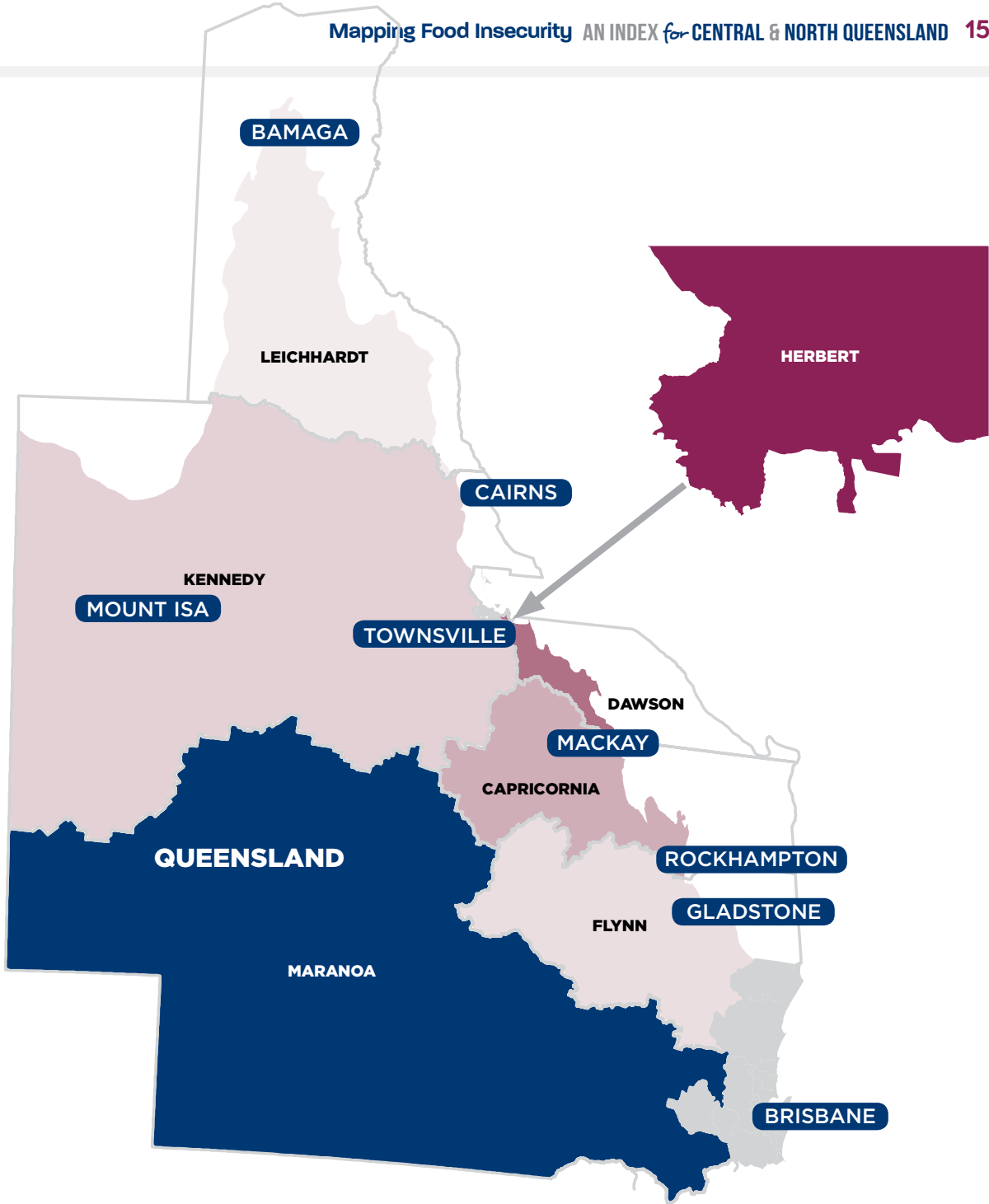
Central and North Queensland have a larger indigenous population and smaller migrant population than Australia and Queensland as a whole. The proportion of the population who identify as being Aboriginal or Torres Strait Islander is on average around 9 per cent across the six electorates compared to 4.8 per cent for Queensland and 3.4 per cent for Australia. 77 per cent of North and Central Queenslanders were born in Australia, a higher proportion than either the Queensland average (71 per cent) or the national rate of just two thirds of the population (66.7 per cent).

The people of Central and North Queensland take pride in a culture of independence and self-reliance. Queensland is the only Australian state in which the majority of the population live outside the capital and with Brisbane being tucked deeply into the State’s southeast corner, the vast nature of the distance between the capital and the regional centres is often poorly appreciated by those unfamiliar with the state.

Cairns and Mount Isa are further from Brisbane than is Melbourne yet in natural disasters, as a later part of this report will detail, state-wide disaster coordination including in some cases food resupply, occurs from the state capital.

TABLE 1.1 MAJOR POPULATION CENTRES’ DISTANCE FROM BRISBANE

CENTRE	POPULATION	DISTANCE IN KILOMETRES
Rockhampton	80,665	615
Mackay	125,000	950
Townsville	178,860	1,334
Cairns	150,041	1,681
Mount Isa	21,998	1,828
Tip of Cape York (Bamaga)	1,164	2,654
Sydney		914
Melbourne		1,668



CENTRAL AND NORTH QUEENSLAND HAVE A HIGHLY DIVERSIFIED ECONOMIC BASE WITH:

- **agriculture** centred on beef to the west and sugarcane in the coastal regions;
- **tourism** focused on the World Heritage listed Great Barrier Reef and Wet Tropics;
- **defence**, particularly in Townsville which hosts a RAAF base as well as the Lavarack Barracks, a major army site, and
- **mining**, including Bowen basin coal, bauxite mining on Cape York, the North West Minerals Province (primarily copper, lead and zinc) and LNG exports and minerals processing in Gladstone.

There is also a strong services economy including a higher education export market, primarily through James Cook University which has major campuses in Townsville and Cairns.



## PART TWO: THE FOOD INSECURITY MODEL

Research on food insecurity has identified a series of socio-economic variables that tend to indicate a likely higher incidence of people going without food.

As the research overview above showed, the greatest among them, not surprisingly, is income with lower income earners tending to be more likely to be unable to afford appropriate, or in many cases, any food.

Other research has indicated other risk factors among them disability, poor levels of education, indigeneity, remoteness, migrant backgrounds (particularly asylum seekers), unemployment and sole parenthood.

After collecting data from the ABS Census of 2016 and proportioning them equally, the McKell Institute has constructed the *Food Insecurity Index* which serves, in the absence of detailed survey data, to approximate the likelihood of people struggling to access secure food in various parts of Queensland.

### 5 VARIABLES WERE SELECTED TO BUILD THE MODEL:

- Unemployment rates in the electorate
- The proportion of the population who are sole parents working part time.
- Rates of Disability/Needing assistance for core activities
- Proportion of the population who are Aboriginal or Torres Strait Islander
- Proportion of low-income earners in the electorate

Of the other possible variables, migrant background was excluded because of the lower presence of migrants, and particularly low level of asylum seekers in the region. Remoteness was difficult to identify in macro level data such as that available from the Australian Bureau of Statistics.

The model produces results on a scale ranging from 0 to 1, with a score of 0 indicating a low likelihood of food insecurity in a population and 1 indicating the likelihood is high.





Key Findings

The results are stark. Of the six federal electorates comprising Central and North Queensland, all are in the top 15 for likelihood of food insecurity (of 30 federal electorates in Queensland) and the three most northern, Leichhardt, Kennedy and Herbert, have the highest indicators for food insecurity.

TABLE 2.1 THE MCKELL INSTITUTE FOOD INSECURITY INDEX

LEICHHARDT	0.73	Wright	0.49
KENNEDY	0.65	Petrie	0.49
HERBERT	0.60	Ryan	0.48
Rankin	0.58	Groom	0.48
Hinkler	0.56	Fadden	0.48
FLYNN	0.55	Fairfax	0.46
Oxley	0.54	Bowman	0.45
Longman	0.54	Moncrieff	0.45
Blair	0.54	Fisher	0.45
Wide Bay	0.54	Bonner	0.45
Moreton	0.53	McPherson	0.45
CAPRICORNIA	0.52	Dickson	0.44
Maranoa	0.52	Lilley	0.43
Forde	0.51	Griffith	0.39
DAWSON	0.50	Brisbane	0.37

In those locations, a series of factors combine to make food insecurity most likely. A high proportion of the population are low income earners and there is a high prevalence of a series of key risk factors including disability, unemployment, sole parenthood and indigeneity.

Earlier Foodbank research has shown that food insecurity tends on average across Australia to be 30 per cent more prevalent in regional as opposed to metropolitan areas. That phenomenon would appear to bear out in

Queensland, with all 11 of the most food secure electorates falling in South East Queensland.

On average, Central and North Queensland have a 20 per cent higher likelihood of food insecurity than the rest of Queensland (noting that the rest of Queensland includes other regional areas).

By contrast, residents of Leichhardt, the federal electorate covering Cairns and Cape York are on average twice as likely to experience food insecurity as those living in the federal electorate of Brisbane.

There are pockets of marked disadvantage in Central and North Queensland

In addition to the broader trends indicated by analysis of the six northern and central Queensland electorates, the McKell Institute analysis has demonstrated that there are some areas within the region which have a very high risk of food insecurity.

MOUNT MORGAN

The mines that operated for a century around the Dee River at Mount Morgan, to the west of Rockhampton, were once so lucrative that the fortune they produced contributed to the birth of BP. Mining ended in 1981 and today the town, 40km to the west of Rockhampton and in the electorate of Flynn, has a population of just over 2,100 and a *Food Insecurity Index* score of 0.88.

RAVENSHOE

Ravenshoe (locality population 1,442) is on the Atherton Tableland, 118km from Cairns. Like much of the Region, its key industries have changed in recent decades with a federal government decision to end logging in 1987 being bitterly opposed by local timber getters. The town in the federal electorate of Kennedy, has a *Food Insecurity Index* score of 0.80.

COLLINSVILLE

Collinsville, in the electorate of Capricornia, is on the edge of Queensland’s Bowen Basin 1,254km from Brisbane and 87km inland from the coastal town of Bowen with its two major coal export ports. Despite the wealth of the broader region, inequality remains an issue. Collinsville recorded a *Food Insecurity Index* score of 0.61.

Good food is more expensive in Regional Queensland

Exacerbating the trend of a greater vulnerability to food insecurity in North and Central Queensland is a separate phenomenon: that good food is dearer away from the capital cities.

While there is no comprehensive index of staple food pricing in Australia, the greater transport

costs and lower levels of competition in the regions mean that higher pricing for the same good food can consistently be observed.

A 2007 study published in the *Medical Journal of Australia* found that a healthy food basket was on average 29.6 per cent more expensive in remote and very remote areas of Queensland, the baseline for remoteness being a distance of 1,500km or more from Brisbane. Perhaps most concerning, the price difference was greatest for key staples, dairy foods being 37 per cent more expensive and bread and cereals 46 per cent dearer, while for unhealthy foods, the price gap was only 14 per cent.<sup>28</sup>

That result was essentially replicated in a 2010 Queensland Government Survey which found that food was, on average, 26 per cent more expensive in very remote areas than in Brisbane and 38 per cent dearer in remote areas. The counter-intuitive finding – that very remote areas are not as dear as those that are simply “remote,” may be explained by the presence of IBIS (Island Industries Board) Stores, a Queensland Government statutory authority which operates community supermarkets serving Torres Strait Islander communities in the Northern Peninsula Area (NPA) of Cape York and in the Torres Strait.<sup>29</sup>

Obesity rates are higher in Regional Queensland

High consumption of unhealthy foods is a significant contributor to obesity and fast food, known for its large proportions and high sugar content, is directly correlated with increasing rates of obesity.<sup>30</sup> The past few years have seen increasing rates of obesity in the Australian population with obesity rates in Townsville rising faster than any other region in Australia over an eight year period.<sup>31</sup>

Analysis showed that Mackay in Queensland is the heaviest community with around 83 per cent of adults overweight or obese in comparison to a State average of 64.3 per cent and a Greater Brisbane average of 62.9 per cent.<sup>32</sup>





## PART THREE: FOOD RELIEF IN CENTRAL AND NORTH QUEENSLAND

Australia has a number of food rescue organisations with three major players: Foodbank, SecondBite and OzHarvest making some claim to national coverage.<sup>33</sup> Foodbank is the largest, estimating it distributes 70 per cent of rescued food in Australia through warehouses in all state capitals and a number of regional centres.<sup>34</sup> The Federal Government funds food relief through the Department of Social Services. In 2018 a funding envelope of \$6 million was provided to support the three agencies for the period 1 January 2019 to 30 June 2023.<sup>35</sup>

In addition to that core federal funding, Foodbank receives Queensland Government funding of \$1.2 million per year to provide school breakfast programs in locations across Queensland, including schools in central and northern regions. OzHarvest received \$294,000 in Queensland Government funding in 2018 for the purchase of vehicles to assist in its core food relief function.<sup>36</sup>

Outside of these core funding sources, food relief providers source additional funding from grants and philanthropic donations. In North Queensland, a number of food relief providers work with local charities to provide food support:

In **Cairns**, OzHarvest operates a volunteer network providing some food relief.<sup>37</sup> Anglicare North Queensland, an unfunded agency run largely by volunteers, also provides food relief, utilising food provided both through the OzHarvest network and through Foodbank.

Anglicare North Queensland also works with Foodbank Queensland to provide food relief in **Mackay**. In May this year, Anglicare opened a volunteer run shop front in Wood Street, Mackay. The Anglicare shop takes donated goods from Foodbank, Coles and other sources and sells them

at low cost to people in need.<sup>38</sup> Neither Cairns nor Mackay has the established warehouse necessary for large scale food relief.

In **Townsville**, Food Relief NQ operates an 800 square metre warehouse and accepts local donations for distribution to the needy.<sup>39,40</sup>

In addition to the food rescue sector, both the State and Federal Governments provide small amounts of funding for charitable organisations to assist people in desperate circumstances to purchase food.

The Queensland Department of Communities provides up to \$3,000 a year to each of its Neighbourhood Centres for the provision of emergency food relief. With such a small quantum of funding, Neighbourhood Centres must exercise extreme caution in funds distribution. The genuineness of cases is carefully verified and funds are generally only provided in conjunction with financial advice.

The Federal Government provides funding for similar purposes but again, funds are extremely limited and assistance is provided in the form of food vouchers.



## FOOD RELIEF NQ<sup>41</sup>

**Food Relief NQ is a Townsville based food relief agency established in 2002.**

Operating from a donated 800 square metre warehouse, the charity accepts donations from local wholesalers and retailers as well as purchasing some food. It mainly distributes non-perishable foods, though it does have some refrigeration capacity and so provides limited stock of fruit, vegetables and meat.

It distributes supplies through local charities including St Vincent de Paul, the Salvation Army and NQ Combined Women's Services and provides a service beyond Townsville to the Whitsundays, south west to Winton and out to Mt Isa.

The organisation receives no government funding, instead relying on a network of local sponsors including co-founder Brad Webb, a successful local businessman, a network of Rotary clubs and an enthusiastic band of volunteers.<sup>42</sup>



PHOTO COURTESY OF FOOD RELIEF NQ.

### Disaster relief

Between 25 January and 14 February 2019 a monsoon trough sat over North and North West Queensland, dumping prolonged heavy rain and causing flooding across 100 million hectares, 56 per cent of the landmass of the state of Queensland.<sup>43</sup> Parts of the North West stretching to the Gulf of Carpentaria became an inland sea which was in parts 70km wide. The water cut all access in large areas; killed, by drowning or subsequent starvation, as many as 600,000 head of beef cattle, and had a devastating effect on the natural environment.<sup>44</sup>

Townsville received 1250mm of rain, a one in 500 year flood event. 3,300 homes were fully inundated, with another 8,500 being flood affected. 1,000 people took shelter in evacuation centres.<sup>45</sup>

The city was isolated by road and rail with links to the north, south and west being cut.

Five people died as a result of natural disaster, three by drowning (though one was never found) and two subsequently as a result of melioidosis – a bacteria that arises in soil following floods.

The human cost was spread across a large swathe of the population. By the end of March 116,000 people had applied for personal hardship assistance and 62,248 had received psychological first aid through the Salvation Army, Lifeline or the Australian Red Cross.<sup>47</sup>

In work conducted for the Queensland Reconstruction Authority in the months after the event, Deloitte estimated the total economic cost of the disaster including damage to homes and businesses, damage to public infrastructure and health, wellbeing and community impacts (the largest component) to be \$5.68 billion.<sup>48</sup>

It is widely recognised that the human impact of natural disasters lasts far longer than the initial recovery phase. Processing insurance claims and rebuilding can take years, affecting housing, education and employment outcomes.

### In North Queensland, disasters happen all the time

The February 2019 Monsoon Trough, though significant in its scale, was not an entirely unusual event.

Queensland is the most natural disaster prone state in Australia with around 60 per cent of Australia's natural disaster related costs being borne by the state.<sup>49</sup> Within Queensland, the regions of North, Far North, North West and, to a lesser extent, Central Queensland are particularly vulnerable to natural disasters.

Queensland's 2017 Natural Hazard Risk Assessment identified seven key hazards to which the state is most vulnerable: Tropical cyclones, riverine flooding, bushfires, severe weather, earthquakes, heatwaves and coastal inundation. North Queensland is vulnerable to all of them with the top two risks, Tropical cyclones and riverine flooding being of particularly high risk in the north of the state.<sup>50</sup>

That prevalence of natural disasters was borne out during the monsoon trough. Of the 39 local government areas (LGAs) affected by the monsoon trough, all had had at least one natural disaster serious enough to trigger federal funding arrangements (through the Disaster Relief Funding Arrangements DRFA or Natural Disaster Relief and Recovery Arrangements NDRRA) in the previous 12 months and had been impacted by at least five natural disaster events since Queensland's "summer of disasters" in 2011/12.<sup>51</sup>



In the six month period in which the monsoon trough occurred, other North Queensland natural disasters included:

TABLE 3.1 NORTH QUEENSLAND NATURAL DISASTERS SEPTEMBER 2018 – MARCH 2019<sup>52</sup>

EVENT	DATE
Severe Tropical Cyclone Trevor	19 – 27 March 2019
North and Far North Queensland Monsoon Trough	25 January – 14 February 2019
Tropical Cyclone Penny	24 December 2018 – 4 January 2019
Tropical Cyclone Owen	9 – 17 December 2018
Mareeba Tablelands Bushfires	17 September – 9 October 2018

Source: Deloitte Access Economics

In addition to the physical threat, natural disasters bring about both public and private costs. The ACCC reports that in the decade 2008 to 2018, insurance premiums in North Queensland started out higher and grew at a faster rate, increasing by 130 per cent for the region compared to an average growth across the country of 50 per cent.<sup>53</sup>

The Commission’s Northern Australia Insurance Inquiry, which commenced in July 2017 and was ongoing at the time of writing, has made preliminary findings that while the insurance market is highly concentrated in Northern Australia (as it is much of the country), there is no evidence of gouging. Rather, the premium hikes reflect a move towards individual rather than pooled risk assessments and, perhaps more concerningly, the actual risk.

That risk, when exacerbated by escalating climate change, is likely to increase the need for food relief by placing greater strain on household budgets for those in a position to retain insurance and increasing the possibility that people will be uninsured during disasters – a situation which would inevitably push more people into financial crisis.

How is food provided when a disaster happens?

During natural disasters food supplies can rapidly become stretched, a problem which is particularly acute in North Queensland given its distance from the capital and major distribution centre of Brisbane.

The Bruce Highway, the major route connecting Brisbane with coastal population centres routinely floods during periods of heavy rain, leaving cities to be resupplied by air or sometimes hastily arranged barge.

While Queensland has not yet experienced an incident of a major city being completely cut off from access to foodstuff, the question of resupply continues to require serious attention, particularly given the fact that food, unlike a number of other essential goods and services, lies entirely in the purview of the private market.

Following the 2011/12 summer of disasters, the Federal Government’s Department of Agriculture, Forestry and Fisheries undertook a detailed review *Resilience in the Australian Food Supply Chain*.

The key question it asked was whether following a natural disaster or major disruptive event, Australians in affected regions would go hungry. It found that while food supply systems during Queensland’s summer of disasters had been “severely tested,” people had not gone hungry, partly as a result of good systems and partly thanks to individual initiative on the ground and strong leadership.

***Critically, however, it found that the risk that Australians could go hungry following a natural disaster was growing, especially if separate events in Australia’s eastern states were to coincide.***<sup>54</sup>

The Commonwealth Review made a number of important observations about the vulnerability of Australia’s food supply chain, pointing out that whilst Australia is a net exporter of food, that does not mean it is self-sufficient across critical foodstuffs. Further, it noted that the food supply chain has become longer with the local suppliers that once dominated the fresh food supply in areas such as dairy, fruit, vegetables and meat now frequently being replaced by interstate supplies.<sup>55</sup>

Food supply, unlike that of a number of other essential goods, rests almost entirely in the private sector. While there was no critique of private providers’ willingness to participate in the 2010/11 floods, the Commonwealth Department of Agriculture Review noted that this goodwill could not necessarily always be relied upon. In interviews conducted for the Review, the Department was advised by industry participants that it may in future “exhibit limited willingness to contribute to broader community welfare objectives, because it does not perceive this as its role.” One food company representative interviewed clearly stated that food companies’ “duties are to their shareholders,” not to the broader public good.<sup>56</sup>

While significant disaster coordination improvements have been made since the 2010/11 events, the Commonwealth noted that the potential for poor coordination between the public and private sectors flowed both ways.

Some public officials interviewed, particularly those at lower levels, appeared to have little understanding that even in times of natural disasters, companies would not simply give goods away.<sup>57</sup>

THE COMMONWEALTH REVIEW IDENTIFIED OTHER CONCERNING TRENDS INCLUDING THAT

- 1 The ADF had limited capacity to distribute food on a large scale, a fact that appeared to surprise many involved in the disaster response.
- 2 That many people, particularly the young, did not tend to keep stores of food or lacked the food literacy that would allow them to make do with the food supplies and resources available. It did not occur to many people, for instance, that they could still cook if their electricity was cut off but they had a barbecue.
- 3 That parts of Queensland become cut off by road quickly and frequently and that those outages can cut off food supply even in areas well outside the disaster zone.

For the purposes of this Report, the Commonwealth Review made one key observation<sup>58</sup> –

“THE QUEENSLAND EXPERIENCE SUGGESTS THAT SOME ADDITIONAL STORAGE CAPACITY IN FAR NORTH QUEENSLAND IS DESIRABLE IN TERMS OF RISK MANAGEMENT FOR FUTURE EVENTS.”





## THE NORTH & NORTH WEST QUEENSLAND MONSOON TROUGH FEBRUARY 2019

The 2019 Monsoon Trough created a prolonged period of heavy rainfall across North Queensland.

At 1,679km, the Bruce Highway is North Queensland's critical arterial but despite ongoing remediation efforts, it remains vulnerable to flooding at dozens of points between Brisbane and Cairns.

With the highway cut and emergency buying ensuing, there were media reports of supermarket shelves stripped of critical supplies from Airlie Beach near Mackay to Port Douglas, north of Cairns.<sup>59</sup>

Food supplies were ultimately delivered to Townsville by hastily arranged barge.

In the wake of the natural disaster, Woolworths announced it would invest \$20 million in its local store network and distribution centre.<sup>60</sup>



Olivia Grace-Curran  
@livgracecurran

One sad and lonely iceberg lettuce left, but no potatoes at Woolworths in Airlie Beach, as floods cut freight routes from TSV. I'm told two trucks are en route from BNE, but there are fears they will not make it if flooding cuts the Bruce Hwy sth of Proserpine. @9NewsQueensland



10 11:38 AM - Feb 4, 2019

Source: <https://www.theguardian.com/australia-news/live/2019/feb/04/queensland-flooding-thousands-of-homes-in-townsville-under-threat-as-waters-rise-live?page=with:block-5c57b173e4b0d86c564385d7><sup>62</sup>



## QUEENSLAND'S SUMMER OF DISASTERS & THE ROCKHAMPTON FLOOD

JANUARY 2011

In 2010/11 Queensland experienced a rolling series of natural disasters from floods in Toowoomba and the Lockyer Valley which killed dozens of people to Tropical Cyclone Yasi, a Category 5 cyclone which crossed the coast south of Cairns, having originally been projected to directly hit the city itself.

Nearly three quarters of the state was disaster declared.

Among the worst hit areas in the rolling disaster was Rockhampton.

The military were called in to deliver food to Rockhampton as flooding caused the city of more than 75,000 people to be cut off by road, rail and air for nearly two weeks in early 2011.

The airport was closed for three weeks.<sup>63</sup>

Tarmac goes under water at  
Rockhampton Airport



Source: ABC News, 2 January 2011

## DISASTER PLANNING: NORTH QUEENSLAND<sup>64</sup>

As a result of its high risk of natural disasters, Queensland has disaster management structures which are internationally recognised as being among the world's best.<sup>65</sup>

A well-established legislative framework provides for a State Disaster Management Group with devolved responsibilities to Local Disaster Management Groups comprising representatives from all three levels of government.

In Townsville, local response activities are conducted from the Townsville City Council Local Disaster Coordination Centre, an \$8.5 million largely council funded facility which opened in December 2018.

Disaster preparedness planning includes regular community education on issues such as evacuation points and household disaster planning including a pantry list.





## CONCLUSION

This report has set out to answer two questions – what is the level of food insecurity in Central and North Queensland and how does the region ensure provision of food to all people, both in normal times and during the natural disasters which occur with increasing regularity there?

To answer the first question, the Mckell Institute has developed a bespoke economic measure, the *Food Insecurity Index*, a measure that takes a series of measures known to correlate with food insecurity such as low income, sole parenting and disability.

When applied to Central and North Queensland, the Index produces a stark result; Central and North Queensland are on average 20 per cent more likely to experience food insecurity than the rest of Queensland combined. Every Central and Northern electorate is in the worst half of the State for food insecurity whereas all of the most advantaged electorates lie in the South East.

Despite this relevant disadvantage, Central and North Queensland has only limited provision for food relief. Just one organisation, Food Relief NQ, has the warehousing capacity necessary to rescue and redistribute food and its primary focus is on packaged foods. In centres away from Townsville some small scale food rescue and relief is available but it is unfunded (as is Food Relief NQ) and on a scale far too small to manage the vast scale of the region or its relative food insecurity problem.

This leaves the area vulnerable to food insecurity at the best of times.

In addition to that relative general disadvantage, Central and North Queensland are notoriously vulnerable to natural disaster, being regularly afflicted by cyclones and flooding rains. While there has not yet been an instance of a community going hungry during a natural disaster, the long supply chain involved in feeding the North creates a vulnerability which has been acknowledged by the Federal Government but not addressed.



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