

# **A Case Study of Alternative Food Systems in Northern Queensland: The Role of Food in Sustainable Regional Development**

## **Introduction**

Food holds immense cultural value and food is not simply a means to meet people's need for nourishment (Rodale 2010). Interest in alternative food systems (also known as alternative agro-food networks) emerged in the 1970s with the rise of environmental movement (Beuss and Dunlap, 1990). There has been a rapidly expanding academic literature on alternative food networks, (see Renting, Marsden, and Banks, 2003; Goodman, 2004; Fegan, 2007; Maye et al. 2007; Coz et al., 2008; Harris, 2009; Little et al. 2010), a concept which has come to symbolise quality, regional identity and environmental sustainability. Organic<sup>1</sup> and local foods represent different ways of conceptualizing sustainable food systems (Selfa et al., 2008). Alternative food networks are highly diverse and four types have been identified: producers as consumers (i.e. community gardens), producer-consumer partnerships (i.e. Community Supported Agriculture), direct sell initiatives (i.e. farmers markets, farm gate sales, box schemes) and specialist retailers (i.e. online grocers). Localised food supply chains have been linked with rural development (Marsden and Sonnino, 2005), regional tourism development (Du Rand, Heath and Alberts, 2003), community development (Ikerd, 2002; Robinson, Robinson, Carpio and Hughes, 2009) and social capital building (Cocklin, 2005; Seyfang, 2006).

In Australia, however, agricultural policies favour intensive, productivist-based, non-subsidised agriculture within a free trade world market (Argent, 2002; Bjorkhaug and Richards, 2008). Productivist agriculture involves employing factors of production such as land, labour, water and so on in order to increase productivity (Gray and Lawrence, 2001). Furthermore, the readiness to accept agricultural biotechnology and benefits of genetically modified crops (Dibden, Gibbs and Cocklin, 2013) has led to alternative farming models, such as organic farming, being marginalised. The Australian government has shown little interest in organic farming (Wynen and Fritz, 2007). It has been observed by Dibden and Cocklin (2005: 148) that there is an "increasingly apparent incompatibility between deregulated, competitive, intensive agriculture and the notion of rural

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<sup>1</sup> Organic foods are produced in an environmentally sustainable way, do not involve the use of pesticides and chemical fertilisers, do not contain genetically modified organisms, are not processed using irradiation, or chemical additives and flavourings (Biological Farmer's Association, 2012).

sustainability.” It has been argued that Australia’s neoliberal, market-based approach to agriculture (which is supported by the National Farmers’ Federation), will continue to compromise the environment in a period of climate change and will endanger national food security (Lawrence, Richards and Lyons, 2013). However, others argue that genetic engineering supports increases in agricultural productivity and will improve food security (Henry, 2013). All of this raises issues for local communities, how to develop local food systems and influence government policy.

While the adoption of intensive, productivist-based agriculture runs counter to the philosophy of alternative food systems, there is support for the sector at state level. In the National Food Plan *Our Food Our Future* (2012), it is acknowledged that the food system is just not about high-yield agriculture and exports and that the local food economy, including farmers’ markets, food sharing networks and community gardens, needs to be supported (Australian Government, 2013). The Queensland Food Strategy, *Food For a Growing Economy*, (DEEDI, 2011) sees food systems as fragile due to natural disasters; it is stated that community-based food production is one way of building resilient communities and more resilient local food supply chains.

### **Objectives of Study and Research Method**

Although there is a vast literature on alternative food systems, the research from which this article stems was motivated by the perception of key shortfalls in the academic work to date. Local food research has typically been dominated by rural sociology and geography literature and the focus of these studies has been on producers and producer-networks (Paloviita, 2010). Much of the research on alternative food systems has taken place in a European context (Venn et al., 2006; Renting, Marsden and Banks, 2003) and North American context (Selfa and Quazi, 2005; Lyson and Guptill, 2004). Comprehensive data on alternative food systems is lacking because these practices are so broadly defined (Goodman, 2004) and also because examples of alternative networks of food supply are highly localised, ephemeral in nature, and many exist without broadcasting their existence over the internet or through the print media (Venn et al., 2006: 253). There has been extensive research on the demand side with respect to consumer attitudes towards organic food (Essoussi and Zahaf, 2008) and there is a small but growing literature on the factors influencing the propensity of consumers to purchase local foods (Cranfield, Henson and Blandon, 2012). Surprisingly little is known about whether or not alternative food systems are being incorporated into community plans and regional development strategies in Australia. Australian studies have investigated the effectiveness of state effort in assisting the infant

organic sector (Daughjerg and Halpin, 2006); the usefulness of certification for AAFNs expanding beyond direct marketing (Higgins, Dibden and Cocklin, 2008) and researchers have been highly critical of the state's engagement with productivist agriculture and its ramifications for natural resource and food security (Bjorkhuag and Richards, 2008; Dibden and Cocklin, 2005; Dibden, Gibbs and Cocklin, 2013; Lawrence, Richards and Lyons, 2013). Research on the factors influencing consumers to buy organic food is growing (Pearson, Henryks and Jones, 2010). In response to gaps in the literature on alternative food systems, this paper presents a case study of Northern Queensland and takes a supply chain approach by engaging with growers, distributors, consumers and government officials.

The objectives are:

- (1) To profile the rise of alternative food systems in Northern Queensland
- (2) To evaluate the attitudes of consumers, community leaders and other stakeholders towards alternative food systems and perceptions of their contribution to local economic development and to community wellbeing.
- (3) To examine the barriers to development.

A case study method was used to highlight the role of alternative food systems in Northern Queensland. The information presented is based on interviews with 11 key informants drawn from the food chain such as suppliers, i.e. farmers, growers and food producers (2); the state sector such as the Queensland Farmer's Federation, Advance Cairns, Tablelands Regional Council (4) and distributors (5). In-depth research was conducted into three non-profit, veggie box schemes, *Real Food Network*, *Cooktown Food Connect* and a grass-roots movement, *Food for Thought*. The interviews are supplemented by participant observation at a not-for-profit food organisation, *Food For Thought*. This consisted of 6 documented meetings attended since its formation in 2010 to the year 2013. The group was made aware of the researcher's status and academic interest in alternative food systems. A consumer survey of 139 respondents was also used to gain insight into who buys local and organic food, why and what factors govern their food choices (see McCarthy and Murphy, 2012).

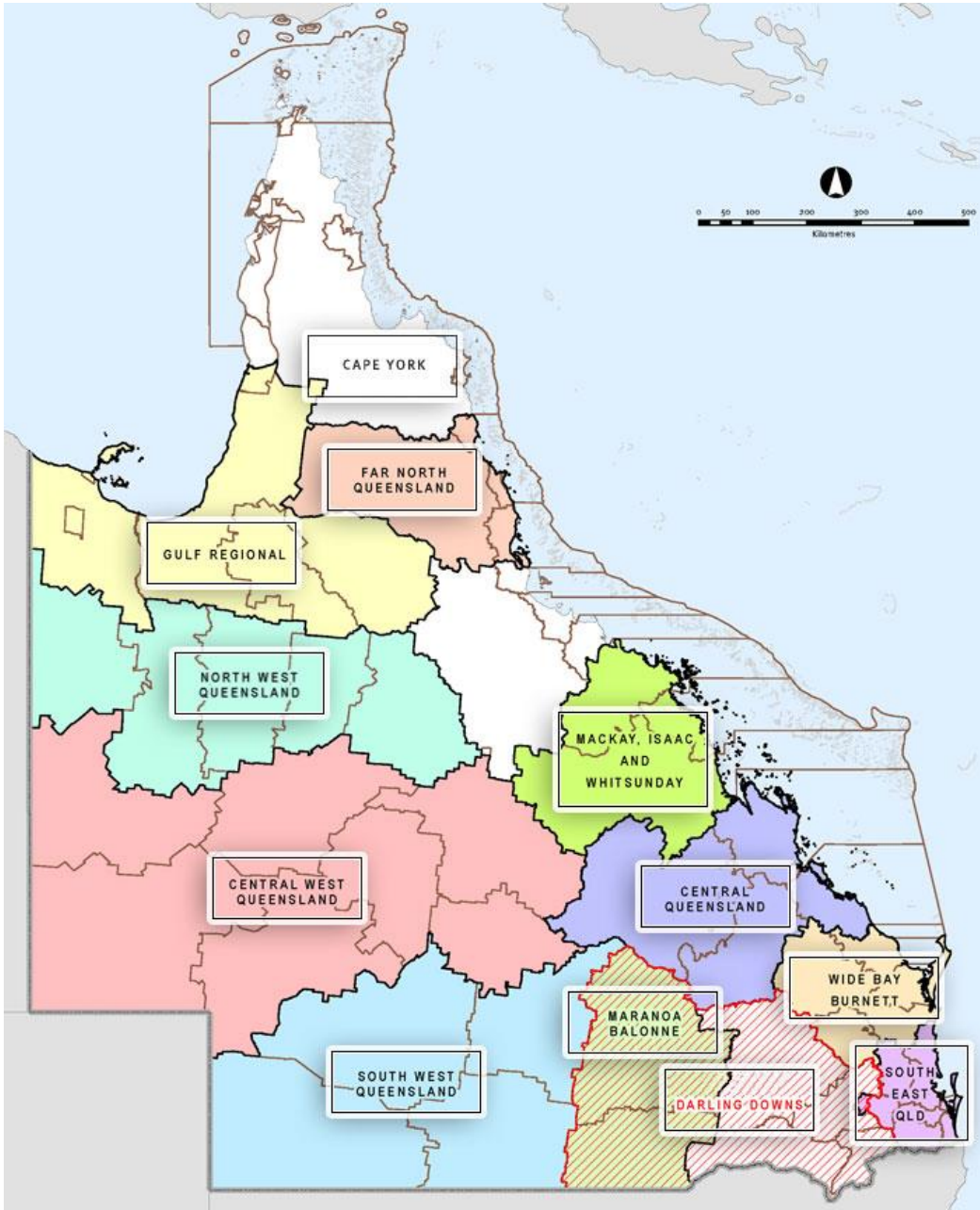
Secondary sources of data for this paper have been drawn from websites, policy documents and community plans. Under the *Local Government Act 2009*, every council is required to develop a long-term community plan which identifies community needs and articulates the Council's and community's long-term vision, aspirations and priorities. As this research is part of a larger project on community wellbeing, data was also drawn from three workshops on tourism &

community wellbeing held in Far North Queensland<sup>2</sup>. The study uses a qualitative, epistemological framework. The examples of alternative food schemes were chosen due to geographical proximity, prior knowledge and interaction with members of schemes. A decision was made to include examples from an urban region as well as a rural, remote area in order to gain some insight into successful and less successful initiatives.

**Figure 1: Regional Planning Areas, Queensland**

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<sup>2</sup>The workshop ‘Tourism and its contribution to Community Well-Being’ was facilitated by Professor Gianna Moscardo, Assoc. Professor Laurie Murphy, Dr. Nancy McGehee and Elena Konovalov.



Source: <http://www.dsdip.qld.gov.au/regional-planning/>

**Table 1: Northern Queensland: Overview of Case Study Region**

General characteristics	Case features
Key issues and concerns as identified in Community Plans	Wide ranging - including economic vitality & countering unemployment & socio-economic disadvantage; diversification of regional economy; pressure on infrastructure; health and aged care services; climate change & sustainable resource management; greater social inclusion and well-being; enhanced education; access to affordable housing; aging demographic; cultural vibrancy.
Organic & Biodynamic Producers & Retailers	Value-adding operations, including certified cheese and yoghurt manufacturing (Mungali Creek Dairy) and other specialty products (Jervoise Meats; Floravilla biodynamic ice-cream) exist in the Far North Queensland region. <i>The Tablelands Biodynamic &amp; Organic Farmers Co-op Access Organics</i>
Direct marketing	<i>Real Food Network.</i> <i>Cooktown Food Connect</i> <i>Food for Thought</i>
Not-for profit organisations/ campaigning groups that support alternative food systems	<i>Transition Far North Queensland (www.tfnq.org)</i> <i>Tableland LETS Local Energy Trading System</i> (a local trading and barter scheme/informal sector or ‘gift’ economy) <i>Kuranda Food Coperative</i> <i>Permaculture Cairns &amp; Permaculture Townsville</i> <i>Biodynamics Far North Queensland Inc.</i> <i>Weston A Price Food Chapter (Townsville)</i> <i>Landcare</i>
Federal level support	The Australian Government is investing \$1.5 million in the new <i>Community Food Grants</i> program under the National Food Plan.
Climate Change Initiatives	<i>Reef Guardian Farmers &amp; Graziers</i> program ( <a href="http://www.gbrmpa.gov.au/our-partners/reef-guardians">http://www.gbrmpa.gov.au/our-partners/reef-guardians</a> ) The <i>Farmready</i> program ( <a href="http://www.farmready.gov.au">www.farmready.gov.au</a> ) promotes access to sustainable farming courses.

## **Profile of Alternative Food Systems in Far Northern Queensland**

Regional characteristics considered important in terms of alternative food networks are described in Table 1 and a map of the area is presented in Figure 1. The characteristics of the case study region are discussed in the next section.

Agriculture makes an important contribution to Queensland's economy. According to the 2011 Agricultural Census, the number of businesses undertaking agricultural activity in Queensland was 28,401. The gross value of total agricultural production to Queensland was \$9.5 billion. Approximately 53% of Australian total land area was used for agriculture and Queensland had the highest proportion of land area, at 81% of state area (ABS, 2012). Far North Queensland has the richest and most diverse agricultural areas in the state. Sugar-cane growing and banana production dominates coastal areas. Dairying is a major farming activity on the Tablelands. Primary agricultural products are vegetables, tropical fruits and beef. A key objective is to maintain a profitable and sustainable agricultural sector in rural areas (Queensland Government, 2009).

The community plans reveal a wide range of issues and concerns, including countering unemployment; diversification of regional economy; pressures on infrastructure and climate change. Building on, and diversifying, an existing agricultural base is a key regional development objective. Historically, there has been a push by local councils to stimulate agri-tourism experiences in Far Northern Queensland (ABARE, 2010). Advance Cairns, the peak economic body in Cairns, produced a feasibility report into the potential for brand the Tablelands area as an 'Organic Precinct'. The report revealed that the sector was hampered by poor economies of scale – small producers, acting alone, could not supply the product in sufficient commercial quantities, so they had to add value to their product and differentiate it in order to make a reasonable margin (Advance Cairns, 2010).

Several certified organic and biodynamic producers exist in the case study region, and there are a growing number of specialist retailers in the region. For instance, *Access Organics* (<http://www.accessorganics.com.au/>) is a for-profit, home delivery service based in Cairns which supplies certified organic and biodynamic produce to consumers. The *Tablelands Biodynamic & Organic Farmers Co-op* was established in 2009 by a group of farmers who wanted a local outlet for their produce, such as free-range beef and pork, fruit and vegetables. One respondent remarked that local supermarkets don't tend to promote organic, biodynamic or local produce.

Direct marketing activity is well established in the region. As small growers find it difficult to access shelf space in local supermarkets, they sell through markets (Rusty's, Yungaburra, North Queensland Farmers' Market, etc), community markets, roadside stalls, veggie box schemes as well as to local restaurants and bed-and-breakfasts. *Real Food Network* is a subscription based, fruit and vegetable box delivery scheme (<http://www.realfoodnetwork.com.au>). It is an example of Community Supported Agriculture<sup>3</sup> (CSA); no one gets paid for their labour and the aim is to simply cover running costs such as petrol, phone and administration. The founder works with 86 local farming families, buys produce from them at a fair price and then delivers it to their customers. Key goals are to support local farmers; assist them in making the transition to organic or biodynamic farming; support sustainable land care practices; reduce transportation distance and carbon footprint.

*Cooktown Food Connect* is a social enterprise, consisting of a network of local farmers and gardeners, who produce chemical-free food for people in the Cooktown region. The goals were to provide access to healthy food, support local growers, build the resilience of the local economy and regenerate the agricultural landscape. The farmers live within a one hour radius of Cooktown and they are paid a fair price for their work and are required to grow to organic standards.

*Food for Thought* is a grassroots community group whose objective is to promote the availability and consumption of locally-produced (organic where possible) food in the Townsville / North Queensland region.

Various campaigning groups exist that support sustainable farming and some, such as Landcare and Permaculture Australia, can offer practical advice on pest and disease control.

At federal level, some support exists for alternative food systems. The Australian Government recently invested \$1.5 million in the new *Community Food Grants*

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<sup>3</sup> A CSA is a partnership between anyone who cultivates food and a network of subscribers who commit to receiving a regular box of produce, generally vegetables. Payment is made in advance to reduce financial risk for growers. Consumers support the farm financially but can perform other roles such as publishing a newsletter, recruiting new members, handling delivery. Although most CSAs try to regulate quantity and variety of produce, there is the expectation that subscribers will adjust to 'seasonal' eating.



program under the National Food Plan. Grants were made available in 2013 for farmers markets, community gardens, city farms or similar activities. At local level, the councils support alternative food systems by providing small sums of money (i.e. for the purchase of equipment such as cold rooms) or by making public spaces available for markets.

Climate change poses a serious threat to region, with the Garnaut *Climate Change Review Report* (2008) warning that Queensland is one of the most threatened regions in Australia due to potential impacts on the Great Barrier Reef and Wet Tropics World Heritage areas. Changes in temperature and increased frequency or severity of cyclones could have significant impact on the agricultural and tourism sectors. Natural disasters, such as the Queensland floods of 2010-11 and Cyclone Yasi in 2011, are estimated to have cost \$1.7b in lost agricultural commodities.<sup>4</sup> The damage caused by cyclone Yasi contributed to a decrease of 35% in Queensland's banana production (ABS, 2012). Climate change initiatives have been developed. The *Reef Guardian Farmers & Graziers* program (<http://www.gbrmpa.gov.au/our-partners/reef-guardians>) was started in 2003 and aims to get growers, mainly sugarcane and banana-growing, to reduce agro-chemical run-off in the Great Barrier Reef catchment area. The *Farmready* program ([www.farmready.gov.au](http://www.farmready.gov.au)) promotes sustainable farming; it means that eligible farmers and land managers are fully reimbursed for the full cost of courses on sustainable practises once completed. The program is aimed at all farmers, conventional or alternative.

## Data Findings

### General attitudes towards food, farming and alternative food systems

The following sector reports findings from a diversity of sources and it shows that the local community has identified an opportunity to develop alternative food systems. The data findings are shown pictorially in Figure 2. This diagram shows the multi-dimensional aspects to alternative food systems, their economic, environmental and social characteristics.

Out of seven community plans analysed, only three identified local food supply as an important issue. The *Cookshire Community Plan* identified improving local food supply as an opportunity and a means to contribute to community self-reliance and resilience. In the *Tablelands Community Plan* (2011-2021), community markets were seen as key strategies to reduce 'food miles' and

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<sup>4</sup> Minister for Agriculture, Food and Regional Economies, 24 March 2011, quoted in DEEDI (2011) *Food for a Growing Economy*.

develop economic self-sufficiency along with social opportunities. There was some support for restorative farming practices (e.g. permaculture, biodynamic farming) as viable alternatives to the use of chemical fertilisers. Encouraging local supermarkets to sell local fresh produce was also mentioned. In addition, the farming way of life and the rural landscape were amongst eight highly valued aspects of living in the Tablelands. The *Cassowary Coast Region Community Plan* (2011-2021) identified the need to protect prime agricultural land and encourage sustainable farming. Support of locally grown food was identified as a key goal in the document. The *Tropical North Queensland Regional Economic Plan for* (2011) highlighted the importance of agriculture as part of the lifestyle appeal of the region, its significance of food security and its contribution to sustainability by reducing food miles. A key goal was to enhance supply chain efficiency and demand creation for local food.

At *Food for Thought* meetings, there was clear support for alternative food systems due to better food quality, health and environmental benefits. People were encouraged to share excess produce that they grew in their back gardens and this was designed to reduce food waste. Achievements included the set-up of a local veggie box scheme, a permaculture community garden, and the establishment of a farmers' market with help from the local council. Advocacy and education, in the form of workshops, seminars and movies, was seen as a key goal. The farmers' lack of power vis-à-vis the supermarkets was a cause of concern and the "anti-Woolworths" discourse was evident in group discussions. Like all regions in Australia, Townsville and North Queensland is largely dependent on food sourced from the central markets, notably Brisbane. The dominance of Coles and Woolworths and their practice of trading food via centralised markets and distribution systems were highlighted at meetings. There was opposition to the move by Woolworths to acquire IGA stores in the city as it would restrict consumer choice. The consumer survey of their members (McCarthy and Murphy, 2012) revealed that in making food choices, the following factors were important to them: product freshness and taste; whether food was produced locally or regionally; coming from small-scale ecologically sound farming practices; sourced within season, environmentally friendly and carrying the fair-trade label. The consumers were generally female, well-educated and affluent. They were political consumers and willing to engage in boycotts and sign petitions.

Data from the community workshops revealed that local food was one factor linked to community well-being (albeit one factor in a long list of factors). One comment was that the state government was not supporting the shift to local food. Foreign supplies or imports of food along with lack of investment in agriculture

were seen as three factors that destroy capital in the community. Farm-stay and agri-tourism were identified as builders of capital, along with food brands, community gardens and food trails. Access to quality food and tropical fruit and vegetables were listed as things that could help improve local quality of life.

Interviews with key informants showed negative attitudes towards conventional agriculture and a strong support for alternative food systems. One respondent (W) was interested in establishing a local, organic, delivery scheme due to her personal ethics. As a farmer, she was not interested in putting “poison on food” and didn’t believe that acceptable levels of chemicals existed or that they were reliably tested. Conventional agriculture was a global business system that was “totally reliant on fossil fuels” and contributed to global warming. She wanted to gain access a market for locally grown food and simply make a living off farming. Another respondent talked about the rising costs of inputs so turning to organic fertiliser made good business sense for farmers. Community resilience was identified as one benefit of developing local food supply. During the wet season in Far North Queensland, roads and train lines become flooded and supermarkets quickly run out of supplies. Local food supply was seen as a key part of a disaster management strategy. She objected to the term ‘alternative’ suggesting that it had ‘hippy’ connotations and implied the non-mainstream when in fact the local growing of food takes place all around the world. It was emphasised that expenditure in the local supermarket leaked out of the community and that a ‘buy local’ policy contributed to local economic and community development. Reservations were expressed: there was a small segment of consumers who were strongly committed to buying local and chemical-free foods; there was a segment who espoused the rhetoric but wanted the convenience of one-stop shopping, and a much larger segment of consumers who were indifferent and continued to shop at supermarkets.

The *Real Food Network* was described as a “gift” to the local community. The spokesperson from this network (J) believed that what they were doing was the exact opposite of what was happening in the conventional food chain. They had aspirations for a more environmentally sustainable agricultural system to mitigate climate change, peak oil and food miles. They paid farmers what they wanted and were not interested in making profit. He described their efforts as follows:

“...the new food paradigm, a holistic food paradigm, all about innovating, back to where our grandparents were, it’s about real food, organic food....putting farmers first...food security. In this region, we can grow 85% of all fruit and vegetables in the world - that is really unique. It’s social innovation, not a business-as-usual model.”

The respondent noted that although their local veggie box scheme didn't generate employment and didn't tick the right boxes for officials, but they "keep farmers on the land" and sustain rural livelihoods. In contrast to conventional food supply chains, local food supply was driven by ethical principles shown by the concern over food miles and desire to pay fair prices to farmers. The vulnerability of farmers in dealing with powerful supermarket chains, such as produce being turned away from warehouses if it was delivered late or not up to appearance standards, was mentioned and used as an example of abuse of power by large supermarkets. One respondent told a story about the price inflation of bananas after Cyclone Larry, where bananas rose from about \$2 a kilo to \$12 a kilo in supermarkets. However, local stall-holders in the market were still selling bananas at regular prices and did not want to take advantage of the disaster – it was only the commercial growers that sought the best possible price for their produce. This behaviour was at odds with the laws of supply and demand. Thus local food systems allow consumers to operate in a more ethical way and demonstrate their commitment to fair trading and show their opposition to supermarkets.

Some reservations were presented. One respondent (W) highlighted the costs of organic certification, saying that small growers couldn't afford the fees; as a result they asked their growers to supply chemical-free produce and expected them to adhere to the standards. Another network, *Food for Thought*, adopted the same approach, where they worked on the principle of trust and knowledge of growers. One respondent (S) a food producer, found that when their enterprise was established, consumers were indifferent about organic food and that "North Queensland was slow to jump on the organic food bandwagon", but over time, as people become more informed, in particular families with children, the sector showed growth. Organic farming, when compared with conventional, was described as a more sustainable, more holistic, long-term approach to production. Chemicals were said to strip nutrients out of the soil, and may provide a short-term solution, but long-term, was detrimental to the soil, the grass, the animals and the produce. Aerial spraying of chemicals was still practiced in the Tablelands, so certification was seen as critical to securing credibility.

The role of non-profits, such as Permaculture Australia, was seen as vital in helping people make the transition from conventional to organic production. One respondent mentioned that while there wasn't a big grassroots movement in the Tablelands (Slow Food Australia and the locavores/100 miles diet movement being absent) there was a lot of interest in local food supply and concern about long distance transport of produce.

Another respondent (J), a farmer, had very positive attitudes towards local food systems citing a fresher product, lower costs for farmer, affordable fruit and vegetables for the average family, less food miles and reduced carbon footprint. It was a system that benefited the family-owned farms as it allowed them to cut costs, such as labour, transportation, packaging and refrigeration costs, which were involved in supplying food to the Southern markets. It gave them far more control over the supply chain as they did not have to supply produce by a certain date and time and were not required to adhere to the supermarket's specifications. He found a "huge gap" between what the supermarket chains told him consumers wanted and what consumers really wanted. Local food supply brought the farmers into direct contact with the consumer and allowed them to uncover the consumers' genuine needs and their likes and dislikes.

Two key informants showed support for conventional agriculture. It was proposed that all farming systems – be they local, organic or conventional - make an important economic contribution to local regions and economies. All farmers faced similar challenges - such as declining terms of trade and lack of power in the distribution channel - irrespective of the type of farming adopted. It was remarked that sustainable farming can be approached in a number of different ways and Queensland's farming systems were among the most modern and sustainable in the world.

### **Barriers to the development of Alternative Food Systems**

The struggle to get a local food supply venture off the ground was emphasised on several occasions. The volunteer nature of the enterprise meant that people risked burn-out after a short period of time. Being able to pay people for their time would have eased pressures. One respondent remarked that it "was a struggle for two years and I'm totally fatigued by it", and she lamented the fact that government assistance was not available. For two other respondents, the lack of government support was not seen as a barrier to the development of the sector. Farming requires hard work, stoicism and resilience, and perhaps farming families were less likely to seek out government support as a result. According to one respondent (S), they were not aware of any government support and didn't expect it:

"We tend to act like an island. Our businesses are community-based but we work alone, we are stoic by nature, the attitude is, we can do this on our own, that's an inbred Australia trait."

The challenges faced by farmers, such as the long hours, the difficulty in making a living out of selling food, the diminished farm gate price and the aging demographic, were all highlighted in interviews. One respondent claimed that farmers were working for \$5 an hour and it was not surprising that young people were leaving farming. It was noted that very few small farmers are totally reliant on farming for their income. One respondent noted that Coles decision to sell milk at milk as a loss leader (at \$1 dollar a litre) “was killing farmers slowly”. However, farmers had no ability to influence what was happening outside of the region, were not in a position to negotiate better prices and were subject to external forces. However there were two examples of farmers’ cooperatives, farmers working together to overcome barriers and strengthen their negotiating power with a supermarket. In order to sell direct to Coles in the local area, they had to convince the supermarket of continuity of supply and ability to supply in the volumes required.

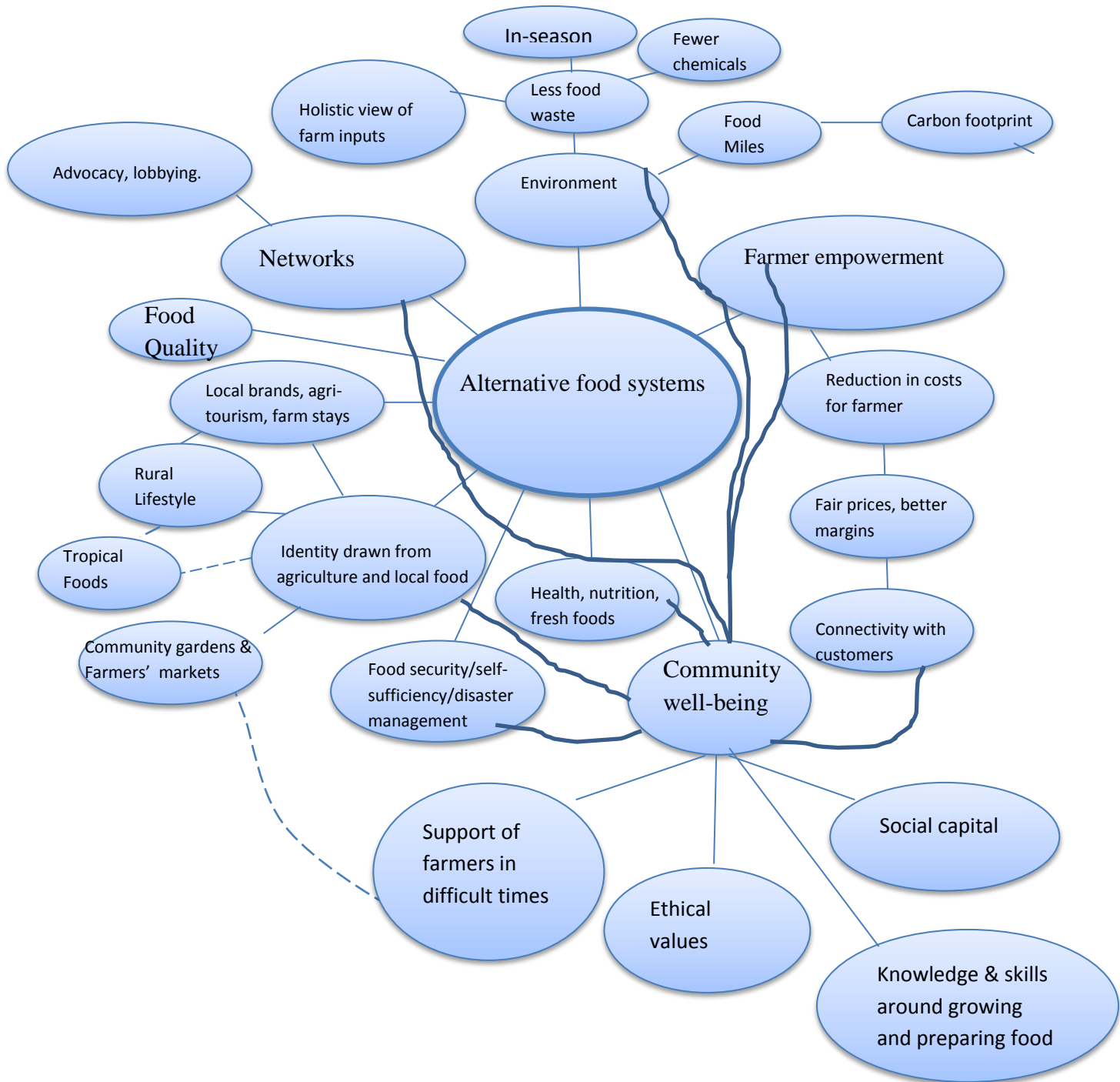
Lack of supply was a problem. Some farmers engaged with both conventional and local supply chains and the larger farmers only engaged with local supply chains if they had surplus produce or if market prices were low. Customers wanted a diversity of produce and the convenience of a one-stop shop. Due to limited variety of produce, one food supply scheme failed to attract a large customer base. Consequently, the growers didn’t earn enough money to cover the cost of fuel and to justify the time and effort involved in delivering the produce locally. The founder remarked: “If we sold more, we’d have more suppliers”. It was a system that favoured the smaller growers – and backyard growers - who saw selling locally as a way to ensure a sufficient livelihood, rather than as a way to make a profit; the medium-sized and large growers were not interested in selling to local markets as the return didn’t justify the time and effort involved (i.e., invoicing). The current logistics system was based on large, less frequent volumes to one central market (Brisbane) and back again to the region. Even though this implied more travel time, refrigeration and fuel cost, it was accepted by supermarkets and guaranteed large volumes and a stable supply of produce. In addition, one respondent remarked that commercial growers “don’t have an appetite for local food supply” for a number of reasons: they were locked into existing contractual arrangements or were loyal to existing relationships; many farmers were conservative and looking at new opportunities was not on their agenda; the risk was seen as too high and if farmers were not convinced that a market existed then increasing production was a risk; and finally there was no established distribution channel in place, so they would have to take responsibility for distribution.

There were contradictory perceptions concerning the environmental benefits of organic food. Certification was either seen as a “badge of honour” or else the benefits of certification were questioned. One respondent (Q) believed that

organic producers faced problems in convincing markets that the organic label had status and credibility; he argued that organic farming put an increased strain on natural resources in terms of requiring more land and water resources than conventional farming. Likewise, another informant (J) was critical of certified organic food systems remarking that certain chemicals were allowed and standards were “misleading” and an “eye-opener”. Another respondent suggested that organic farming led to trade-offs. In order for organic fruit producers to be viable, they had to concentrate on growing just one or two crops and selling to Southern markets. Commercial organic farming resulted in profit but at the expense of food miles.

Seasonality was put forward as a barrier to the development of local food supply. The Summer time is the ideal time in the tropics to grow salads and Asian greens but consumers have to be prepared to eat a lot of salads and forego other things such as tomatoes. According to one respondent (J), very few consumers eat seasonally and have grown used to year-round access to all types of fruit and vegetables. Radical change in consumer behaviour was required but education and recipe-sharing was one way of changing behavioural patterns. However, another respondent (W) didn't see it as a problem. She found that her customer base consisted of the “die-hard, organic, support local” buyer and they were used to eating in-season.

**Figure 2: Benefits associated with Alternative Food Systems**





## **Discussion**

Northern Queensland has a reasonable diversity of alternative food systems, including veggie box schemes, farmers' markets, community gardens, producer cooperatives, community assisted agriculture (i.e. partnerships between farmers and consumers) online grocers and specialist retailers. The case study shows that the sector is driven by consumers and grassroots community groups. Volunteer labour and social enterprises underpin the local food economy and this ensures that food that is locally produced gets delivered to the consumers. In addition, not-for-profits and campaigning organisations such as Permaculture Inc. play important roles in the alternative food sector and are champions of the sector. Their efforts act to reassure growers that a viable market exists for locally-grown produce. There were, however, two examples of producers' groups where large farmers combined to increase their bargaining power with a local supermarket and they were successful in establishing a local food supply chain.

Many of the characteristics of alternative food systems identified in the literature come to the fore in this case study of Northern Queensland. In line with the literature, alternative food systems are associated with the re-localisation of food (i.e., closer connection with producer) and the 'quality turn' (Higgins, Dibden and Cocklin, 2008). They are linked to environmentally friendly production, improvements to farmers' welfare, more wholesome or safer food and more successful business strategies (Nousiainen et al., 2009). For small-scale producers, short supply chains may represent the only way of making a reasonable income, and for mid-sized farmers, the desire for increased autonomy in a food chain dominated by supermarkets is a motivating factor (Andrée, Dibden, Higgins and Cocklin, 2010). The importance of equity in sustainable agriculture is increasingly being recognised in the literature (Pomeroy, 1997).

While one respondent saw the word 'alternative' as pejorative, others embraced the term; there was a belief that what they were doing was the complete opposite of what is happening in the conventional food chain. The values and principles of actors in the networks profiled by this study are similar to those found by Seyfang (2006, p.393) who referred to these networks as a form of 'ecological citizenship' where participants "sought to express preferences which were at odds with market price signals, they demonstrated a clear commitment to justice and fairness in trading relationships, to reducing ecological footprints through localising food systems and reducing packaging waste, and sought to make links of solidarity between producer and consumer...Furthermore, many participants saw their everyday consumption decisions as being deeply political". Likewise, this study

found that organic and local food consumption was a form of political consumerism.

In the literature, reservations have been presented about these innovative models of alternative food supply. Goodman (2004) notes that, for all its limitations, the industrial food system has delivered cheap food and has attenuated income-related class differences in food consumption; he argues that the 'repeasantization' of the rural economy is socially exclusive and caters for the upper income groups who are drawn to safe, nutritious food. While this is true, it must be noted that for rural and remote populations in Australia, the cost of freight is high so locally grown, non-certified organic food can be sold more cheaply than food provided via global supply chains. It has been found that some AAFNs manifest aspects of social sustainability and the "moral economy" by providing fresh affordable food to people from disadvantaged sections of the population (Psarikidou and Szerszynski, 2012).

Interviews with key informants showed some ambivalence about certified organic food and their environmental aspects; commercial, profit-oriented organic growers engaged with long supply chains leading to the 'food miles' problem. Organic standards were viewed as too expensive for small growers and were not seen as a necessity. In line with the literature, personal trust or "social embeddedness" is a strong feature of alternative food networks (Venn et al., 2006) and familiarity based on proximity and personal contact is seen as more important than standards (Paloviita, 2010). Although there are ardent supporters of organic farming, critics argue that organic farms require more land to produce the same amount of food as conventional farms, that organic food is no healthier than conventional food and could fail to support the food needs of the planet's population – but these issues are hotly debated (Economist, 2006).

This study found that in areas with small populations, alternative food systems were imperfect markets. Barriers identified by respondents in this study are aligned with other studies. Seasonality, lack of supply and a gap between producers' enthusiasm to supply locally and buyer's interest to source locally has been highlighted in the literature (Peterson, Selfa and Janke, 2010). The consumption of seasonal and domestic vegetables has environmental benefits but consumers also value the variety and year-round choice that imported products provide (Chambers *et al.*, 2007). Many writers propose that consumer decision-making is not rational and it often demands trade-offs and evokes contradictions between values (Zanoli and Naspetti, 2002; Lockie, 2002; Bingen *et al.*, 2011). The dependency of many AAFNs on voluntary work renders them economically unsustainable (since their income does not cover the cost of the necessary labour), but they have characteristics of a "gift" economy, in which goods or services are regularly given without expectation of reward (Psarikidou and Szerszynski, 2012, p. 39). Logistics is also an issue. Large, commercial growers are

locked into contractual arrangements and the 'direct to centralised markets' distribution model has weakened supplier's incentive to distribute to customers in local markets.

Although protecting prime agricultural land is a strong rural value and is one that shapes rural identity (Miller, van Meegen and Buys, 2012), there is a risk of romanticising alternative food systems and the 'repeasantization' of farming. Rural Australia has been depicted in the domestic media as in "economic crisis" (Gorman-Murray, Darian-Smith and Gibson, 2008). The long drought, or 'the big dry' of 2001 to 2009, left farmers economically vulnerable (Hart et al., 2011), with escalated debt, reduced farm income, fallen land values and therefore difficulty in both remaining in farming and selling farming properties (Guiney, 2012; Polain et al., 2011). When cyclones hit Queensland in 2006 and 2011, they destroyed 90% of the banana crop, leaving farmers wondering if they could pick up the pieces again (Lawrence, Richards and Lyons, 2013). The floods in Queensland in 2010 and 2011 also highlighted the fragility of the agricultural system. Scholars have also pointed out declining commodity prices, aging demographics, increases in fuel prices and other farm inputs (Fragar et al., 2008).

In a political environment that clearly favours large-scale, export-oriented corporate farms, the issue what, if anything, should be done by governments to address deficits in regional agriculture? According to Collits (2011), politicians should be able and willing to defend their spatial interventions by referring to the objectives of the spending, explaining what the policies have achieved or are likely to achieve, and demonstrating an awareness of the opportunity costs of regional spending. Attempts to influence policy makers could stress common ground in relation to healthy eating, sustainable farming practises and food security. For farmers, themselves, selling locally or adding value through organic or biodynamic, would help them capture a niche market and give them more power in the supply chain. Promoting the local helps prevent leakage of money out of the community. Wiskerke (2010) highlights the rising relationship between the public sector and the regional food market. By re-localising public sector food procurement the government, and public bodies such as schools and hospitals, have the capacity to reduce food miles and achieve their health and sustainability objectives. In a study of the economic impact of localised food supply chains, Ward and Lewis (2002) found that £10 spent with a local grower circulated two and a half times locally and was worth £25 to the local economy. This compares to £10 spent in a supermarket which leaves the area quite quickly, resulting in a multiplier of 1.4, meaning it was worth £14 to the local economy.

Given all these benefits, a more serious evaluation of their contribution to society should be taken by policy makers. Indicators of local food production need to be gathered, such as amount of food grown at community gardens, number of

farmers' markets and level of community engagement with local food production. As Queensland continues to attract the 'sea-changers' and 'tree-changers', consumer demand for locally-grown and high quality food is likely to rise. Furthermore, extreme climate events will have an impact on infrastructure in rural and remote regions and as they remain isolated, disaster management, self-sufficiency and food security becomes a priority. Without establishing a strategy for the alternative food sector, the sector's growth will continue on a haphazard basis.

Given the dominance of the export-oriented, 'productivist' thought amongst policy makers in Australia, and reluctance of medium-sized and large commercial growers to respond to consumer demand for local supply, the sector has an uncertain future. The path of future regional development is unlikely to lie in a shift from conventional to alternative food chains. Actors in alternative food systems have embraced self-help solutions in an unforgiving environment. It would be good practice for actors in alternative food systems to build links with institutions and support groups and share best practice. This appears to be common already and may become even more important in the light of funding cuts to local public authorities. The future of alternative food systems in Northern Queensland will continue to depend on social capital and links between farmers, growers, buyers, not-for-profits and community leaders, not just at local level, but throughout the region and at national level.

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