

Peri-urban food futures: Opportunities and challenges to reconfiguring sustainable local agri-food value chains on the Sunshine Coast, Australia

Brian R. Stockwell,^{a*} University of the Sunshine Coast

Elaine Bradley,^b Self-employed Market Gardener

Deborah Davis,^c Finding Common Ground

Jonathan Smith,^d Department of Agriculture, Fisheries and Forestry Queensland

Submitted February 13, 2013 / Revised April 30, 2013, and May 17, 2013 / Accepted May 30, 2013 /
Published online November 12, 2013

Citation: Stockwell, B. R., Bradley, E., Davis, D., & Smith, J. (2013). Peri-urban food futures: Opportunities and challenges to reconfiguring sustainable local agri-food value chains on the Sunshine Coast, Australia. *Journal of Agriculture, Food Systems, and Community Development*, 4(1), 123–140. <http://dx.doi.org/10.5304/jafscd.2013.041.001>

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Abstract

A new rural development paradigm has emerged over the last decade. It is multifaceted by nature, connecting practices of landscape management, agritourism, organic and sustainable farming, and value-chain analysis and management. Increased

food production in peri-urban areas in the developed world is typical of this new paradigm. Peri-urban areas are the transitional zones between rural and urban landscapes that experience constant population change and disturbance of traditional social, environmental, and economic characteristics. Sustainable community development initiatives are complicated in these fragmented and often contested landscapes. A case study on Australia's Sunshine Coast analyzes the challenges and opportunities of reconfiguring agri-food production systems to achieve the type of multifunctional landscape preferred by the community and primary producers alike. Scenario analysis, interviews, and surveys of traditional midscale farmers with more recent micro- to small primary producers and food artisans provide insight into the challenges faced at a grassroots level. The role of government in facilitating supportive policy and planning and connecting and building the capacity of key actors involved in local

^{a*} *Corresponding author:* Sustainability Research Centre, University of the Sunshine Coast, Locked Bag 4, Maroochydore DC Queensland, Australia 4558; myplacenoosa@gmail.com

^b Self-employed Market Gardener; wurraglen@homemail.com

^c Finding Common Ground; dcdavis1@bigpond.net.au

^d Maroochy Research Station, Department of Agriculture, Fisheries and Forestry Queensland, Nambour, Queensland; jonathan.smith@daff.qld.gov.au

Note: This paper is based on the principal author's trans-disciplinary doctoral research that investigated planning, policy, and agricultural extension requirements for improving the sustainability and resilience of coastal peri-urban agriculture.

and regional food value chains is reviewed. The paper argues that the government is essential to the successful planning and management of peri-urban areas because of the fragmented and/or contested quality of this unique agri-food landscape. Without further investment in place-based collaborative research, planning, capacity building, and economic development, the local food movement in these peri-urban areas is likely to continue to occupy only a narrow “alternative” cultural and economic space.

Keywords

local and regional food, peri-urban, rural development, sustainable agriculture

Introduction and Literature Review

Introduction

Peri-urban food and agricultural systems in the developed world are part of a rural development trend that highlights the importance of ecosystem and social services (Ashley & Maxwell, 2001; Lerner & Eakin, 2011; van der Ploeg et al., 2000). Peri-urban areas are transitional zones between rural and urban landscapes that mediate between the competing pressures of agriculture and urbanization, development and conservation, settlement and production, and growth and sustainability (Mackenzie, Whelan, & Oliver (2006). As part of a new rural development paradigm, the production capacity of agriculture is reconceptualized by scholars to include a broad range of “public goods,” such as amenity landscapes and natural values (Sonnino & Marsden, 2006; van der Ploeg, et al., 2000; Zasada, 2011). Rural development in this context is multifaceted in nature and connects practices of landscape management, agritourism, organic and sustainable farming, and value chain analysis and management. Within this scholarship alternative food systems have been portrayed as distinctive, but still contested, elements of the new rural/regional economy (Sonnino & Marsden, 2006), which is particularly important in peri-urban areas due to the rapid socio-economic transitions that typify the urban-rural interface.

Lerner and Eaken (2011) suggest there is

increasing evidence that the growing middle-class demand for healthy, more sustainable foods can potentially reverse the trend of dwindling agricultural production in peri-urban areas of the developed world. We argue that in order to meet this demand, collaborative initiatives between industry, local and regional government must deliberately rearrange the social, economic, and ecological connectivity of the agricultural system to adapt to new circumstances, perform new tasks, and recover from the damage caused by unsustainable agriculture and rural socio-economic decline.

Key questions remain as to the extent to which peri-urban agri-food systems will respond to market forces and to what extent policy, planning, economic, and community-development interventions by governments can effectively facilitate the transition to a new paradigm. Stevenson, Clancy, King, Lev, Ostrom, & Smith (2011), for example, argue that midscale food value chains present a promising business model that require public policies to effectively connect and support agricultural producers at a local scale as they endeavor to engage growing markets for differentiated, higher-value food products. While interest in the wider social, cultural, economic, and environmental implications of food has flourished among policy-makers and academics since the late 1990s (e.g., Maxey, 2006), the local food literature tends to ignore the regulatory and service-provider roles of the state (Baker, 2011; Born & Purcell, 2006). Our study therefore aimed to further critically explore the identified gaps and weaknesses in the literature as part of a regional Food Futures Initiative on the Sunshine Coast, Queensland.

The Food Futures Initiative has been underway in this rapidly growing peri-urban region of Australia over the last five years. This series of projects spanned the agri-food value chain and featured a high level of collaboration with industry, local government, university, and other researchers. Led by the Queensland Government as part of a pilot “networked government” service delivery model (Goldsmith & Eggers, 2004), the projects involved research, planning, extension, and business development activities as part of ongoing sustainable-agriculture extension networks and

regional economic-development programs. This case study article focuses on the results and implications of the semistructured interviews and social surveys of micro- to midscale farmers and food producers, together with scenario planning with the broader peri-urban community. It documents the opportunities and challenges for reconfiguring local agri-food value chains to enhance their resilience and sustainability, as well as respondents' perceptions as to the pilot networked service-delivery model.

A review of the literature (e.g., Barham, 2012; Bradley, 2013; Lev & Stevenson, 2011; Martinez et al., 2011; Oberholtzer, Clancy, & Esseks, 2010; Sharp, Jackson-Smith, & Smith, 2010) suggests that Australia lags behind the U.S. in terms of government and institutional investment in the place-based collaborative research, planning, capacity-building, and community-development initiatives required to achieve sustainable food futures in peri-urban landscapes. Based on this review and the results of the case study, we argue that to be successful, programs to develop resilient multifunctional landscapes in Australian peri-urban areas require increased direct investment and involvement by government. The investment is required to drive a range of interventions that can reconfigure fragmented peri-urban localities to increase the likelihood that they become multifunctional landscapes with sustainable agricultural systems and resilient food producing communities. Further, focusing this investment and service delivery on cooperative industry and community initiatives will increase its impact. Actions should aim to enhance economic options for primary producers, diversify rural enterprise, and facilitate hybrid and alternate aggregation and distribution systems (Bills & Gross, 2005; Lerner & Eakin, 2011).

Drivers and Dimensions of Local Sustainable Food Systems

Globally there is a growing consumer trend to minimize the environmental footprint of food purchases and demonstrate social responsibility by purchasing local and regional foods (Carnell, 2011; Davey, 2008; Kneafsey, 2010; Parker, 2010; Socio-economic Research and Intelligence Observatory, 2008). Assurance about the chain of custody and

environmental credentials for all fresh produce has led to growth in the Australian market for healthier, more sustainable products (Sullivan, 2010). Health (e.g. organic), connectivity (e.g. with the producer), and convenience have been identified as behavioral consumer megadrivers that hold the key to the future for the Australian food industry (Davey, 2008). However, there is a "green gap" between consumers' concern and their taking action that is attributed both to price differential and confusion caused by unclear labeling and marketing (Sparks, 2011; Sullivan, 2010). While provenance is a very important driver of consumer choice, with the "Australian Made" symbol ranked as the most influential in the market, only 33 percent of consumers claim to buy local food and drinks regularly (Datamonitor, 2010; Paish, 2011).

As part of this emerging global trend, regional networks of stakeholders in the local food movement are developing action plans that aim to connect, expand, and enhance information flow and business relationships along local and regional food value chains as part of efforts to achieve sustainable rural futures (Ethos Foundation, 2011; Flaccavento, 2009; Hawkesbury Harvest, 2004; Niagara Economic Development, 2009; Wisconsin Local Food Network, 2011; Wells & Waterman, 2011). Frequently this involves "buy local" campaigns such as Select Nova Scotia in which societal rather than purely economic benefits are highly valued by the consumer (Knight, 2013). Winter (2003) found that local food figured more highly in these campaigns than organic and argued that, in part, this movement was driven by the defensive politics of localism rather than being embedded in a sustainability ethic. However, others identify a more positive form of localization involving a "process of embedding the economic and social interactions of a food system within a distinct, bounded place. The resulting local food system reduces unnecessary and redundant trade, strengthens and diversifies the local economy, and increases sustainability and food security" (Baker 2011, p. 9). Dukeshire, Garbes, Kennedy, Boudreau & Osborne's (2011) consumer survey supports this notion, revealing that those respondents who believed that buying locally produced food is good for the local economy,

helps the environment, and means more money goes to the farmer, had a higher propensity to buy local product.

Advocates of localization highlight that economic development in this context can drive innovation within farms considered “superfluous” in the modernization paradigm (van der Ploeg et al., 2000). Localization facilitates new value-chain interrelations with other farm enterprises and segments of the urban and peri-urban population that also enhance social cohesion. A particular focus in developed countries is on small- to midscale farm production, value adding, and the evolution of aggregation and distribution entities to achieve economies of scale (Barham, 2012; Cheng & Seely, 2012; Mackenzie, et al., 2006; Metcalfe, 2012; Metcalfe & Widener, 2011). Increasingly, small- to midscale farms are implementing innovative forms of cost reduction and direct marketing, integrating environmental, land and water management into the farm, and producing high quality and region-specific products (Goodman, 2004; Sonnino & Marsden, 2006; van der Ploeg et al., 2000).

It is often presumed that smaller farms and food producers do not cause the same negative environmental or social impacts as industrial-scale farms as they tend to diversify their crops and agricultural techniques to make the most of their land. However, local food systems are no more likely to be sustainable or socially just than systems at other scales (Born & Purcell, 2006). Oberholtzer, Clancy, and Esseks consider that “the availability of technical assistance and funding programs that relate to direct marketing and alternative agricultural products be supported and better promoted at the local, state, and national levels, and that new programs be developed in areas currently lacking these programs” (2010, p. 71).

In Australia the potential for micro- to mid-scale sustainable agriculture and food enterprises to benefit from consumer demands is constrained by the countervailing domination of the food supply by two large supermarket chains that control 78 percent of the market (Carnell, 2011). While there are efficiencies associated with this duopoly, it favors larger primary producers and food manufacturers and limits market access to others. There

is, however, potential for growth in direct-to-consumer markets if U.S. trends are more pervasive through other peri-urban regions of the developed world. In the U.S. this market segment has grown by more than 100 percent over 10 years in seven rural/urban interface counties, likely as a result of the farmers’ better access to urban consumers in those counties (Oberholtzer et al., 2010). Similarly, there is an opportunity for U.S.-style midscale food value chains to provide models of how farms, processing, distribution, and retail businesses can prosper by acting collectively to construct a “third tier” in the Australian agri-food system. Lev and Stevenson highlight “the importance of acting collectively at three distinct levels: horizontally among producers, vertically within food value chains, and horizontally across food value chains” (2011, p. 121) and recommend establishing learning networks across value chains. The above drivers and dimensions of local and sustainable food systems are further influenced by the social and institutional dynamics of the peri-urban zone, where both community conflict and/or a new relationship between the traditional farming community and incoming residents can emerge (Barr, 2003; Mackenzie et al., 2006)

Social and Institutional Dynamics Influencing Production in Peri-urban Areas

Problems associated with scale, social change, and fragmentation in peri-urban food systems complicate policies and programs aiming to achieve sustainable multifunctional peri-urban landscapes (Low Choy, Sutherland, Gleeson, Dodson, & Sipe, 2008; Mackenzie et al., 2006). Of particular import for peri-urban areas is the understanding that local knowledge of landscapes and farming systems, built up over time and events, is crucial to successful farm and community innovations and the resilience of agricultural enterprise over time (Davenport & Anderson, 2005; Wardell-Johnson, 2008). Innovation and adaptive practices are more likely to withstand future shocks if they link the tacit local knowledge of longer-term landholders with the predominantly scientific knowledge brought in by new settlers in peri-urban landscapes (Smith & Bosch, 2004; Stockwell, 2011; Wardell-Johnson, 2008). For these reasons rural

development policies should focus on strengthening proven community and industry networks and supporting the emergence of new ones (Van der Ploeg et al., 2000).

The combination of the “old” with the “new” will be a decisive element in these endeavors (Stockwell, 2011; van der Ploeg, et al., 2000; Wardell-Johnson, 2008). For example, deliberate values-based engagement and commitment to non-economic goals can lead to successful inter-organizational coordination in hybrid food value chains that build aggregation and distribution in local food systems on pre-existing conventional infrastructure (Bloom & Hinrichs, 2011). Investigation of U.S. counties on the rural/urban interface have shown the importance of government programs and supportive governance frameworks. Those counties with formal institutional arrangements (e.g., committees supporting agricultural economic development or food policy councils)

have more local food system development programs and policies and have key stakeholders with a greater level of optimism about the future of local agriculture than those that do not (Sharp et al., 2010). This brief review provides useful guidance as to the mechanisms required to address challenges and take advantage of opportunities to reconfigure local agri-food value chains in peri-urban areas.

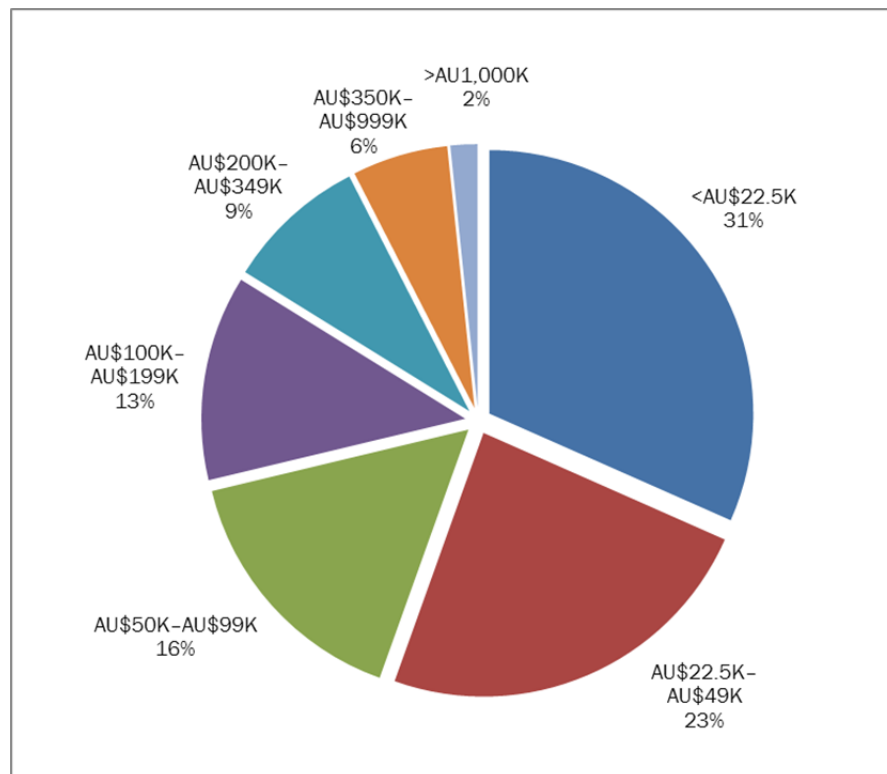
Applied Research Methods

Study Area

The Sunshine Coast is one of Australia’s fastest-growing regions and is situated just north of Queensland’s capital city Brisbane. Historical analysis of food production in the region shows that food producers have always faced challenges with distribution, marketing, transport, and responding to the impacts of national and global economic forces (Gregory, 1991; Lloyd, 1981). Underlying resilience in the system is evidenced throughout local history with the industry and community continuing to find innovative ways to deal with the forces of change through diversification, experimentation, and cooperation. The shift to more peri-urban forms of agriculture commenced in the late 1970s and has continued to grow since then.

Between the 2000–01 and 2005–06 agricultural censuses there was a nine percent increase in area under production, with holdings of 645,000 acres (261,000 ha) in the region (Australian Bureau of Statistics [ABS], 2008). That data shows that 54 percent of the holdings in the region had an estimated value of

Figure 1. Distribution of Estimated Value of Agricultural Holdings in the Sunshine Coast Region



Source: Australian Bureau of Statistics (ABS), 2008.

agricultural operations of less than AU\$50,000 per annum (less than the national average wage for one person at the time of AU\$61,000) (see Figure 1).

The agricultural lands of the Sunshine Coast are predisposed to the global trend of landscape transition and farmland conversion (Alig, Kline, & Lichtenstein, 2004; Barr, 2003; Bills & Gross, 2005; Busck, Kristensen, Præstholt, & Primdahl, 2008; Canarchon, 2005; Daniels & Bowers, 1997; Errington, 1994; Low Choy et al., 2008; Petit, 2009; Swaffield & Fairweather, 1998; Walker, 1987). In 2006 the majority (54 percent) of midscale producers, natural resource managers, and scientists participating in a forum on best management practices suggested that there was less than a 15 percent likelihood that adopting a “business as usual” approach would achieve sustainable co-existence between agriculture, the community, and downstream fisheries in the region (Nicholls, Stockwell, & Layden, 2007). However, they were far more optimistic when considering a scenario in which an integrated area-wide sustainable agriculture extension program was delivered across the region in conjunction with incentives for the adoption of the best management practices that they had jointly agreed upon at the forum. Eighty-three percent of those participants considered that such a scenario had a greater than 60 percent chance of achieving a sustainable future for farmers and fisherman (Nicholls, Stockwell, et al., 2007). This result led to the ongoing implementation of the FarmFLOW sustainable agriculture extension program focusing behind the farm gate (see Stockwell, Layden, Nicholls, & Carter, 2012) and stimulated the Food Futures Initiative, including broader value-chain research and scenario-analysis activities exploring aspirations, opportunities, and challenges for achieving desired sustainable agri-food futures.

Over the last five years there has been a steady growth in micro- and small-scale food manufacturers in the region. These businesses are typically niche marketed, value-added, and are often incorporated within the value chain for tourism and/or the food-service sector. Generally, these businesses market a gourmet, high quality, distinctive product in small quantities, usually by hand or using tradi-

tional methods. (In this study we refer to interviewees from such enterprises as food artisans.)

Case Study Methodology

Our case study of the Sunshine Coast makes use of four methods: scenario analysis involving 102 primary producers and peri-urban residents; semi-structured interviews with 34 traditional midscale farmers; face to face questionnaire surveys delivered to 168 micro- to small primary producers and food artisans; and document analysis of four reports from other projects in the Food Futures Initiative and various correspondence between stakeholders.

Scenario analysis

The scenario analysis adopted the first two stages of the social-ecological framework developed by Bohnet (2004), wherein landscapes and community perceptions are characterized, and then landscape scenarios are developed and discussed with community members and stakeholders. The framework incorporates participatory tools such as landscape visualizations and community workshops in an exploration by stakeholders of options for sustainable landscape development. Desktop studies and participatory rapid rural appraisal were undertaken to understand the natural, socio-cultural, and economic dimensions of the region in order to gain an understanding of landscape character and community perceptions and visions (see for example Nicholls, Layden, & Stockwell, 2007). The Sunshine Coast landscapes and community perceptions and visions identified were very similar to those characterized by Bohnet in her North Queensland study area. Participants at field days and workshops across the region were asked to nominate their preferred future scenario between 2007 and 2009. The scenarios adapted from Bohnet (2004) included:

- *Increased Production from Monoculture and Grazing:* Cropping and/or sugar cane, ginger, pastures, and remnant vegetation are common features in the landscape. The grassed hills have pushed the forest back, allowing cattle farmers to increase their grazing land and subsequently the number

of cattle. Remnant vegetation remains only in areas “unsuitable for agricultural production.

- *Midscale Diversified Sub-tropical Agriculture, Cooperative Farming:* Declining farm incomes from monocultural crops like sugar, pine-apples, and ginger have led many farmers to supplement their income. Increasing pressures have now forced these farmers to pool their ideas and resources to overcome the crisis. Farmers have diversified their businesses and their cooperatives. In addition to cane, a variety of grain, subtropical fruit, bamboo, and cabinet timber are grown. Subtropical fruit juices are pressed and cabinet timber is milled in diversified cooperatives. Employment opportunities retain young people in the community, and also attract newcomers.
- *Small-Scale Envirofriendly and Organic Systems:* Development pressures lead council to approve subdivisions on land previously used for agricultural production and classified as suitable agricultural land. Some buyers of these new blocks are choosing to carry out some sort of agriculture, often environmentally friendly or organic. Subdivisions on hill slopes are only approved under strict codes. Buyers have to “screen” their new homes with forest trees. Cane has gone from the landscape and sugar cane paddocks have been replaced by residential developments and small-scale cropping. Some pastures remain on steep slopes and most remnant vegetation is now joined by tree plantings or residential properties.
- *Controlled Rural Lifestyle with Patches of Agriculture:* The landscape is still dominated by agricultural land uses. However, some agricultural land has been lost through subdivisions. These have been approved only in identified locations under strict development codes. Newcomers to the areas have brought with them different ideas and values about farming, and rural lifestyles have changed the face of the landscape. The agricultural patches within the landscape structure have become smaller in size.

- *Residential Development on Caneland:* Development pressures lead the council to approve subdivisions on land that was previously used for agriculture; as the cane industry is unviable, change is primarily taking place on cane land. The grassed hills are still utilized by the few remaining cattle farmers. However, regrowth is slowly covering slopes. People move to the area for its scenic beauty and favorable climate.
- *Intensive Eco-tech in Managed Landscapes:* Production of food and lifestyle horticulture is concentrated in highly intensive enterprises managed under strict environmental management systems with urban waste recycling and closed loop environmental technology. Highly variable climate and environmental factors result in minimal traditional agriculture, with intensive covered animal production, aquaculture, and farming of climate-adapted native fauna replacing extensive beef production. Cropland is used to grow biofuel crops and trees, which together with waste streams feed into local energy generation. The extent of natural areas is greater as a result of a market for ecosystem services.

Semistructured interviews and social surveys

The 2010 interviews with midscale farmers investigated the current state of, and perceptions about, the local food supply chain. Thirty-four producers with an average farm size of 94 acres (38 ha) (with an average of 57 acres or 23 ha in production) across a wide range of crops were interviewed on their farm using a semistructured approach with a set of guiding questions applied in an open framework.

Subsequently, in 2011 micro- and small enterprises (primary producers, value adders, and food artisans) in the Mary Valley with a median property size of 12 acres (5 ha) were surveyed to ascertain both qualitative and quantitative data. This survey aimed to establish the types and quantity of food produced identify issues that affect production and marketing of the produce, future plans, and capacity. Views were also elicited on the current trends associated with food production in this area.

Of the 98 interviews with farmers, most were conducted in person at the property, with others conducted by phone.

A subsequent and similar survey of 70 micro- and small enterprises in 2012 focused on coastal catchments and the Blackall Range. The median area range for land under primary production of this sample was 2–12 acres (1–5 ha) with a median property size of 27–49 acres (11–20 ha). This survey aimed to establish what was being produced and how much, and to examine issues associated with production, marketing, capacity, distribution, and interest in meeting local demand. The survey was followed by a workshop engaging key stakeholders across the food value chain, to explore the survey results and issues associated with food distribution in the region and potential functions and models for developing a local food distribution hub.

Document analysis

Reports and data from the Pumicestone Farm-FLOW sustainable agriculture case study (Stockwell, et al., 2012), as well as linked surveys of restaurateurs and chefs (Lawrence & Cheung, 2011), medium to large food manufacturers (Wright 2012), and residents and visitors to the region (Birch, 2012), were analyzed to validate and augment data from primary producers and food artisans. Correspondence, minutes, and reports from industry and government working groups, capacity-building workshops, and a regional stakeholder symposium on the future of food (Stockwell & Law, 2012) were also analyzed to evaluate the impact of service delivery and stakeholder response to research findings by stakeholders.

Results and Discussion

Agri-food Industry Demographics

The farmers surveyed grew 48 types of primary produce, ranging from avocados to snails. The food artisans surveyed produced 19 food products, ranging from alcoholic beverages to tempeh (a cultured soy product). The median size of farms influenced the marketing of produce, with central wholesale markets still attracting 41 percent of the

product from midscale farmers, compared with an average of 11 percent across all the micro- and small producers surveyed (Figure 2). Half of the smaller producers marketed directly to the public, either via farm gate sales or at markets.

Our surveys confirm an increase in micro- and small-scale food manufacturers entering the industry in the last decade, with full-time primary producers who have over 10 years of experience representing only 31 percent of the sample. This underpins the strong interest in and need for capacity building in the sector around small-scale production, marketing, and other relevant small-business skills.

Desired Food Futures

There were two scenarios which the majority of farmers and rural residents perceived to be a desirable future state of affairs for agriculture in the region (Figure 3). *Midscale Diversified Sub-tropical Agriculture, Cooperative Farming* was the most favored future scenario (39 percent) with the *Small Scale Enviro-friendly and Organic Systems* next, preferred by 33 percent of respondents. The least preferred scenarios were those envisaging residential development of cropping land, increased production from monoculture, and highly intensive horticultural and animal production based on eco-technologies.

Views about the most likely future that would result if the status quo were maintained (i.e., if government and industry adopted a “do nothing more” strategy) were antithetical to participants’ desired futures. For example, almost half of a highly informed group of agricultural, food, and tourism stakeholders together with academics and government policy and service delivery officers at the Southern Queensland Future of Food Symposium perceived that this approach would most likely result in conversion of farming land to residential land (Figure 4).

Key Challenges Identified in Local Food Supply Chain

The initial survey of midscale farmers identified that 60 percent of producers who were not currently involved in local short supply chains wished to supply locally if a number of specific challenges could be addressed. Their sentiments

Figure 2. Comparison of the Proportion of Product Marketed Through Various Channels
 (Midscale farmers, n=34; micro and small producers and food artisans, n= 168)

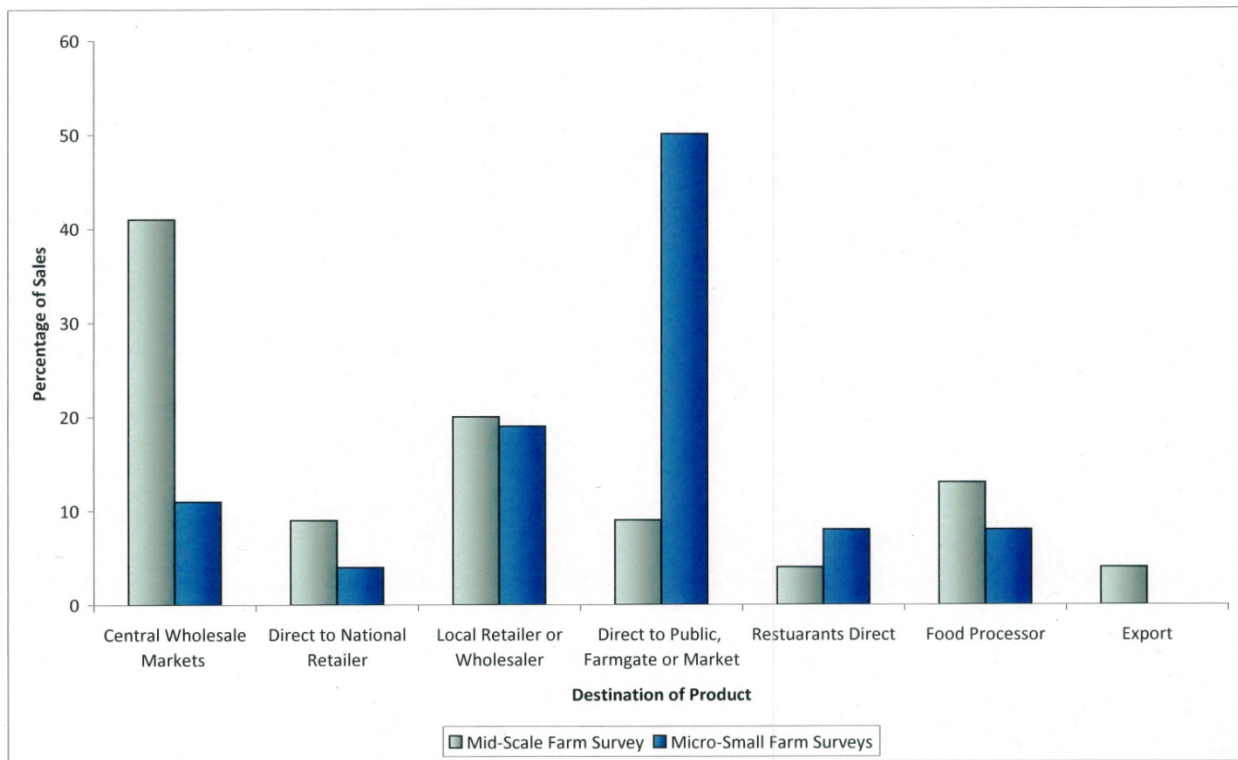


Figure 3. Preferred Future Agricultural Scenarios for the Sunshine Coast (n=102)

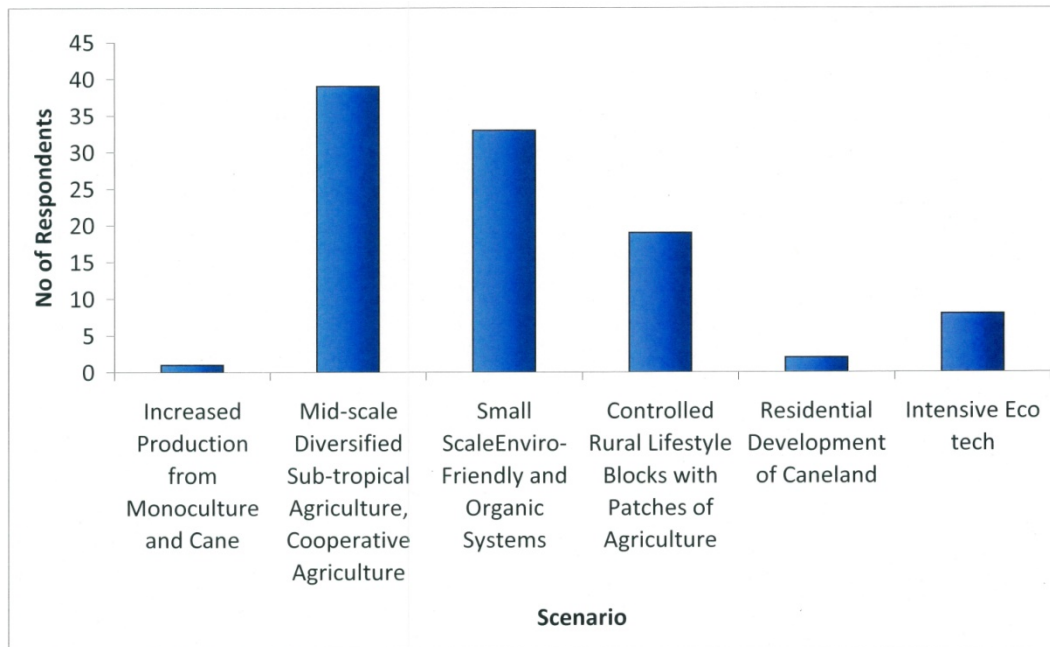
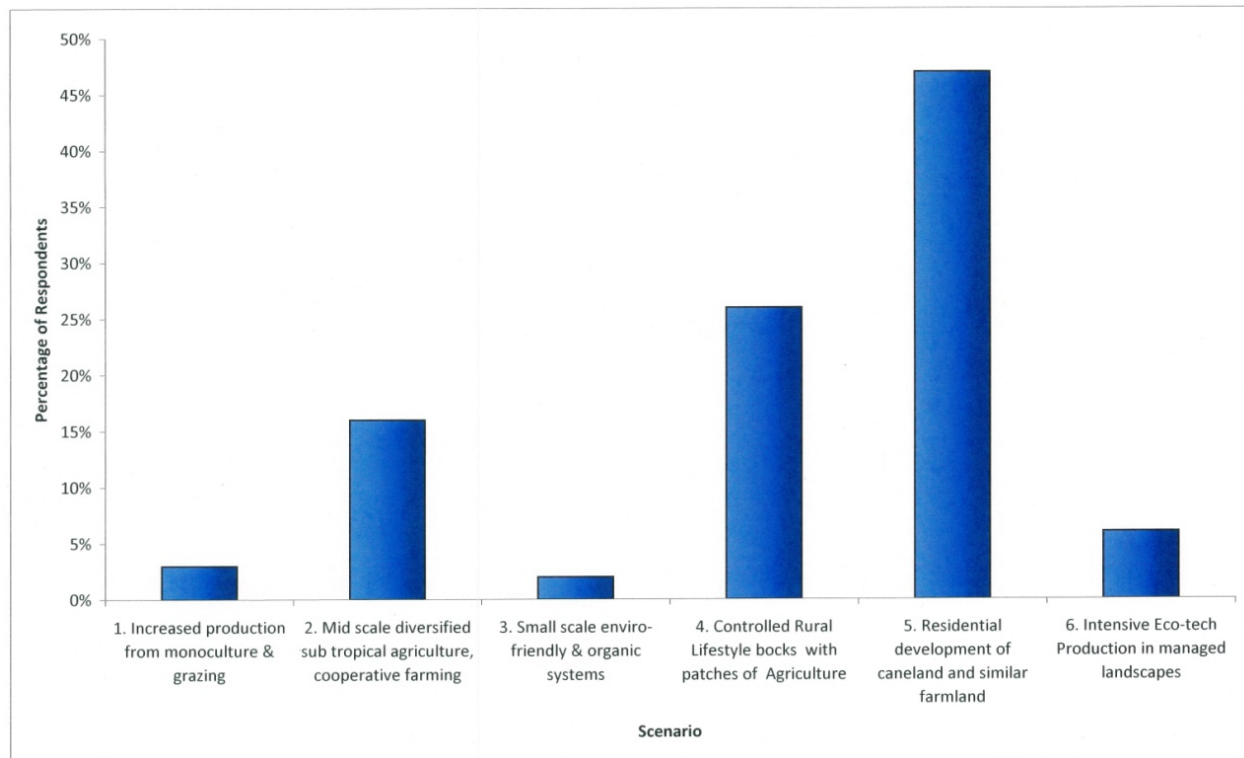


Figure 4. Stakeholder Perceptions of the Most Likely Future Agricultural Scenario if the Status Quo Were Maintained (n=84)



Source: Stockwell & Law, 2012.

about dealing with restaurants are typical of the broader response in regard to a number of short supply chain options (e.g., farmers' markets, direct to retail). For example, one midscale producer responded, "I have found a lot of restaurants that like to 'talk' local fresh food but not many that are willing to come part of the way to make it possible." Consistent ordering based on seasonal menus and purchasing on the basis of quality rather than price were thought to be critical to improving value-chain relationships and information flow between producers, restaurants, and distributors who supply restaurants. One producer reflected that, "supermarket pricing has a big effect on prices — customers have an unrealistic expectation sometimes because the supermarket specials are lower than production costs."

Farmers perceived that restaurants need to change their menus to recognize local sources and to respond to the availability and seasonality of produce that is suited to the region's growing

conditions and climate. Those producers who had attempted to supply restaurants frequently had concerns around the lack of consistency in ordering. Comments suggested that farmers felt most food-service buyers are purchasing on price rather than on quality and provenance. More than 50 percent agreed that inadequate prices were the main reason that they didn't supply to restaurants. For a further 25 percent, logistics was a constraint to restaurant supply as they did not have the time and/or capacity to deliver their own produce.

While producers reported experiences and perceptions that suggest that the local food-service sector is ambivalent toward local and regional supply, Lawrence and Cheung (2011) found there was strong level of espoused support for local farmers in that sector, with 74 percent of restaurateurs and chefs surveyed espousing a commitment to buying local food. The majority of chefs and restaurateurs expressed a level of satisfaction with local supply. However, when actual purchasing

behavior was analyzed, this commitment has resulted in only patchy behavior (Lawrence & Cheung, 2011).

More generally the cost of labor is identified as a major factor restraining expansion, with one small producer providing the following comparison: “Cost of labor was not keeping pace with the returns. Ten years ago pickers had to pick 21 kg at [AU]\$7/hour to cover cost, now 31 kg at [AU]\$20/ hour to cover cost.” The availability of skilled labor was also a constraint, particularly for machinery operation. Overall, however, our surveys reveal cautious optimism within the industry and an increasing producer interest in exploring opportunities to be involved in the local food value chain.

Marketing and Branding

Almost one half (47 percent) of midscale farmers supported some form of branding; however, 44 percent of midscale farmers considered that a regional brand would not be successful. National retailers were identified as the major stumbling blocks to regional branding. There was a higher level of support specifically for local branding, with 60 percent of midscale farmers interviewed agreeing that it was a good idea. This support, however, was similarly tempered by concerns about brand standards and substitution. Concerns were expressed that the reputation of a local brand could be tarnished by dumping of inferior produce if uniform standards of “best practice” were not set and enforced. It was also thought that local branding would be under threat from nonproducers sourcing cheap inferior products and “passing them off” as local. Substitution of second-grade product from central capital city markets is perceived as a widespread practice in farmers’ markets in the region.

Support for local and regional branding was higher in the micro- and small producers and food artisans surveyed. The development of a local or regional brand was overwhelmingly supported by the micro- and small producers (85 percent), with an understanding that a brand would promote local food production as an industry attracting both local consumers and tourists. Smaller producers and food artisans viewed local or regional branding as a

means to build a sense of connection and belonging to the Sunshine Coast. Branding was perceived as benefiting smaller producers and food artisans by connecting them to a larger collective brand that would enable them to talk about their produce as part of a regional food story.

Birch’s (2012) online survey of consumers of local food in the region supports producers’ views about the need for improved marketing and branding. Both residents and tourists suggest the five most significant barriers to consumption of local food were its lack of promotion; lack of information on where to find it; that it is not clearly branded as local; that it is not readily available; and that it is not well labeled.

The low level of marketing capacity within the micro- and small- sector was found to be a barrier to food systems development. When asked to describe their marketing strategy, 60 percent of the respondents reported they rely on word of mouth and repeat sales. This group did not proactively engage in marketing; rather they depend on the product “speaking for itself.” Another 14 percent stated they did not have a marketing strategy. However, 30 respondents were involved in a business group external to their farm that shares aspects of crop production and marketing to maximize sales and profits. The need for coordination in local food supply chains, more effective marketing processes, and capacity-building for producers were frequently raised by respondents.

Capacity-building Along the Value Chain

Almost 60 percent of midscale farmers agreed they would explore their options for entering a local food supply chain if there were more support available to learn how to adapt their enterprise to profit from this transition. The provision of technical support and training was also a key issue for the micro- and small-scale producers and food artisans surveyed. A perception that changes in government priorities had led to a significant reduction in government agricultural extension was frequently raised as a major constraint to capacity throughout the value chain. Added to this were reports by many horticulturalists and dairy farmers, regardless of scale, that they are very time-poor and that day-to-day operations on-farm restrict their

ability to attend training and extension activities.

Despite these concerns, evaluation of five years of capacity-building activities specifically customized to peri-urban primary producers reveals high levels of participant satisfaction, knowledge-building, and behavior change, all leading to more sustainable production (Stockwell et al., 2012). Similarly, customized workshops run by state and local governments targeting the training and support needs of food artisans in topics such as marketing, exhibiting and event sales, food safety, and business management received strong support and positive feedback. The capacity-building program was observed as building and strengthening relationships. Typical feedback showed the transformative potential of capacity-building for micro- and small food enterprises; for example, one operator stated, “Holy COW! You have truly changed our business forever. I really wanted to write and say thank you for reaching out to a business like ours. I could hardly sleep since meeting with you. For the first time in ages I felt that someone really got small business.”

Frequently these sessions involved one-on-one follow-up with business development officers along with mentoring sessions with highly experienced professionals. Feedback suggests this form of capacity-building is highly regarded by the industry. For example, one participant wrote to the relevant minister suggesting, “The course about culinary tourism was great ... I feel I can incorporate this into [my business]... and will easily work without huge set-up costs. A big thanks to the State Government for recognizing our needs and putting an excellent team and plan into action.”

Capacity To Respond To Increased Demand

Further document analysis confirms that the Sunshine Coast is experiencing similar trends to published national and international data with regard to increased demands for local and regional food supply. Wright’s (2012) report on interviews with medium to large food manufacturers and Birch’s (2012) consumer survey identified strong interest in increased local food and regional food supply. The most important drivers for local and regional food purchases by residents in the broader South East Queensland region include a desire to

support local producers and retailers, the local community and the regional economy; and intrinsic qualities including freshness, reduced food miles, traceability, including connection with local producers and knowing the origin of local food and beverages (Birch, 2012). Quality, convenience, and customer service were more important for manufacturers (Wright, 2012). Further, a local produce distributor has suggested demand from restaurants for local food is approximately twice as high as current supply levels (Lawrence & Cheung, 2011).

Transitioning midscale producers to more active involvement in local and regional supply chains will be critical to meeting substantial increased demand. Our interviews found that 41 percent of this sector already supplied some or all of their produce locally, but this was as much as they could supply under their current production and marketing arrangements. Most were in favor of a local distribution system but were skeptical as to how it might work.

Midscale and micro- and small producers and food artisans all shared similar views about the most important factors likely to influence their future decisions with respect to increasing their supply to local and regional food chains. Both groups ranked increased demand for quality product as the most significant factor, with more attractive prices being the next highest ranked. An efficient local distribution system, increased promotion of local food, and increased information on local demand were the three other most highly ranked factors ranked by both groups.

Respondents suggested the main constraints to expansion of production for local food supply included labor, land availability (size of plot, soil type, etc.), transport, infrastructure, funds, and access to resources. They were optimistic that most distribution challenges could be addressed by the facilitation of better relationships and collaboration between value-chain members rather than new infrastructure. There was strong support across all supply sectors surveyed for online information and an electronic trading and distribution system. The enthusiasm of producers and food processors for the development of an online data and a trading portal was matched by support in the food-service and manufacturing sectors (Wright, 2012). The

food-service sector welcomed the concept, with more than 90 percent suggesting they would use a portal, while just over 70 percent of the manufacturing sector suggesting they would (Wright, 2012).

Networked Government Service Delivery Model

The Sunshine Coast Food Futures project adopted a collaborative service-delivery model that involved the state government allocating business development officers and agricultural extension officers to support farmers and food artisans; contracting specialist presenters to lead targeted training workshops, followed by one-on-one mentoring; and local government program support to create and market a collective regional brand. Research projects were embedded within service-delivery projects and distributed between academics, local food social enterprises, and local food champions with results rapidly communicated to stakeholders. This delivery model received strong support from industry. For example, one food enterprise owner suggested “I have been involved in a long list of Government private sector collaborations — this one is by far the most productive, useful and meaningful.”

As part of the Food Futures Initiative, a symposium involving 84 key agri-food and tourism industry stakeholders, government officers, and academics reinforced the ongoing need for initiatives that build connections across the food value chain and between industry and government (Stockwell & Law, 2012). The highest priorities emerging from the symposium were to: (a) foster relocalization of production and retention of agricultural land through changing planning laws and reducing red tape to allow farmers to undertake multifunctional farming; (b) improve the skill base of producers and knowledge of consumers; (c) enhance communication and trading along the food tourism value chain; and (d) develop an e-portal trading site to facilitate networking, collaboration, and distribution. The deliberations and recommendations from this expert group are consistent with our findings above about the desired delivery model and the mechanisms to reduce barriers to increase participation in local and regional food value chains.

Discussion

The dominant aspirations and concerns expressed in those forums and the subsequent interviews and surveys suggest trends on the Sunshine Coast are consistent with the rural development, peri-urban, and food system literature reviewed. The results clearly outline a suite of challenges and opportunities facing enterprises seeking to engage in local and regional food value chains, including the need for continued policy and planning reform to facilitate resilient multifunctional peri-urban farms and landscapes; a need for improved marketing and labeling of local and regional food to capture consumer interest and reduce substitutions of inferior product at farmers’ markets; and a mismatch between current skills, experience, and the competencies required.

Our proposition is that without further intervention, individual endeavors and consumer drivers are unlikely to achieve resilient, sustainable agri-food systems at a landscape scale. From a producer perspective these interventions need to address knowledge and information gaps, reduce regulatory impediments, facilitate relationships along the value chain, and coordinate solutions to the problems of disaggregated supply and demand.

Policy-makers, planners, and government service delivery need to intervene in ways that support rather than constrain local and regional food enterprises. For example, the lack of long-term farm management experience by new entrants and unfamiliar farming techniques required to diversify traditional farms have led to frequent calls for increased government investment in agricultural extension officers. Further, lack of regulatory provisions to set standards, safeguard brands, and protect agricultural land from subdivision and inappropriate adjacent uses are also cited as factors inhibiting the growth of the local supply chains from a grower perspective. On the other hand, a reduced government presence in terms of prohibitive regulations and local government compliance costs (e.g., expensive planning applications) for on-farm value adding or building agritourism ventures is a frequent call from enterprise.

Reconnecting producers and food artisans in alternative food networks underpinned by sustainable production processes may be a key mechanism

in differentiating local and regional foods from mass-produced offerings (Ilbery, Morris, Buller, Maye, & Kneafsey, 2005). This process may further lead to the revival of peri-urban agriculture and an increased likelihood that farmers can achieve increased returns compared to that typically provided by central markets and agents, while achieving a greater focus on rural development and strengthening a local, sustainable food system (Louden & MacRae, 2010; Winter, 2003). Enthusiasm for such concepts in the case study region were, in many cases, not supported by the experience, skills, and knowledge of how to facilitate, analyze, and manage sustainable value-chain improvements. We argue that government support with programs to enhance skills, coordination, and connectivity along the value chain is a critical component of sustainable peri-urban food systems and will help address the other challenges.


Conclusions

There are still many questions about how the new paradigm in rural development can achieve sustainable food futures in peri-urban regions. In this paper we argue for a range of interventions that can reconfigure fragmented peri-urban localities to increase the likelihood that they become multifunctional landscapes with sustainable agricultural systems and resilient food-producing communities. The literature suggests that community-development initiatives aiming to respond to increased demand for sustainably produced local and regional food are complicated in these fragmented and often contested landscapes. In peri-urban landscapes, social, environmental, and economic attributes are impacted by constant population change and other disturbances that raise a number of challenges to achieving the opportunities presented by this growing demand, as evidenced in the views of respondents.

Our research suggests that traditional elements associated with market failure (e.g., incomplete knowledge along the value chain, the duopolization of food and grocery markets, and unaccounted externalities of unsustainable agriculture) need to be addressed if the preferred agricultural future of a region is to be realized. These failures, together with the disproportionate political power of

corporate agriculture and food interests, will reduce the prospects for the emergence of sustainable and resilient peri-urban regions in the developed world.

The case study demonstrates a number of key challenges that can be addressed by a networked government service-delivery model that responds to industry needs. Responses include reducing regulatory and planning impediments; supporting local and regional branding to connect otherwise fragmented production to a larger collective brand; capacity-building activities specifically customized to peri-urban agri-food value-chain participants; facilitation of an efficient local distribution system; development of an online data and trading portal; and increased promotion of local food. Our results are consistent with those of Oberholtzer, Clancy & Esseks (2010), who argue that in the U.S. “urban fringe counties need to increase their efforts to maintain a viable agricultural sector by taking into account the unique farming and demographic characteristics of their county” (p. 71).

We conclude that there is a role for government in coordinating and connecting networks to achieve the desired future scenario for peri-urban agri-food systems. Reconfiguring agri-food systems in peri-urban landscapes will require collaborative initiatives between industry, local councils, and regional government to deliberately rearrange the parts of the system in order to adapt to new circumstances, perform new tasks, or recover from damage. This will further require investment in place-based research and planning, capacity-building, and economic-development activities. Without such initiatives the local food movement in these areas in Australia is likely to continue to occupy only a narrow “alternative” cultural, geographic, and economic space. 

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