

Two Australian Policy Approaches for Integrating Local Food System Adaptation Strategies

Dr. Kimberley Reis
School of Engineering and Built Environment, Griffith
University, Australia
K.Reis@griffith.edu.au

UCCRN Case Study Docking Station (2026)
DOI: 10.7916/w51m-mx27

Keywords	food systems, adaptation, food production
City Population	Cairns: 171,970 [2022] Logan: 363,057 [2022]
City Area	Cairns: 254.3 km ² Logan: 957 km ²
City GDP	Cairns: \$10.22 billion [2022] Logan: \$15.04 billion [2022]
Climate Zone	Cairns: Am (tropical monsoon) Logan: Cfa (humid subtropical)
ARC3.3 Linkage	Infrastructure for a Net Zero and Resilient Future for Cities



Image 1. Cairns local food planning for climate change and disaster resilience

Introduction. This case study illustrates two different geographical and policy circumstances within the State of Queensland (situated in the north-eastern region of Australia), that integrate local food system planning objectives within traditionally non-food-related policy contexts.

The first geographical context lies in the Far North Queensland (FNQ) area that is prone to cyclonic activity with subsequent road and rail closures due to inundation impacts on the transport system. These impacts further hinder the capacity to deliver staple food supplies from the food producing areas of southern Queensland and other southern Australian states (Reis et al., 2021; Keegan et al., 2025). The transportation of food to Northern Australia, from production site to processing facility to market outlets, involves distances often greater than 2,500-4,000 kilometers (Higgins et al., 2015).

The second geographical context is in the South East Queensland (SEQ) area that contains most of the population of Queensland and manages the highest population growth in Australia (DILGP, 2023). Due to the demands of population growth, this area increasingly experiences loss of peri-urban and rural arable land. This entrenches reliance upon food supplies from further distances around the nation. The Australian continent experiences increasingly dry conditions with prolonged drought, requiring national subsidization of the agricultural sector. These two contexts require continued reliance upon the uninterrupted functioning of long food supply chains, further compromising their creative adaptation to these severe weather events (Reis and Desha, 2022).

Due to the geographical and urban imperatives of the FNQ and SEQ food-related contexts, we see different pathways two local governments have undertaken for shortening the physical distance between producers, processors and consumers with fewer intermediaries. These shorter food supply chains and their responsive approaches inform innovative climate change adaptation strategies (Keegan et al., 2024).

Example 1: Local food planning through disaster management and climate change in Cairns. The first local government example is the Cairns Regional Council, administering the Cairns city and region in the FNQ geographical area of Australia. In collaboration with Griffith University and the Disaster Management Unit of Cairns Regional Council, a model was devised for disaster management priorities that can enable access to locally produced and distributed food options (Reis et al., 2022).

The ‘Shared Responsibility Framework,’ as articulated within Disaster Risk Management (DRM), provides an innovative policy enabler to facilitate strategic synergies between the core business of other policies and plans. For example, although conceptually devised via the DRM route and those active relationships (Reis et al., 2022), the relevant strategic objectives were undertaken within the council’s *Climate Change Strategy 2030* with the primary aim to achieve net zero emissions by 2030 (CRC, 2022).

The *Climate Change Strategy 2030* is not a food-focused policy, but of course food systems are implied by the

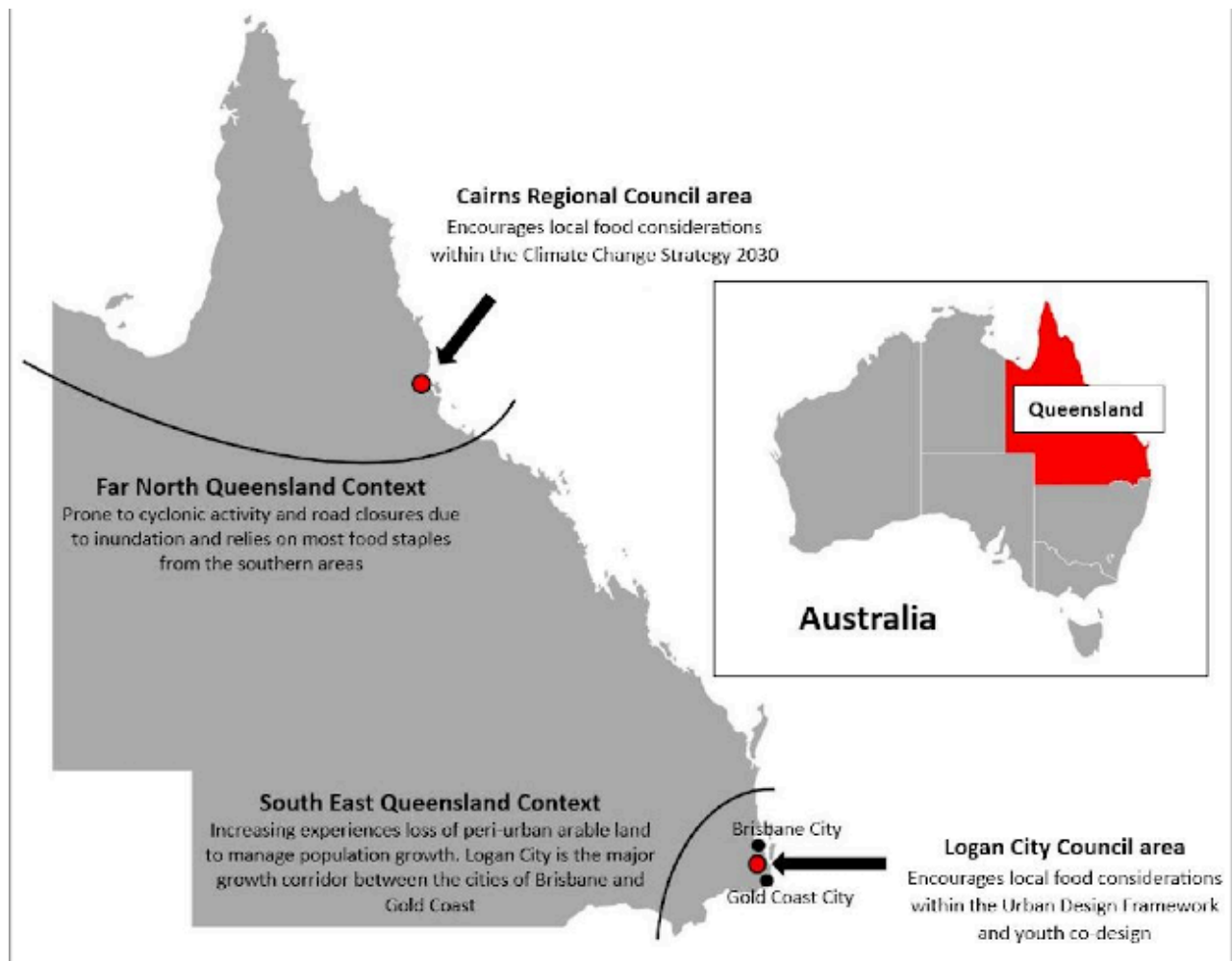


Figure 1. Two local food system planning contexts in Queensland, Australia.

emissions reduction agenda. For example, in terms of facilitating the objective to reduce emissions across the Cairns community, a key action to achieve this success is to “encourage the uptake of locally produced goods and services” (CRC, 2022, p. 23). To buy local food products is to reduce ‘food miles’ or the crude oil that is embodied in the food transported from the farm paddock to the consumer’s plate (Li et al., 2022). This objective aligns well with the ‘Buy Local’ Agenda that advocates the adoption of local procurement arrangements to support the longevity and resilience of locally-owned businesses and jobs (Queensland Government, 2023).

The second objective for the Cairns community is to build resilience to the economic impacts of climate change. A key action to achieve this success is explicitly to “improve food security through initiatives that strengthen local food supply chains” (CRC, 2022, p. 23). A core outcome of the partnership between Griffith University and the Disaster Management Unit of Cairns Regional Council is the Local Food Resilience Hub, see: <https://www.cairns.qld.gov.au/community-environment/sustainability/resources-and-community-groups/local-food-resilience-hub>.

This is an online (stage one) directory to the broader community for accessing local food options, operating under the

purview of the council’s sustainability agenda (Reis et al., 2021).

Example 2: Local food planning through urban design and youth engagement in Logan. The second local government example is the Logan City Council, administering the Logan jurisdiction between the cities of Brisbane and the Gold Coast in the SEQ area. Logan City Council's planning scheme is reviewed every ten years to guide future and sustainable infrastructure development. With industry review in 2021-2023, including expertise from Griffith University, a period of consultation led to the commencement in 2025 of the new *Logan Plan 2025* (LCC, 2025).

Logan city's *Urban Design Framework* (LCC, 2022) went through the industry and expertise engagement phase and a period of community consultation to become the guiding strategic document, local to Logan, that informs the *Logan Plan 2025*. The *Logan Urban Design Framework* also functions to identify aspirational urban design principles that will inform future work streams in urban design in response to projected population growth and the need for placemaking.

Similar to the example of the Cairns *Climate Change Strategy*, the *Logan Urban Design Framework* is not a food-focused policy, but again, food systems are implied

by the need for urban design considerations for building placemaking with the high population growth context. Accordingly, designing places that encourage the strong social cohesion that buffers times of economic hardship is valued. The resilient design principle articulates the aspiration to move toward engaged and self-sufficient communities.

A key example of this objective is to “explore opportunities to incentivize local food production, urban horticulture and edible landscapes to reduce demand for external goods” (LCC, 2022, p. 35). Furthermore, the design principle for embracing nature acknowledges that “urban green coverage” including “urban forests, green roofs, green walls and community gardens” that are integrated with the functions of daily life reinforces and consolidates resilient communities. Supporting resilience efforts requires an engaged community who are incentivized to “explore opportunities for community groups to lease and manage green areas and assets” and “encourage the development of community gardens and allotments within public areas” (LCC, 2022, p. 35).

In conjunction with the design focus of planning policies, planning practitioners benefit from working with youth to develop demonstration sites of what can be achieved when local food systems are incentivized.



Figure 2. Farm fundraising event with key partners: Griffith University, Logan City Council CityStudio, Loganlea State High School and the Mini Farm Project.

For example, a joint project between Logan City Council, Griffith University, Loganlea State High School, and the Mini Farm Project directly benefits students and the wider school community by enabling youth co-design of the site, employing a farmer, teaching students to grow and harvest fresh food, adding value through the school kitchen, and selling produce to local businesses. A portion of the produce is donated to food relief agencies servicing the Logan area (Reis et al., 2023b). A 10 acre Youth Training Farm is also in development with the Youth Enterprise Trust (Mini Farm Project 2026).

During 2021-2022, the *CityStudio* initiative, funded and administered through Logan City Council, facilitated our university-community partnership to grow this model of youth co-design in the City of Logan (Reis et al., 2023a).



Figure 3. Loganlea State High School students proudly show the fruits of their work completed with the Mini Farm Project and the CityStudio initiative of Logan City Council.



Figure 4. Griffith University’s first year Environmental Planning students present their ideas to the place making and urban design team of Logan City Council.

During 2023-2024, the place making and urban design team of Logan City Council continued these efforts to harness the creativity of first-year Environmental Planning students at Griffith University to generate co-designed edible landscapes that are climate adaptive, harness the benefits of stormwater ecology, promote a sense of



Figure 5. Loganlea State High School Mini Farm launch in 2023.

belonging in the urban community, and therefore mobilize the design principles of the Logan *Urban Design Framework*.

Concluding Thoughts. The Cairns *Climate Change Strategy* and the Logan *Urban Design Framework* are both recent policies that explicitly seek to integrate access to locally and regionally-derived food systems as adaptative innovations to climate and population pressures. In light of the lessons learned about forging food access opportunities and developing strategic objectives, the following recommendations are offered:

- First, planning practitioners must be willing to *work across portfolio silos*. The readiness to work with specific policy priorities that are not food-focused is well-aligned with the place-based approach to policy development and can lead to favorable outcomes for urban and regional food system planning.
- Second, planning practitioners must then be willing to *seek the common ground for advancing the multiple resiliencies* that can be achieved through those food systems. In this way, food system planning becomes a viable and compelling avenue to advance a range of adaptive capacities that also offer agile and robust solutions to various portfolio agendas.
- Finally, the disaster risk management framework for *sharing responsibility has much for us to reflect and enact upon* as planning practitioners, in our ongoing pursuit to aid our communities and youth to build their own capacities

for urban food resilience (Reis et al., 2019).

References

- Cairns Regional Council (CRC). (2022). *Cairns climate change strategy 2030*. <https://www.cairns.qld.gov.au/community-environment/climate-change/cairns-climate-change-strategy>
- Department of Infrastructure, Local Government and Planning (DILGP). (2023). *Shaping SEQ: South east Queensland regional plan 2023*. State of Queensland. https://www.planning.qld.gov.au/_data/assets/pdf_file/0024/86145/shapingseq-2023-Low.pdf
- Higgins, A., McFallan, S., Laredo, L., Prestwidge, D., & Stone, P. (2015). TRANSIT – A model for simulating infrastructure and policy interventions in agriculture logistics: Application to the northern Australian beef industry. *Computers and Electronics in Agriculture*, 114, 32–42. <https://doi.org/10.1016/j.compag.2015.03.018>
- +Urban+Design+Framework.pdf
- Keegan, S., Reis, K., Roiko, A., & Desha, C. (2024). Exploring resilience concepts and strategies within regional food systems: A systematic literature review. *Food Security*, 16, 801–825. <https://doi.org/10.1007/s12571-023-01418-9>

- Keegan, S., Reis, K., Roiko, A., & Desha, C. (2025). Informing governance for food system resilience: A comparative case policy analysis of two Australian regions impacted by multiple disasters. *Journal of Comparative Policy Analysis*, 27(4), 410–433. <https://doi.org/10.1080/013876988.2025.2544892>
- Li, M., Jia, N., Lenzen, M., Malik, A., Wei, L., Jin, Y., & Raubenheimer, D. (2022). Global food-miles account for nearly 20% of total food-systems emissions. *Nature Food*, 3, 445–453. <https://doi.org/10.1038/s43016-022-00531-w>
- Logan City Council. (LCC). (2022). *Urban design framework*. https://www.logan.qld.gov.au/files/assets/public/v/1/planning-and-building/documents/urban_design_framework_accessible_v10d.pdf
- Logan City Council. (LCC). (2025). *Logan plan*. <https://www.logan.qld.gov.au/planning-and-building/planning-and-development/logan-planning-scheme/logan-plan>
- Mini Farm Project. (2026). *About us*. Mini Farm Project. <https://mfp.org.au/pages/about-us>
- Queensland Government. (2023). *Buy Queensland initiative puts Queenslanders first, now and into the future*. <https://statements.qld.gov.au/statements/97839>
- Reis, K., Desha, C., & Rifai, A. (2019). Planning for food contingencies: A call to action. *Australian Journal of Emergency Management*, 14–15. <https://knowledge.aidr.org.au/resources/ajem-october-2019-planning-for-food-contingencies-a-call-to-action/>
- Reis, K., Desha, C., Bailey, M., Liddy, P., & Campbell, S. (2021). *Towards local food resilience: Key considerations for building local food resilience and contingency plans – A focus on the Cairns region (Final report)*. Griffin University in consultation with the Cairns Regional Council. <https://dx.doi.org/10.25904/1912/5027>
- Reis, K., & Desha, C. (2022). Closing the loop on local food access through disaster management. In R. C. Brears (Ed.), *The Palgrave encyclopedia of urban and regional futures*. Palgrave Macmillan. https://doi.org/10.1007/978-3-030-87745-3_53
- Reis, K., Desha, C., Campbell, S., & Liddy, P. (2022). Working through disaster risk management to support regional food resilience: A case study in north-eastern Australia. *Sustainability*, 14(4), 2466. <https://doi.org/10.3390/su14042466>
- Reis, K., Brent, G., & Martin, S. (2023b). Collaborative local food resilience planning in Logan, Australia. In M. Heim & J. Mittal (Eds.), *Routledge handbook of university–community partnerships in planning education* (pp. 305–327). Routledge. <https://doi.org/10.4324/9781003347873-24>
- Reis, K., Desha, C., & Burkett, I. (2023a). *Building resilient local food ecosystems in a growth corridor: A focus on the city of Logan (Final report, July)*. Griffith University. <https://doi.org/10.25904/1912/5028>

Acknowledgments

We thank Lili Boenigk for reviewing this case study.

Additional Data

- **Population Density:** Cairns: 101.8 people/km²
Logan: 378.4 people/km²
 - **Per Capita Gross National Income (GNI):** 68,920 USD (High Income) [2024]
 - **Gini Coefficient:** 51.6 [2023]
 - **Human Development Index (HDI):** 0.958 (Very High) [2025]
 - **Type of Climate Intervention:** Adaptation
-