



Who is responsible for ensuring food security in NSW?

A brief review of risks, opportunities, and policies for creating resilient food systems and healthy communities in Greater Sydney

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About the authors

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Executive Summary

The double crises of COVID-19 and catastrophic bushfires in 2020 exposed underlying fragilities in Australia’s food security, particularly with the sustainability of local supply chains and access to affordable, healthy food in vulnerable populations. Addressing food insecurity offers a visible path towards achieving health equity for Australians, particularly vulnerable communities.

This Report asks, who is responsible for ensuring food security and resilient food systems in NSW? To address this, we review NSW food policy, particularly as it pertains to the sustainability and resilience of Sydney’s peri urban food system. Moreover, food security is a key determinant of health and an indicator of economic stability of households. We define a resilient peri-urban food system as one that firstly ensures food security (food is accessible, affordable and healthy & desirable) and secondly, that it is produced and distributed sustainably (including sufficient local production, safe, environmentally sustainable, supporting farmer livelihoods, contributing to the economy).

Sydney peri-urban food production is under threat from competing economic interests. Our high-level review suggests that economic contribution is the dominant lens through which food systems are viewed. The core purpose of Sydney’s – or any region’s– food system is arguably, “healthy diets for everyone, produced sustainably” but the current overriding focus on economic value contributes to an undervaluing of other key attributes and functions of the system. It also risks the further loss of important agricultural land to activities with a higher short-term economic value. In Sydney’s peri-urban areas for example, planning laws favour highest economic value land use – typically residential development - over agriculture and rising peri-urban land prices are causing some farmers to sell.

In addition to the need to better value the core attributes of Sydney’s food system, we contend that the food systems that underpin the resilience of our cities, State, and nation necessitate a reframing under a holistic governance architecture. There is no comprehensive, unifying and coherent food policy in NSW that adequately recognises and governs all aspects of a functioning, sustainable food system. Many different policies relate to different parts of the food system, but there are crucial gaps, particularly in relation to affordability of fresh food and environmental sustainability of local food production. The absence of a coherent policy may undermine the security of the system as a whole and its ability to deliver nutritious diets for Sydney residents, particularly vulnerable populations.



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Developing a comprehensive food policy for NSW will ensure the security of the system, as a whole, and safeguard its ability to deliver nutritious diets for Sydney residents, particularly vulnerable populations.

The governance of food systems is also fragmented, with different departments and jurisdictions having responsibility for different aspects of the system. No single department or jurisdiction has clear responsibility for oversight of the system as a whole. Monitoring and feedback on the system as a whole, which is essential for any well-functioning system, is therefore absent. This fragmentation of governance reflects the absence of a comprehensive food policy.

In the absence of a coherent policy, important aspects of management of the food system tend to be left to the market. This was evident during the early stages of the COVID-19 crisis when responsibility for maintaining food supplies fell to private sector players, including the availability of special provisions for vulnerable groups such as the elderly (such as dedicated shopping periods). Charitable organisations were also required to plug gaps in food affordability for newly and already vulnerable groups.

Even before the double crises, inequitable access to nutritious foods --a risk factor for non-communicable chronic diseases--has been contributing to Type 2 diabetes mellitus (T2DM), the largest disease burden in Australia of preventable, lifestyle related diseases. This may be viewed as an illustration of the types of issue associated with the absence of coherent and holistic food systems governance, that adequately balances and links all food system functions to healthy communities.

While crises can exacerbate and highlight systemic issues, disruption can also drive innovation and create the impetus to re-evaluate and re-set systems for greater sustainability and resilience. There is support for the idea of 'building back better'¹ - using the necessary post-pandemic period of economic recovery as an opportunity to do things differently and better. This report briefly discusses the disruptions in Australia's food systems exposed and exacerbated by COVID-19. It suggests that NSW's COVID-19 recovery effort provides the opportunity to critically assess food security and policy with a view to addressing known fragilities and systemic issues for the long-term. This would ensure that our food systems are sustainable and our communities are more resilient to future crises and have access to healthy foods in order to prevent non-communicable diseases caused by poor diets and physical inactivity, such as Type 2 diabetes mellitus² and heart disease.

The report identifies and briefly articulates three clear next steps on a way forward to ensure food security and the resilience of food systems in Sydney and NSW, summarized as:

- Develop comprehensive food policy for NSW
- Underpin policy with evidence-based research
- Evaluate the effectiveness of current policies.



Introduction

Appetite for change

Australia knows the importance of securing vital resources like water and energy for sustaining livelihoods. Yet we often assume that food security and nutrition is a given in a country that feeds more than twice our own population³. However, the 2020 bushfires and the COVID-19 pandemic revealed elements of fragility in our food systems, and have threatened people's access to food, and increased food poverty^{4,5}.

Globally, food systems were vulnerable before COVID-19 hit and in urgent need of transformation. The high-level report by the Global Panel on Agriculture and Food Systems for Nutrition released September 2020 acknowledged frankly: *"Put simply, the policies that fed the world in the twentieth century are no longer fit for purpose... Our food systems are failing to produce the foods essential for healthy diets in sufficient quantity and at affordable prices."*⁶ It is now internationally recognised that food systems policies need to acknowledge the interlinkages between food, public health, and the environment, or, planetary health⁷.



What the COVID-19 crisis revealed about Australia's food systems

On one level, Australia's food system appears to have held up relatively well to the COVID-19 crisis. Initial city supermarket food shortages were largely resolved and shelves reverted to being well stocked. However, the crisis also revealed fragilities in the food system. Firstly, existing inequalities have been exacerbated with vulnerability increasing in groups, such as the unemployed, who are particularly susceptible to food insecurity^{8,9} (a key social determinant of health¹⁰ and an indicator of economic stability of households,¹¹ that is largely underreported and for which measurements are currently outdated.¹²)

Aboriginal and Torres Strait Islanders, particularly those who are older adults, were already vulnerable before COVID-19 began with an estimated "40% exposed to food insecurity with food depletion and inadequate intake"¹³. Many government-assisted households within the City of Sydney already experienced food stress, spending a third of their income on food, compared to typical households who spend approximately 5-10% of their income on food¹⁴. In 2020, Foodbank reported that, "those who were already struggling before coronavirus hit felt the effects more quickly and more seriously."¹⁵ Their 2021 report found

that one in six Australians hadn't had enough to eat in the last year and 1.2 million children went hungry during the same period¹⁶.

The COVID-19 crisis has also increased unemployment and therefore the number of people who are likely to experience food insecurity. Additionally, charities reported food insecurity in newly vulnerable groups who did not have access to government assistance - international students and casual workers.¹⁷ This is reflected in an increased demand for food relief services. In 2020, Foodbank reported an overall increase of 47% in demand for food relief from charities since 2019.¹⁸ In 2021, Foodbank noted that, "more than one in three food insecure Australians (38%) had never experienced food insecurity prior to COVID-19."¹⁹ Government relief measures, such as the JobKeeper Payment, helped to some extent, but the roll back of these support measures, combined with the impact of multiple lockdowns and additional job losses has made things more difficult.²⁰ 48% of food insecure Australians who accessed Jobseeker and JobKeeper payments said they were not coping at all well since the payments were wound back.²¹

Even as demand has increased, necessary social distancing measures and other pressures have disrupted the delivery of food relief services, for example, through a reduced volunteer workforce²² to pack and distribute food²³.

The COVID-19 crisis has also disrupted some supply chains, putting pressure on some critical farm inputs and increasing financial stress for farmers. For example, backpacker labour shortages to pick seasonal fruit and other key crops in Australia resulted from border restrictions limiting flights²⁴. The fruit industry alone reported losses of \$22 million last year due to spoiled unpicked fruit²⁵. Local food hospitality and export markets have also been negatively impacted.²⁶ Further, critical fertiliser value chains into Australia have been impacted by the pandemic. Fertiliser prices doubled between 2020 and 2021, in part because a third of China's phosphate production (the world's largest exporter) is in the COVID-19 epicentre, Hubei Province²⁷. Production was halted, prices spiked and new export bans were imposed. Australian agriculture is critically dependent on imported phosphate from China, and some experts expect this disruption will likely reduce Australian agricultural yields and global food prices²⁸.

Despite these negative impacts, there are positive signs in responses to the crisis. There is anecdotal evidence, for example, of an increase in backyard food growing during lockdown²⁹ an increase in home cooking (including families eating together more frequently) and increased demand for local food. Innovative measures have also popped up to provide food relief and maintain supply of local fresh food, such as Acres and Acres Co-op, a hybrid community garden and market garden³⁰ and Moving Feast, a collective of social enterprises formed to provide food relief to vulnerable groups while also aiming to create "integrated and resilient local food systems"³¹. These are illustrations of crisis spurring innovation that ultimately could lead to greater community resilience.

Benefits of local food production: the case of Sydney

Today, more than half of food consumers worldwide live in and around urban centres. More than 60% of NSW food consumers live in Sydney, yet the critical role that Sydney's peri-urban food system plays is often ignored or undervalued.

There are enormous benefits to growing fresh food in the Sydney basin – and, indeed, near any city. Perishable foods like Asian greens, parsley and eggs can be grown close to market, thereby reducing spoilage and supply chain waste and reducing food miles so less energy is required to store, cool and transport food. Shorter food value chains can buffer against fuel price shocks, climate change, and other disruptions to supply³². More than half of NSW vegetables are currently grown in the Murray-Darling and Murrumbidgee regions, where water availability is becoming a significant problem, exacerbated by climate change³³. Sydney has good quality agricultural land and may also have more reliable rainfall than inland areas under a changing climate that impacts precipitation. Local agricultural land can also support biodiversity by providing wildlife corridors, green spaces for the public to enjoy, and, can reduce the urban heat island effect. Indeed, large vegetated agricultural acreage lots can remain substantially cooler (by as much as 10-15 degrees) on hot days than adjacent residential areas³⁴.

Due to their proximity to cities, these peri-urban food systems can also facilitate a circular bio-economy, by converting food waste and wastewater into the nutrients and compost needed to grow our food. This also

protects our rivers and ocean from nutrient pollution and can prevent a tremendous amount of food and organic waste from cities heading to landfills, where they would otherwise decompose to release methane, a potent greenhouse gas. Global reserves of phosphate, an essential component of fertiliser, are finite, rapidly depleting and controlled largely by Morocco and a handful of other countries³⁵. Recycled, renewable organic wastes from cities helps diversify phosphate fertiliser sources away from imports, buffering against geopolitical risks, extending the life of the world's finite reserves, and reducing phosphorus pollution of our rivers and oceans³⁶.

Importantly, increasing the availability of fresh local foods like vegetables and eggs can make healthy food more accessible to residents, contributing to local food security. Land-based agriculture and food processing are also labour-intensive, providing significant local job opportunities. The benefit of Sydney's agriculture to the NSW economy is estimated at upwards of \$4.5 billion when considering the multiplier effect down the food value chain³⁷. However, there are a number of serious challenges threatening Sydney's peri-urban food system.

Challenges facing Sydney's peri-urban food system

Long before COVID-19 hit, urban growth in a geographically constrained Basin has been eroding Sydney's peri-urban food production at an alarming rate (Box 1). Rising land values, diminishing financial returns and external economic pressures such as restrictions on farming operations (due to social factors such as local resident complaints about noise) are making it harder for farmers in peri-urban areas to maintain their livelihoods. Further complicating this picture, not all local food production is destined for Sydney markets. The opening of the second airport in Western Sydney could exacerbate this, with current policies/plans (such as the Western Sydney District Plan) specifically encouraging the export of food to Asian markets (see Policy Review below).

At the same time, environmental constraints, such as limited access to healthy foods in low-income neighbourhoods - known as "food deserts"³⁸ - and the inequitably distributed social elements of health are contributing to one of NSW and Australia's largest diabetes hotspots, in Western Sydney (Box 2). The relationship between the built local food environment (such as food stores), diet, and disease is well established for marginalized populations³⁹. Yet, improving access to healthy foods and providing sustainable dietary changes in urban areas in order to reduce chronic disease risk is hard to achieve.⁴⁰

Diabetes mellitus is a serious consequence of limited access to healthy foods in the built environment and is the largest contributor of the total disease burden in Australia,⁴¹ even though 80%-90% of the cases are preventable. The nation faces a growing epidemic with annual economic costs estimated at \$14.6 billion⁴². Poor diets and physical inactivity are leading causes of Type 2 diabetes mellitus (T2DM). Contributing factors include social and cultural factors, ethnicity, an ageing population, and related dietary changes in ethnically diverse populations. People with ancestry from the Indian subcontinent, and parts of Asia, experience greater burdens of disease, delayed disease management, and cardiovascular disease- and diabetes-related end points, while Afro-Caribbean populations have a higher burden of cerebrovascular-related end points. In NSW, Aboriginal and Torres Strait Islander people are almost four times more likely than non-Indigenous Australians to have pre-diabetes or diabetes. On current trajectories, 3 million Australians are projected to be affected by diabetes mellitus by 2025.⁴³

Box 1: Growing Sydney: Paving Over Fertile Farmland

For decades, experts have argued that competing priorities for Sydney's fertile farmland are threatening future supplies of fresh, local foods. A 2016 study undertaken by the Institute for Sustainable Futures found that if no changes are made to our current path, Sydney stands to lose over 90% of its current fresh vegetable and egg production. Total food production could drop by 60%. This is because the NSW and local planning systems do not prioritise agriculture as a land use, meaning urban sprawl into peri-urban areas continues. Currently, such processes by default preference the land of highest value, allowing agricultural land to be rezoned to residential sub-division or other high-value land uses.

As a consequence of this loss of agricultural land to urban expansion, coupled with 1.6 million extra mouths to feed, food production in the basin may only be able to feed 6% of Sydney by 2031, instead of the current 20%, further exposing Sydney residents to a range of risks, such as supply chain disruptions and climate change impacts such as the urban heat island effect. If there were a disruption to Sydney's main transport route, Sydney's fresh food reserves are estimated at only a few days' worth of supply⁴⁴.

See more: www.sydneyfoodfutures.net

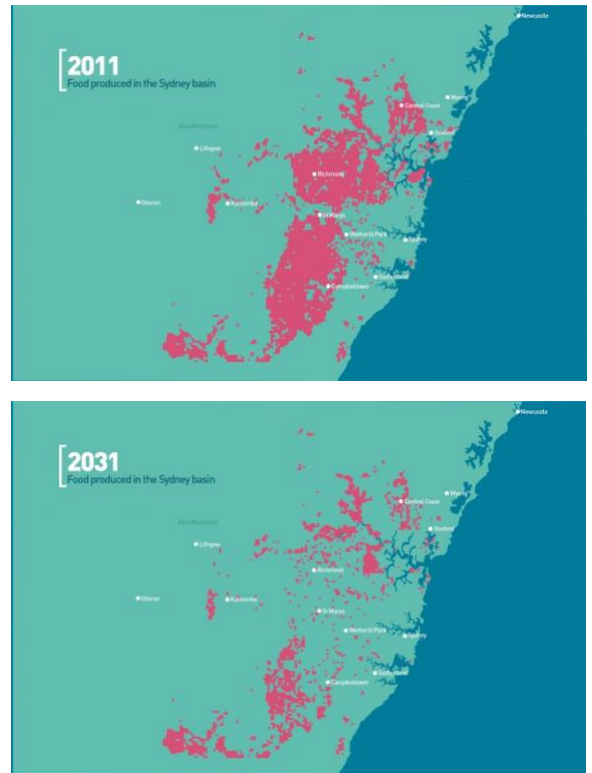


Figure 1: Projected loss of 60% of food production in the Sydney Basin between 2011 and 2031⁴⁴.



Box 2: Western Sydney: Obesity & Diabetes Hotspot

Western Sydney is a known NSW diabetes hotspot for diverse communities. It is now estimated that a record 12% of adults in Western Sydney have diabetes, a number that has been steadily increasing since the 2000s. The social and economic costs of chronic diseases in Western Sydney, including T2DM, are high, yet largely preventable by offering healthy lifestyles (diets and physical activity). Public health interventions are underway to test the feasibility to apply a multisectoral approach in tackling primary risk factors, such as addressing “food deserts” in local built food environments (Figure 2) and increasing access to healthy foods for Western Sydney communities at risk. Social determinants of health - the conditions and environments in which people are born, live, work, play, and age - are known to be intergenerational, geographical, relational, and inequitably distributed. This has particularly negatively impacted Western Sydney. These risk factors, when left unaddressed, manifest in inequities in T2DM risks and related cardiovascular disease complications. This includes higher rates in Sydney’s west, most notably around Blacktown and Mount Druitt. Addressing these inequities has been a policy priority of the Western Sydney Diabetes and the WSD Alliance – a consortium of local key stakeholders, including community members, government, non-governmental organisations, universities, and the private sector^{45 46}.

See more: <https://www.westernsydneydiabetes.com.au>

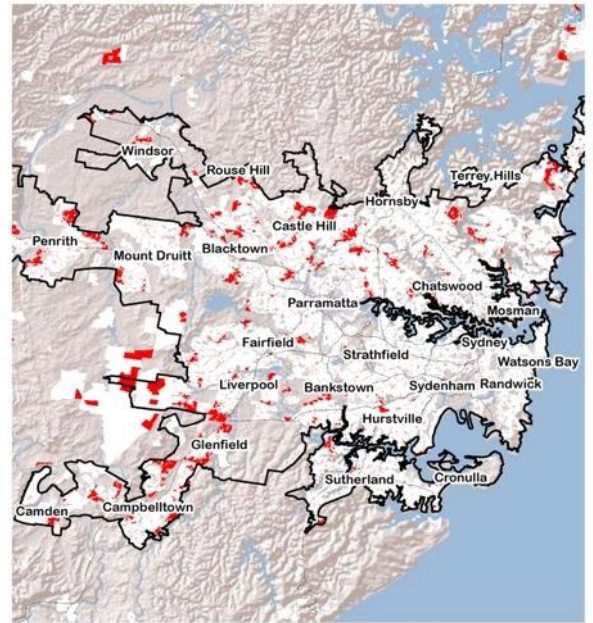


Figure 2. Mapping healthy “food deserts”. Red areas indicate no supermarket or greengrocer within 1.6km and at least 1 takeaway food outlet within 1.6km⁴⁶.

A Resilient Peri-Urban Food System

Healthy Diets for Everyone, Produced Sustainably

So what would a resilient food system look like for Sydney? Ultimately, the purpose of a food system is to provide nutritious food sustainably and equitably to support all people to live healthy, long lives. That is, to ensure food security. Food needs to be nutritious, diverse and culturally appropriate, to support active lives and the health of our city's residents⁴⁷.

Prevention of all forms of malnutrition⁴⁸ requires modification of the food-related behaviours of consumers from multiple perspectives. Consumers need to have sufficient health literacy to make empowered choices.⁴⁹ In terms of food choices, health literacy translates to the knowledge and agency to choose, prepare, store and cook nutritious balanced foods, supported by responsible marketing. Importantly, fresh nutritious foods need to be affordable to consumers, meaning the price of food relative to their incomes is below 25%⁵⁰ - year-round, including safeguards for vulnerable groups⁵¹. Affordable fresh food also needs to be physically accessible to consumers. That is, fresh food retail outlets are located in reasonable proximity to consumers, with convenient hours of operation, such that consumers have short, safe and affordable transport routes to reach fresh food retail outlets (via walking, bus, train or car).

Peri-urban food systems are important to ensure sufficient and sustainable local production of, and access to, fresh healthy foods. This means that Sydney's peri-urban agriculture needs to be protected, supported, and expanded⁵², and food produced in ways that support the health of the environment, the economy, and livelihoods of farmers and others. Local food production ideally forms part of the circular bioeconomy⁵³, which goes beyond environmental protection to actually regenerate and restore natural capital. Production and the food value chain activities must be resource efficient (avoid food waste, low energy, recycle resources), ultimately become carbon neutral (including carbon sinks⁵⁴), and protect or even benefit the local environment, including both natural and built-up areas (such as prevent land, water, air pollution, and protect or create biodiversity wildlife corridors). Food should be produced safely both in agricultural processes (with respect to pesticides, other chemicals, pathogens etc), and, in the post-farm gate supply chain (e.g. appropriate storage temperatures and packaging). Sydney's agriculture and the value chain ideally needs to contribute directly and indirectly to local employment and the NSW/Australian economy – such as through labour, commodities or agro-tourism. Finally, a resilient Sydney peri-urban food system means farmers need viable commercial conditions, a fair price for commodities, land security and a social license to operate.



Put simply this equates to, “Healthy diets for everyone, produced sustainably”⁵⁵. Figure 3 summarises the cross-cutting core components and wider societal benefits of a resilient Sydney peri-urban food system, and some of the local and global challenges facing such food systems at cities’ fringes. Additionally, the food system needs to be resilient and adaptable to sudden shocks (like COVID-19 and bushfires) but also to known threats and stressors like climate change and T2DM⁵⁶. An examination of three cities’ resilience to COVID-19 found that a strong understanding of the city regions food system, including key actors, “vulnerabilities and exposure to shocks and stresses” enabled governments to plan, make informed decisions, and determine priorities that supported the resilience of their food systems⁵⁷.

A RESILIENT PERI-URBAN FOOD SYSTEM

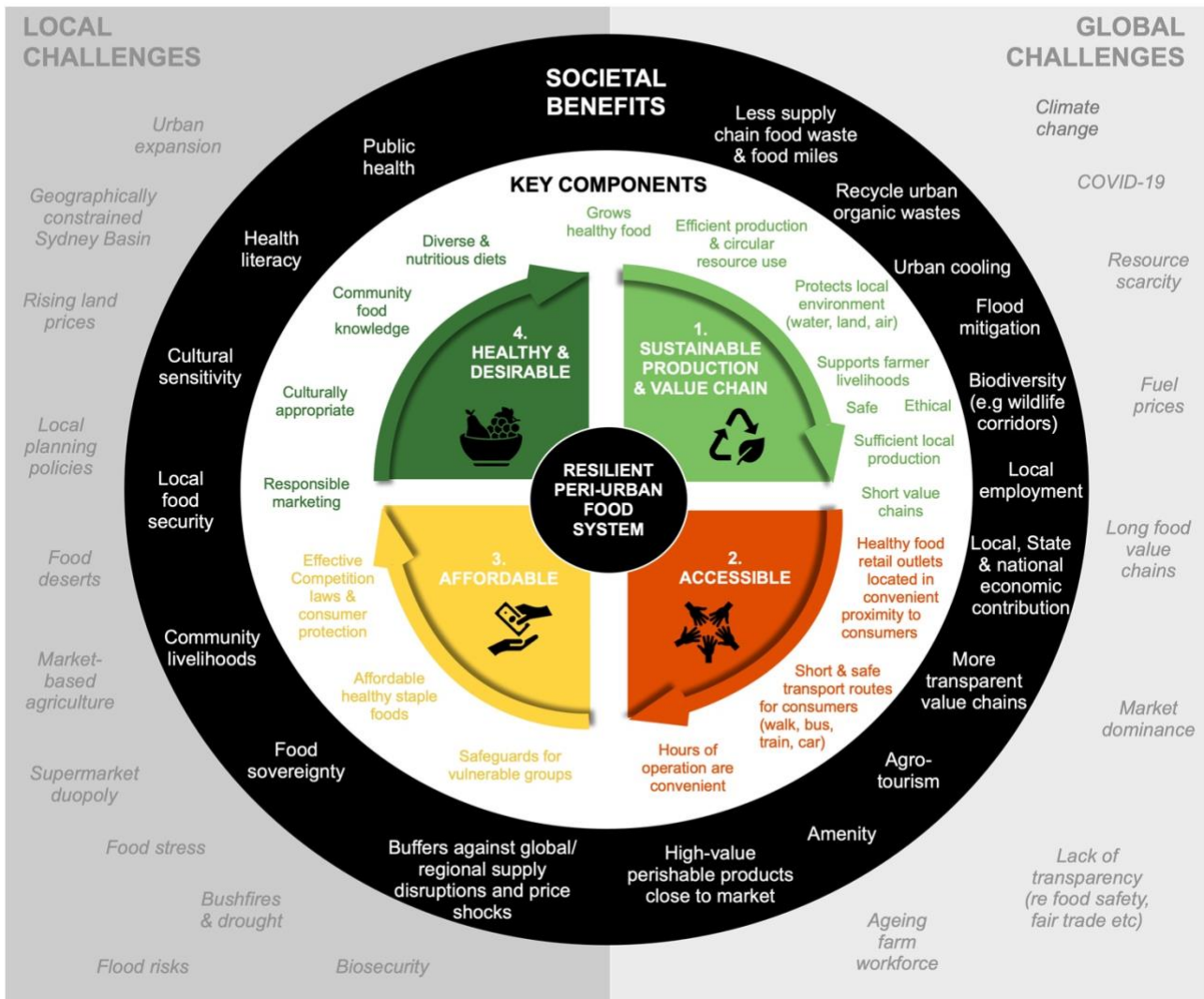


Figure 3: A resilient peri-urban food system ensures food is: produced and distributed sustainably (1), accessible (2), affordable (3) and healthy & desirable (4) in order to provide fundamental sustainability benefits that mitigate local and global challenges.

Source: authors

Food Policy

So, who is responsible for ensuring food security and nutrition for the wellbeing of Sydney residents and the resilience of the peri-urban food system? What is government’s role in managing the food system through prosperity, disasters, and crises? To answer these questions, this report briefly looks at historical NSW and Sydney agricultural policy before reviewing key current NSW policy documents. A secondary question of interest was, ‘How is the peri-urban food system framed and understood in NSW policy?’.

Historically, food security was at the heart of Australia’s early settler policy; indeed, the prioritisation of agriculture and food production by successive Governors of NSW was not simply a matter of survival for the colony, it was a foundational component to the socio-political experiment pursued through the colonisation of NSW.^{58 59} Over time, priorities shifted and a significant negative outcome of the evolution of Sydney’s agricultural history is the large scale urbanisation of Sydney’s peri-urban agricultural lands. This directly threatens the region’s food security yet is constructed in contemporary planning documents as both ‘necessary and inevitable’.⁶⁰ Furthermore, agriculture in Sydney is presented as only having a place if it can successfully connect into the city’s ‘global’ vision. Agriculture and the peri-urban areas they are located in ‘are not considered to have unique planning needs but are imagined as latent spaces that will enable Sydney to meet its housing and job targets through their future development’.⁶¹ In NSW today, peri-urban food issues are caught at the intersection between metro planning and agricultural liberalisation.⁶²

While responsibility for the food system is spread across multiple levels of government, given our particular interest in peri-urban food systems, this paper focuses on State government, as strategic oversight of city planning issues falls within the remit of State government, as does the governance of primary industries. Relevant NSW policies were mapped against the four core criteria of resilient peri-urban food systems identified in Figure 3: 1. Sustainable production and distribution.⁶³ 2. Accessible, 3. Affordable, 4. Healthy & Desirable. Our high-level review examines the degree to which key policy documents acknowledge and discuss each (Table 1) and critically examines how the food system is framed within NSW Government policy documents.⁶⁴

An analysis of our findings is presented in Table 1 below.



Table 1: Coverage of key features of the food system in NSW policy documents

NSW DEPARTMENT AGENCY & POLICY		SUSTAINABLE PRODUCTION & RETAIL				FOOD SECURITY		
		Sufficient local production ¹	Safe	Environmentally sustainable	Farmer livelihoods	Economic contribution	Nutritious diets	Affordable
Greater Sydney Commission	Greater Sydney Region Plan: A Metropolis of Three Cities (2018)	◆		○		◆	○	
	Our Greater Sydney 2056: Western City District Plan (2018) ²	◆		○		◆	○	○
Planning	A Plan for Growing Sydney (2014)	◆		○	○	○		○
	Metropolitan Plan for Sydney 2036 (2010) [*joint responsibility with Depts of Premier & Transport]	✓		◆	◆	◆	○	
	State Environment Planning Policy (Primary Production and Rural Development) (2019)			◆	◆	○		
Primary Industries	NSW Right to Farm Policy (2015)	○			✓	○		
	Maintaining land for agricultural industries (2011)	◆		○	◆	○		
	NSW Biosecurity Strategy 2013-21 (2013)		◆			○		
	NSW Government Food Safety Strategy 2015-21 (2015)		✓	○		✓	◆	
	International Engagement Strategy: Working with NSW agribusiness (2015)		○			✓		
	Agricultural Industry Action Plan: Primed for Growth, Investing Locally, Connecting Globally (2014)		○	◆	◆	✓		
Health	NSW Health State Plan: Towards 2021 (2014)						○	
	Healthy Built Environment Checklist (2020)	◆					✓	◆
	Healthy Food and Drink in NSW Health Facilities for Staff and Visitors Framework (2017)						✓	
	NSW Healthy Eating and Active Living Strategy (2013)	○					✓	○

Key: ✓ Extended discussion ◆ Acknowledgment with some discussion ○ Brief acknowledgement □ No acknowledgement

¹ Our analysis focused on peri-urban areas within the categories of 'sufficient local production' and 'farmer livelihoods' but was broader for the other six categories.

² Provided as an example of one of the five District Plans that sit under the Region Plan for Sydney

Findings

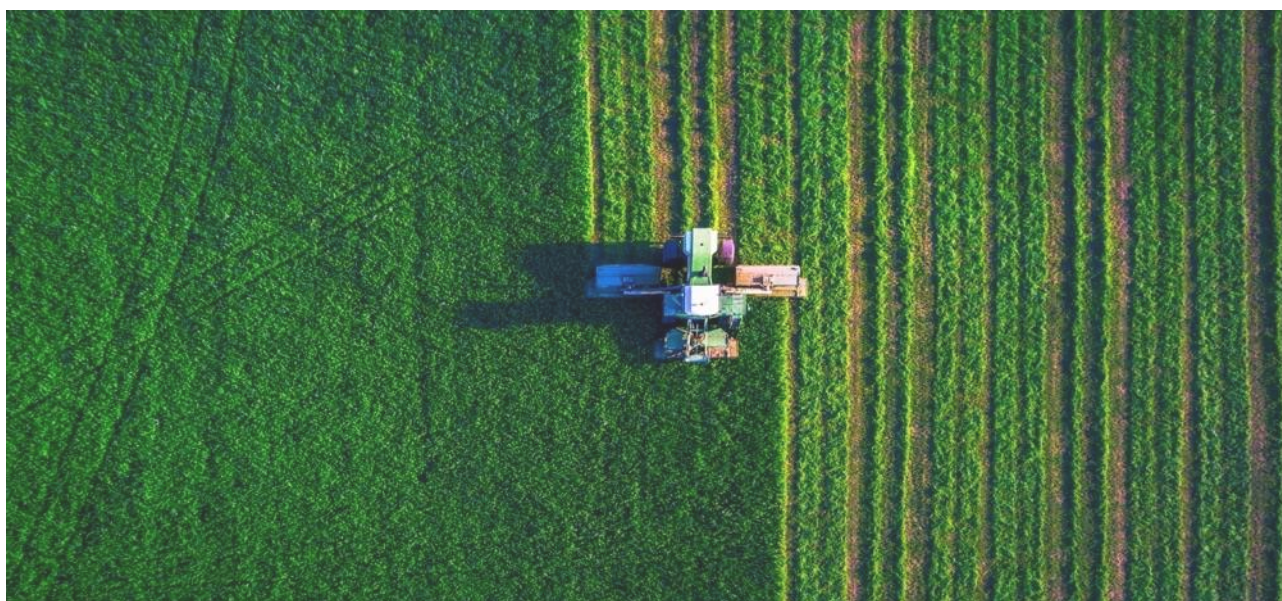
1. As of yet, there is no single policy or strategy document that comprehensively covers all aspects of the local food system. Responsibility for governance of the food system and ensuring food security and nutrition appears to be fragmented, incomplete, and ambiguous. Without holistic and comprehensive coverage, there is a risk that important aspects of the food system will fall through the cracks and hence be under-supported or protected.

The analysis in Table 1 illustrates that there is no single policy, plan or strategy that is comprehensive in covering all of the elements of the food system. Similarly, while many NSW policies touch on food issues, there is no policy or plan that has the food system as the core focus.

There are many policy areas that intersect with the food system (as demonstrated in Figure 3), and therefore multiple actors that are potentially implicated in governing the food system, food security, and nutrition. There are areas of national oversight (through, for example, Department of Agriculture, Water and the Environment), State issues⁶⁵ (e.g. healthcare, public health, strategic planning, regional NSW) and issues that fall within the remit of local government (such as local development and planning, local economics and amenity⁶⁶). Comprehensive food policy must work in an integrated, coordinated way across multiple sectors and institutions, including levels of government, non-government organisations, community-based organisations, universities, and partnerships with the private sector, as key stakeholders. In short, food systems operate across local, regional, national and international boundaries, and effective governance must reflect this.

2. Sufficient local food production is not adequately covered in the most recent planning documents. There is tension between stated commitments to local production and planned / current projects. There is a risk that sufficient local production will not be adequately safeguarded.

In the *Metropolitan Plan for Sydney 2036* (2010), there is an extended discussion about the importance of **sufficient local food production**, while there is less extensive coverage ('acknowledged with some discussion') of this issue in the two more recent city planning documents (*A Plan for Growing Sydney* (2014) and *Greater Sydney Region Plan* (2018)). There is in principle recognition within these documents that non-agricultural development of agricultural zones within Sydney should be minimised. This is, however, in tension with some of the development plans in the city, e.g. development around the airport at Badgery's Creek is discussed as an exception where agricultural land will be claimed for other uses. While the Aerotropolis' dedicated Agribusiness precinct proposed by the *Western City District Plan* (2018) would provide a hub of opportunities for high-value productive food processing and agri-business, the food is not guaranteed for Sydney consumers (indeed it would aim to 'enhance export capabilities').





3. The economic value of the food system is prioritised at the expense of important aspects, including implications of food safety in health policies.

There is a consistent focus across multiple documents on the economics of the agricultural industry, and the economic value of food production. For example, in the area of **food safety**, the *NSW Government Food Safety Strategy 2015-21* has a very strong economic focus – food is primarily positioned as an export commodity within this document and the idea that “safe food is big business in NSW” (p.3) is a core framing throughout the document. Similarly, in the documents reviewed, **farmer livelihood** is largely framed within the context of ensuring agricultural viability and managing land use conflict. For example, the purpose of the *Maintaining Land for Agricultural Industries* was “... providing certainty and security for agricultural enterprises over the long term and to enable those enterprises to respond to future market, policy, technology and environmental changes” (p.1). A key focus is to ensure that farming is economically viable, yet the challenges associated with peri-urban agricultural economic viability in the Sydney Basin are not addressed in this document. Similarly, the *Agricultural Industry Action Plan* aims to assist farmers to profit from export opportunities to Asia.

There was much discussion in the documents reviewed about the contribution of agriculture to the **economy**. This was the case across the documents emanating from Planning, the Greater Sydney Commission and Primary Industries. In contrast, the health policy documents reviewed did not engage with the economic contribution of the food system. The economic contribution was largely discussed in terms of the economic value, including export value (e.g. *International Engagement Strategy*), of food produced in NSW, as well as references to the employment provided within food production and related industries. In regard to peri-urban agriculture in Sydney, there were reflections on the contribution of the peri-urban areas above and beyond their relative size. The *Metropolitan Plan for Sydney 2036* states: “Sydney’s agricultural industries contribute approximately seven per cent of the State’s total value of agricultural production yet comprise just 0.2 per cent of NSW’s total rural holdings” (p.163). *A Plan for Growing Sydney* positions the economic assets of the Metropolitan Rural Area as needing to be protected. As described above, the economic contribution of food safety practice was made clear in the *Food Safety Strategy*, as was the economic need to manage biosecurity risks (*NSW Biosecurity Strategy 2013-21*).

Table 1 demonstrates a relative emphasis on the economic contributions of the food system, with other important elements not acknowledged and discussed to the same degree. This disparity risks privileging the economic value of our food system over other critical contributions that the food system makes to NSW society (such as export opportunities for peri-urban agriculture versus meeting local food demand). Contribution to the economy is an important feature of food systems but it should not be the dominant focus at the expense of other core functions.



4. Food and agricultural production are not consistently situated within the context of the whole food system, which leads to a risk of policy not being sufficiently holistic. Environmental sustainability is not given sufficient attention, yet it is a fundamental pillar of a healthy, resilient food system.

Our review found variation in recognition of the degree to which food and agricultural production is situated as operating within a broader food system, rather than a narrower focus on a particular aspect of the system. For example, the links between peri-urban agricultural and **environmental sustainability** are not strongly reflected in the documents reviewed. Some elements of sustainability are engaged with at a national level (e.g. National Food Waste Strategy 2017, which sits alongside a NSW based food waste reduction initiative⁶⁷). One notable exception to the absence of discussion about environmental sustainability was in the *Metropolitan Plan for Sydney 2036*, which included a section about tackling climate change (Section G). The environmental benefits of local food production generally were not strongly featured in the documents, and the discussion in the *Metropolitan Plan for Sydney 2036* was not part of subsequent city planning documents in 2014 and 2018.

5. Nutrition and the downstream effects on population health outcomes are currently not adequately integrated and aligned with aspects of the establishment and maintenance of upstream sufficient local food systems. Specifically, while the provision of nutritious diets is considered in existing policies, affordability of healthy foods needs to be integrated into the food and health policy lexicon. Without this integration, there is a risk that markets will not deliver sufficient and healthy diets equitably to all consumers.

Table 1 shows that the documents emanating from the Department of Health are most likely to engage with the food security elements of the food system – nutritious, affordable, culturally appropriate and sensitive, and easily accessible. **Nutritious diets** are briefly acknowledged in the city planning documents reviewed, and acknowledged and discussed in the Food Safety Strategy (in relation to the work of the NSW Food Authority and NSW Health to support healthier consumer choices through improved nutritional information), but most squarely focused on in the documents from the NSW Department of Health. While there is only brief acknowledgment in the *NSW State Health Plan*, this overview document directs readers to the *NSW Healthy Eating and Active Living Strategy*.




In the planning documents, the discussion of nutritious diets centre around the urban population needing access to fresh, healthy food. The *Healthy Built Environment Checklist* outlines the links between features of the built environment and health. There is relatively less discussion about **physical accessibility**, and little discussion about **affordability** in the documents reviewed. One exception is the *NSW Healthy Eating and Active Living Strategy* (2013), which briefly acknowledges that affordability is an issue for some Indigenous Australians, particularly for those in living in remote communities⁶⁸. The Healthy Built Environment Checklist makes the important link between *local* production and affordability. Despite this lack of engagement within the documents reviewed, there are a number of safety nets in place that support access to food for NSW residents who are under financial stress. For example, the NSW Food Program⁶⁹ funds the distribution of food to vulnerable people. In addition, food prices are regulated in NSW through market mechanisms, including competition and consumer law. However, our review highlights that the fragmentation of existing policies means that important aspects of the food system, like affordability, are not examined within the broader system.

Taken together, our review of coverage of the food system in key NSW policy, planning and strategy documents indicates that responsibility for the food system in NSW is ambiguous. The coverage of the food system in key documents is fragmented and incomplete. The fragmentation that we document here within NSW state government mirrors fragmentation at a national level⁷⁰.



Next Steps

This Paper identifies three concrete next steps as a way forward towards food security and the resilience of food systems in Sydney and NSW.

Next Step	Explanation
<p>Step 1</p> 	<p>Develop comprehensive food policy for NSW</p> <p>The policy gaps identified in this Paper and supported by existing literature point to the pressing need for the development of comprehensive food policy for NSW, that includes clear lines of responsibility for co-ordinating policy and programs. Such policy needs to explicitly include and interlink the goals underpinning resilience of the food system, that is: 1. food production is sustainable, safe, sufficiently local and supports farmers and the broader economy; and food is 2. affordable, 3. accessible and 4. healthy and desirable. The Milan Urban Food Policy Pact , for example, provides an excellent template at the local government level. The concrete recommended actions relate to: ensuring an enabling environment, sustainable diets and nutrition, social and economic equity, food production, food supply and distribution, and food waste . In early 2021 City of Sydney resolved to become a signatory to the Pact .</p> <p>In particular, such integrated policy needs to pay attention to:</p> <ul style="list-style-type: none"> • Developing and streamlining consistent terminology of these 4 goals (including food security) together with stakeholders, to reinforce coordinated integrated policies and programs. • the needs of marginalized groups, including Aboriginal and ethnically diverse and socio-economically disadvantaged households in high-risk areas such as Western Sydney, particularly in light of vulnerabilities exacerbated by COVID. • The strategic protection of valuable peri-urban agricultural land, ensuring sufficient local food production to underpin the resilience of Sydney.
<p>Step 2</p> 	<p>Underpin policy with evidence-based research</p> <p>Secondly, investing in research to underpin effective evidence-based policies and programs that link the food system to food security, nutrition, and health, particularly in communities at risk, such as Western Sydney and similar communities in NSW. A number of existing studies and groups have identified research priorities, such as Right to Food Coalition, Western Sydney Diabetes Alliance, What are the specific determinants of food insecurity in high-risk communities in Western Sydney, and hence which suite of social, planning and economic options can best support healthy diets?</p> <ul style="list-style-type: none"> • How can food affordability best be measured and ensured? • What does 'sufficient' local food production look like for Sydney? (that is, what proportion of the food Sydneysiders eat needs to come from local production?) • Which peri-urban agricultural lands around Sydney provide the most non-monetary and monetary benefits to the region and hence should be prioritised, and, what planning tools can most effectively protect and enhance such lands?
<p>Step 3</p> 	<p>Evaluate the effectiveness of current policies</p> <p>This Paper has provided a review of the coverage of food security dimensions in current NSW policies. The next step requires a holistic critical review of current policies and programs to evaluate overall effectiveness in delivering "Healthy diets for everyone, produced sustainably". That is, answering questions such as:</p> <ul style="list-style-type: none"> • Do existing policies articulate clear and strong mechanisms for implementation, lines of responsibilities and accountability, at an integrated level (rather than within a single program)? • To what extent are they backed by legislation / regulation? • Have stated policy recommendations / actions been effectively implemented? • Who is responsible, and what systems are in place for monitoring and tracking effectiveness of food security related policies in NSW, including implementation of announced policies? Is there a need for an independent "FoodWatch" body to monitor the State or nation's progress towards food security and sustainable food systems? • How do State and local government policies interrelate? And at what level should responsibilities for food security lie? • How do government policies interact with non-government mechanisms in the wider governance of peri-urban food systems in NSW?

About the Authors



Dr Dana Cordell

Dana Cordell is a Research Director and Associate Professor at the **Institute for Sustainable Futures, University of Technology Sydney**, where she leads the Food Systems research group.

Dana works with stakeholders across Australia, South Asia, Europe and North America to identify how food systems can transform in response to sustainability challenges, ranging from urban sprawl to the emerging global phosphorus challenge. She led the **Sydney's Food Futures** project, which brought together key stakeholders such as NSW Farmers, Department of Primary Industries, Department of Planning, RDA-Sydney to increase the resilience of Sydney's food system to global and local challenges (from climate change to urban growth) through participatory stakeholder workshops and geospatial mapping scenarios. In 2008 Dr Cordell co-founded the **Global Phosphorus Research Initiative** - the first global platform to undertake research, policy and public engagement to ensure food systems are resilient to the emerging global challenge of phosphorus scarcity. She also co-lead **P-FUTURES**, a collaborative project with 90 partners across Australia, Vietnam, U.S and Malawi, aiming at understanding how cities can transform the way they secure food and water through innovative phosphorus governance.

As a global food security expert, Dr Cordell provides expert advice and commentary to the United Nations Environment Programme (UN-Environment), Australia's Chief Scientist and the UK Parliament. She most recently joined UN-Environment's Global Environment Outlook team as a global food security contributor. Dr Cordell's research contributions have led to numerous prestigious recognitions including one of Australia top science prize, the Eureka Prize for Environmental Research (2012) and a position in the 100 Women of Influence (AFR/Westpac, 2013) and Top 100 Most Influential People (Sydney Magazine, 2012). She is frequently interviewed for media, including Radio National, ABC Lateline and London's The Times.

Dr Cordell holds a PhD in Sustainable Futures – University of Technology Sydney; a PhD in Water and Environmental Studies – Linköping University; a Masters of Water Resources & Livelihood Security – Linköping University, 2006 and a Bachelor of Environmental Engineering (Hons I) – University of New South Wales, 2000



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Jacqueline is a Research Fellow working on the Speak Now project at Anti-Slavery Australia, which aims to strengthen consent based decision making around relationships and marriage.

She is a sociologist whose previous research has examined navigating difficult conversations within family relationships, responses to racism, and public policy responses to social issues. Her postdoctoral research used ideas of performativity to look at how people respond to racism within their own families. In previous work she has examined local or place-based responses to racism and discourses of denial. Jacqueline has also published on the topics of bystander responses to racism, and ethnic discrimination in housing and employment.

Jacqueline holds a Bachelor of Liberal Studies (Hons I Psychology) from the University of Sydney, an MSc (Applied Social Research) from Trinity College in Ireland, and a PhD from the University of Western Sydney.



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Alison Atherton is a Research Director at the Institute for Sustainable Futures. She has a background in social sciences, chartered accountancy audit and advisory, and over a decade of experience in sustainability research and consultancy. Alison has extensive experience in project direction, planning, management and implementation, including large, complex, multi-partner projects. Her clients include all levels of government and the not-for-profit and private sectors.

Alison is passionate about institutional and organisational change for sustainability. She is particularly interested in understanding how businesses and the finance sector can support achievement of the UN Sustainable Development Goals through responsible investment and corporate sustainability. Alison's most recent work has focused on transition to low-carbon economies, including decarbonisation pathways for the finance sector.

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Preety is passionate about the social ecology of population health and the need to take an integrative, collaborative approach to achieve global health equity. Her work focuses on developing, implementing, and evaluating culturally tailored programs and policies for marginalized, underserved, and understudied populations, particularly Indigenous Peoples and People of Color. She applies her interdisciplinary training in biomedicine, medical anthropology, health policy, and social and behavioral sciences towards addressing health promotion for chronic disease prevention. Her unique approach is theoretically grounded in Social Cognitive Theory to address the synergistic environmental, political-economic, and social-cultural forces and mechanisms, including structural violence of poverty and systemic racism, that place a greater burden of health disparities. She engages multisectoral stakeholders and focuses upon community-centered solutions. Her research advocates for policies and programs to attain health equity across marginalized, underserved communities.

As a global health equity expert, Dr. Gadhoke addresses social determinants of health, access to social protections for food security, nutrition, and healthy lifestyles of households. Since the COVID-19 pandemic began, she has been leading the COVID-19 Impact on Food and Healthcare Insecurity in New York City to identify barriers and challenges faced by Native Americans and People of Color in the city to inform advocacy and actions. She also led a Health Promotion and Healthy Lifestyles program for nutrition education and chronic disease prevention among low-income households in New York City, as well as serves as a collaborator on NIH-funded OPREVENT2, a multi-level, multi-component interventions for obesity and diabetes prevention through a community-randomized trial, and a SAMHSA Native Connections suicide prevention intervention among Native Americans.

Dr. Gadhoke holds a PhD in International Health from The Johns Hopkins University, MPH in Health Policy from Emory University, and a BA in Biology and Sociology/Anthropology from Knox College, United States.

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²² Volunteering Australia (2020). *COVID-19 Position paper No.2: Safeguarding Volunteers and Volunteer Involving Organisations*. Available at: <https://www.volunteeringaustralia.org/wp-content/uploads/COVID19-POSITION-PAPER-2-Safeguarding-Volunteers-and-Volunteer-Involving-Organisations-UPDATED-FINAL-070420.pdf>

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⁶⁴ In order to identify relevant policy, planning and strategy documents, we conducted desk-based research. Once we had compiled the relevant documents, we spoke to a number of key stakeholders in the sector as an additional check for coverage. While comprehensive, our review is not exhaustive; that is, critically reviewing every policy that touches on the food system was beyond the scope of our study. We focus on the extent of coverage of key aspects of the food system. We do not provide an evaluation of the efficacy of the policies. It is also important to note that while we did not review programs in this Issues Paper, we acknowledge the significant programs in this area, and make reference to some key programs in the analysis below.

⁶⁵ At the end of 2021 the Legislative Committee on Environment and Planning in NSW State Parliament commenced an Inquiry into Food Production and Supply in NSW.

⁶⁶ In early 2021 the City of Sydney resolved to become a signatory to the Milan Urban Food Policy Pact: <https://meetings.cityofsydney.nsw.gov.au/ieDecisionDetails.aspx?Id=2690>. See Next Steps below for further details of the Pact itself.

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Further Reading

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