

Let's *Taco* 'Bout It: *Com-Pear*-ing Food Concepts and
Policy:

Effectiveness of Approach and Strategies of the National Food Plan in
Combatting Food Security Issues, and Consequences For Regional Food
Policy.

A Report Drafted for

The Conservation Council ACT Region

Eleanor Robson

An Intern with the Australian National Internships Program

14 October, 2013.

Executive Summary

The food system that is currently relied upon for the vast majority of Australian food is responsible for a variety of environmental and social issues which threaten the stability of the high level of food security enjoyed by citizens for the past Century. The confluence of these issues has prompted Australia's first national food policy, *The National Food Plan: Our Food Future*, in 2012. This report evaluates the way that the Plan conceptualises the problems inherent to the food system, its subsequent priorities and solutions; and whether these are effective in combatting the issues which inspired the need for a plan in the first instance. To do this, it contrasts the Plan with an alternative vision, provided in the *People's Food Plan*, written by the Australian Food Sovereignty Alliance in 2012. The way that the National Food Plan affects regional food policy making will then be investigated in the context of the Australian Capital Territory.

This work finds that while the effort to form a food plan is commendable, and it is difficult to balance the trade-offs and a variety of needs within the constituency, the Plan does little to resolve the environmental, social and economic perversities which plague the current food regime. While it is not sensible to radically transform the food system in a short period, there needs to be a more earnest attempt to make the food system more diverse and multifaceted than simply relying on the international market for such an integral good as food.

Acknowledgements

ANIP Staff

Thank you to Dr. Marshall Clark, Cheryl Wilson and Patricia Oxborrow who went out of their way to organise my placement, workshops and help in any way they could. Without them the entire experience would have been impossible.

Conservation Council ACT Region

My sincere gratitude goes to all at the Conservation Council ACT Region for their help, advice and lunch time catch ups. Primarily, my mentor and director, Clare Henderson, has supported me despite having a busy schedule. Kylee Carpenter, Julie Melrose, Rebecca Palmer-Brodie, Robyn Coventry, Priyanka Suryanarayanan and Imogen Lambert have all made me feel very welcome and comfortable in the workplace.

My thanks also go to the Conservation Council Board who not only allowed me to further my experience by interning, but took an interest in my progress when individual members came into the office.

Canberra NGOs

Groups such as SEE-Change Canberra, Canberra City Farm, Canberra Environment Centre and ACT Vegan, Slow Food Canberra and Vegetarian Society have helped me in giving opinions, policy statements, invitations to events and other helpful resources that were indispensable. Thank you.

Friends and Family

Appreciation goes to my parents Alison and Dave, best friend Katie, boyfriend Mark, workmates and other friends who have had to put up with endless policy discussion they probably don't find that interesting! Thank you for helping me to de-stress and provide insights I wouldn't have thought of without an outsiders perspective.

Table of Contents

List of Figures	5
Introduction.....	6
Part A: Background, Context and Terms.....	8
The Prevailing Food System.....	8
The Theoretical Debate and Its Contribution to the Food System Structure and Functionality	12
Conclusion	15
Part B: Australian National Food Plan White Paper.....	17
National Food Plan	17
Discussion of Conceptual Standpoint	18
Analysis of Effectiveness	22
Part 3: The NFP and Food Policy in the Australian Capital Territory .	26
State of ACT Food Security	26
The NFP and ACT Food Security, Policy and Planning	28
Conclusion	31
References.....	33

List of Figures

Figure	Page
Figure 1.0: Concept and Function of Food Sovereignty	14
Figure 1.1: Relative 'adjustment' scenario spider graph using subjective measure	18
Figure 1.2: Relative 'DIY' scenario spider graph using subjective measures	19
Figure 1.3: The Australian Capital Region (ACR) Map	25
Figure 1.4: Food produced in ACR in 2000	26
Figure 1.5: Production vs. Consumption within the ACR	26

Abbreviations

Abbreviation

AFSA

ACR

ACT

CSG

DAFF

DIY

FAO

IMF

NFP

NGO

PFP

TNC

WTO

Meaning

Australian Food Sovereignty Alliance

Australian Capital Region

Australian Capital Territory

Coal Seam Gas

Department of Agriculture, Fisheries and Forestry

'Do It Yourself'

Food and Agriculture Organisation

International Monetary Fund

National Food Plan

Non-Government Organisation

Peoples Food Plan

Trans-National Corporation

World Trade Organisation

Introduction

Food security and policy are considered increasingly important in the contemporary age, where the convergence of economic, environmental and social issues demand a strategy for the future. Accordingly, the Australian Government released the first ever food strategy, *The National Food Plan: Our Food Future* (NFP), in 2012. The Plan outlines its approach to food security in the medium term, setting targets for 2025. These policies have implications for the way the food system operates in Australia, policy at lower levels and ultimately, the way that Australians access nourishment and the consequential economic, environmental and social impacts.

This topic is sizeable and complex, and as such, the scope and limitations must be acknowledged. Firstly, this is written with an explicit focus on the implications for an urban setting, demonstrated by the choice of the ACT as a case study. Secondly, while this work is a conceptual critique, it does not offer a coherent suggestion of policy alternatives. Lastly, a technical analysis, for example, of the costings, will not be included. This report seeks to understand how the NFP conceptualises the food system and its inherent issues, and whether this understanding leads to effective policy that will combat the problems which have inspired the need for a food plan.

In the first section, an illustration of the contemporary food system in the global and Australian context will be provided. This will be followed by an introduction to the debate about how best to achieve a resilient food system, and key concepts within this debate such as food security and food sovereignty will be explained. The position of the author within the debate will be provided, indicating how the author will evaluate the NFP.

In the second section, an overview of the NFP will be given. The way that it understands food, the system, its problems and the solutions will be explained. To assist this, the plan will be situated within the framework of projected food scenarios resulting from different policy approaches provided by Turner et al. (2013). Additionally, the contrasting policy perspective provided by the Australian Food Sovereignty Alliance's *Peoples Food Plan* (PFP) will demonstrate an alternative food vision and emphasise the position taken in the NFP. An evaluation of the effectiveness of the NFP will be done last by looking at the prominent themes of feasibility of increasing agricultural production and value, and the economic framework employed.

The third and final section will gauge the ramifications of the NFP on the food system and policy on a regional scale, namely, within the Australian Capital Territory (ACT). The food system in the ACT will be described, then the way that the NFP addresses food security in urban environments like the ACT will be explained along with how the NFP will affect the formation of food policy.

Forming effective food policy is difficult given the diversity of interests involved. It is important to acknowledge the complexity of issues and cost of trade-offs when constructing policy for an ever relevant issue. While radical change over the short term is unfeasible, it is absolutely necessary to change to a new food system as the current one is unsustainable in environmental, social and inevitably, economic terms. While Australia benefits from high food security, environmental degradation and social disconnection will destabilise this security if the prevailing system continues to be encouraged as the primary source of alimentation. While market based measures are important to ensure value and efficiency, the free market cannot be relied upon whole heartedly due to its inability to effectively incorporate non-market values. Transition to a more multifaceted food system is an imperative, and this report finds that the National Food Plan does not offer a convincing strategy to achieve this.

Part A: Background, Context and Terms

The Prevailing Food System

Throughout time, population growth and food production have been inextricably linked. There have been times in history when food surpluses have permitted population growth although in recent times, population growth has been encouraged primarily for economic growth while the strategy to feed these people has been considered second (Helms 2004, p.381). Humans have devised technological solutions to make farming more efficient and/or productive; such as irrigation, drainage, crop rotation, the use of fertilizers and more recently, changing the genetic make up of plants (p.381). In the twentieth century especially, food production decidedly outstripped population (Alexandratos 1999, p.5908). While the matter of population is crucial to food matters, it is out of the scope of this piece.

The dominant food system is based on a 'productionist' model, being highly centralised, industrialised and employing globalised methods of producing, processing and distributing goods (Freedman & Bess 2011, p.398). This system has seen an enormous increase in food around the world. For example, in the USA, records were set consistently in food production and labour efficiency over the four decades after WWII (La Trobe & Acott 2000, p.309). However, food production is based on ever increasing inputs and by severing connections between actors in the system, it has created perverse social and environmental side effects (p.398). These impacts are far-reaching, interlinked and numerous, and the scope of this piece will not cover them all. Instead, an overview of the types of problems generated by the established food model will be provided. This summary will outline the negative consequences of the current system, and why it has become necessary to plan for food security for all.

Economic Factors

International economic organisations such as the World Trade Organisation (WTO), World Bank, International Monetary Fund (IMF) and Food and Agriculture Organisation (FAO) encourage the use of world market as the primary source of food for all people, believing that the free market is best at distributing goods fairly and efficiently (McMichael 2012, p. 58). While this is a robust theory, problems arise when the market cannot account for things which cannot be given an accurate value (known as an externality), such as air quality or standard of living. This point is especially critical when the environmental consequences of operating an intensive system are not necessarily exposed until much

later. Economic institutions have been instrumental in the proliferation of the current food system in that they have encouraged a political context conducive to the growth in power of transnational corporations (TNCs) in the food market; from the genetic modification of seeds to distribution (McMichael 2012, p.104).

Concerns regarding the concentration of power within the food market sector were pertinent during the 1980s and 1990s with the rise of neoliberalism as the dominant economic paradigm (Lang et al. 2001, p.539). These anxieties have re-emerged recently in Australia as the distribution duopoly between Woolworths and Coles (dominating around 80% of the market between them) means that small distributive businesses have been pushed out of the market and supplier profit margins have been drastically reduced (Kruger 2012). The dominant firms are able to use their huge market power to determine the conditions of supply along the various chains, meaning that farmers who cannot meet their standards are pushed out of agriculture when they cannot find an alternative market (Lawrence et al. 2012b, p.33). The 'milk wars' see dairy farmers forced to sell their products at such a low price that they consistently make a loss, forcing the closure of many farms and extreme financial hardship of those remaining (Whitehead 2013). In this case, the free market ideology guiding government action has failed to protect citizens in the face of a strong supermarket duopoly.

Due to a neoliberal economic paradigm in Australian policymaking, Australian agriculture is largely unsubsidised and is strongly export orientated as around 60% of total production sold overseas (DAFF 2012, p.2). The value of these exports (largely wheat, sugar, beef, wine and processed dairy products) amounts to around AUD\$24.3 billion (DAFF 2011, p. 2). Meanwhile, Australia imports high value processed agricultural products (such as canned foods and confectionary), 19% of vegetables and 34% of fruit (Lawrence et al. 2012b, p.32), and it is likely that the price of imports will increase along with demand as the world's population swells into the future (p.32). Overall, however, food imports are a relatively minor source of nutritional value due to the high amount produced domestically (DAFF 2013b, p.22). Benefits are derived from the production of a variety of foods, and the commercial gains in the export of the majority of Australian food.

An enormous amount of time, energy and money is put into increasing productivity and supply of food. However, it is estimated that Australia wastes around AU\$5.2 billion annually (Baker et al. 2009 in Lawrence et al. 2012b, p.34), or 361kg of food per Australian

(p.34). This has significant costs, including the money expended by consumers, natural resources in production and distribution of food, along with the greenhouse gas which escape the garbage dumps that it ends its journey in (Lawrence et al. 2012b, p.34). Additionally, an enormous amount is wasted in supermarkets whose strict minimum requirements of aesthetic value sees healthy, nutritious food thrown away (Growcom, 2011, in Lawrence et al. 2012b, p.34). The enormous waste seen in the current food system is but one example of the perversities of the market system in delivering logical and sound provisioning of food.

Social Factors

The prevailing food system is a market based machine which currently produces enough food to feed the world's population (FAO 2002, p.1; Alexandratos 1999, 5908), despite the fact that around 800 million people live in poverty and suffer malnourishment (Helm 2002, p.382). As it is a market based system, inequality in distribution is a major problem for various reasons. For example, those in poverty cannot express their needs in the market as they do not have enough money to use it (FAO 2002, p.1). This is not only the case in developing nations, but in nations everywhere as the market tends to divide the rich from the poor, regardless of state boundaries.

Indeed, many Australian citizens are food insecure. These citizens typically live in remote areas, are indigenous, homeless, unemployed or elderly people living alone (Doljanin & van Herwerden 2002 in Lawrence et al. 2012a, p.34). Some 4-8% of Australians are severely food insecure, having insufficient money to be able to purchase a meal (Lawrence et al. 2012b, p.43).

Meanwhile, obesity is an important health issue as around 70% of Australian adults are overweight or obese (Dixon & Broom 2007 in Lawrence et al. 2012a, p.34), costing around AU\$11.6 billion every year (DAFF 2013a, p.24). A key facet of food security is nutritional security, which is based upon dietary diversity, and currently this is compromised as the intake of industrialised, highly processed foods, meat and dairy are being consumed in the place of fruits and vegetables (p.24). This is often the case in 'food deserts,' whereby major food retailers relocate to wealthier markets, leaving the area with smaller retailers that supply highly processed take away foods and little affordable fruit and vegetables (Keating 2013, p.25). Naturally, businesses pursue more lucrative markets, however, the resulting cost of health problems to the state is a considerable externality that the market

does not account for (Lawrence et al. 2012b, p.34). While obesity is associated with overeating, the link to poverty is also crucial as the poor often find it difficult to afford healthy foods (Dixon & Broom 2007 in Lawrence et al. 2012a, p.34), the risk of obesity being 20-40% higher for Australian women who are food insecure (Keating 2013, p.25). Obesity is a salient social phenomena which is experienced under the current food regime, and poses a significant challenge to policy makers, communities and individuals.

Environmental Factors

While this system has been claimed to produce more cheap food due to efficiency derived from comparative advantage, there have been substantial environmental costs that have mostly been unaccounted for.

As a result of intensive farming, soil has little or no opportunity to regain nutrients, resulting in declining yields and increasing dependence on artificial chemical fertilizers to replace the natural process of nutrient recycling. In an effort to reduce crop loss, pesticides are used, however, the amount must be increased over time as pests become resistant (La Trobe & Acott 2000, p.310). Heavy application of chemical fertilizers and pesticides seriously affects soil and water quality, polluting streams, rivers and bores and aquifers (p. 310).

Perhaps the most important input to every stage of the current system is fossil fuels. The operation of mega farms depend largely on oil fueled machinery, while one kilogram of nitrogen for chemical fertilizer requires 1.4 to 1.8 litres of diesel for its manufacture (Kurtenbach 2007). Food is often transported by fossil fuel dependent means, and when the average food product travels around 1500 miles before reaching the consumer (Freedman & Bess 2011, p.398), the amount of greenhouse gas emitted is significant. The operation of the food system contributes significantly to climate change, and, along with the livestock industry, is attributed to producing more than one-fifth of global greenhouse gas emissions (McMichael et al. 2007, p.1253). Additionally, climate change will have wide-reaching effects upon agriculture. In Australia, for example, runoff into the Murray-Darling Basin is predicted to end within the twenty-first Century, meaning the end for irrigated agriculture in this major food bowl (Keating 2013, p.28). Increasing temperatures are predicted to bring about increased weed, pest and disease management issues (p.28). Perhaps most frighteningly, the extent of the impact that climate change will have is unknown (Freedman & Bess 2011, p.398).

Enormous biodiversity loss has resulted from the rise of industrial agriculture. This is a result of habitat destruction in clearing land for agricultural purposes and endangering habitat in land surrounding crops by expansion and application of chemical fertilizers (La Trobe & Acott 2000, p.310), for example. Production of only a few species of plant for food means biodiversity shrinks significantly (p.310).

The Theoretical Debate and Its Contribution to the Food System Structure and Functionality

The theoretical dialogue concerning the best and most useful way to understand the food system contributes substantially to the way that the system functions. The concepts of Food Security and Food Sovereignty in particular have played an important role in determining the policy made by governments and institutions, directly affecting how normal citizens relate to food. These concepts, their origins and use will be explained, and their contribution can be observed in the way that both the National Food Plan and the Peoples Food Plan expound various and often different values and strategies for a resilient food system.

What is Food Security?

Food security is a state in which all people have access to enough nutrition of their choice, and emphasises supply as the salient aspect of the food system. It expounds the idea that supply must be increased in order to feed a growing population and is associated with liberal economic policy which increased the output via technological innovation, mass production and specialisation. For this reason, it has been termed the 'productionist' model (Freedman & Bess 2011; Lawrence et al. 2012b), and is the theoretical foundation of the prevailing system.

The emergence of the idea of sustainable development in the late twentieth century gave way to questions relating to the role that food production and distribution had to play in society and development. Scholars such as Hediger (in Helms 2004, p.382) delineated development by enquiring what kind of development was preferred and what can and should be sustained, making development a process which was applicable and relevant to all peoples, not just those living in poverty. Consequentially, questions about what kind of

food system was preferred, what food was needed and what kind of system could be possible were raised (p.382). These questions were asked in the context of the growth of the prevailing industrialised, global food system which will be examined in the coming sections.

Food security is an indication of welfare, and thus, food security also must also mean that people have enough food to live a healthy and productive life (p.382). The FAO has adopted this standpoint, incorporating the criteria of food preferences and nutritional value. Thus, the definition agreed upon at the World Food Summit in 1996 is that food security exists when, “all people, at all times, have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for a healthy and active life” (in Pinstруп-Anderson 2008, p.5).

The term has been used by many in different ways. The World Bank and IMF have often used food security to encourage the growth of the world market as the primary source of food (Schanbacher 2010, p.vii), while others use it to refer to secure access to ones nutritional needs (Pinstруп-Anderson 2008, p.5). Its definition also changes depending on the context of scale within which it is being discussed. While households focus more on nutritional value, a government is more likely to define food security in terms of adequate supply (p.5).

The World Bank, IMF and WTO have historically advocated the concept of food security as a main facet of development, and promoted neoliberal measures as the best way to achieve it. Through structural adjustment programs, trade liberalisation, deregulation and other free market orientated methods, traditional food structures and cultures have been displaced in favour of large scale, corporately owned, export orientated mega farms. Thus, food security has become synonymous with neoliberal economic management and top down policies for many.

What is Food Sovereignty?

The achievement of food security as defined by the FAO is a static destination as opposed to “a journey” (Croft 2013). This definition does not address issues inherent to the current *means* of food production and supply. The concept of food sovereignty has been formed to focus on social, economic, political and environmental issues which arise from the process of food production and acquirement. Wayne Roberts (2008 in Farmar-Bowers et al. 2013,

p.116), Canadian food policy analyst, understands food sovereignty as lying in action, autonomy and control, within which food security is but one outcome. It is a distinctly bottom-up, collaborative and democratic process. This definition serves as the basis for understanding the value system behind many alternative food policies.

Around the same time of the World Food Summit, many felt that food security delivered by the international market created many negative social consequences. It was not simply enough to supply enough nutritious food; consumers and producers also had to have power in how their food was produced and how they consumed it (Menezes 2001, p.30). *Via Campesina*, an organisation of farmers, agricultural labourers and indigenous groups (amongst others), played an influential role in promoting the agenda of those alienated from the industrialised food system (Rosset 2008, p.460). It defined food sovereignty as, 'the right of each nation to maintain and develop its own capacity to produce the staple foods of its peoples, respecting productive and cultural diversity' (in Menezes 2001, p.30). While the concept of food sovereignty arose from a representation of farmers' rights in developing nations, it has evolved to suit the needs of people around the world.

The rationale is that food should not be treated as a normal commodity given that it is a necessity for life and is more important than the market treats it. It is a reaction to the food system established after WWII that is now controlled by TNCs by the mandate of supranational economic institutions such as the WTO, World Bank and IMF (Issaoui-Mansouri 2011, p.11).

Like the concept of food security, food sovereignty has become synonymous with the methods and values which are often advocated to achieve it. This often includes re-regulation, land reform, rebuilding traditional food production systems, establishing local markets, urban food production (Rosset 2008, p.462) and a system based in agroecological principles. Figure 1.0 gives a more holistic, visual representation of food sovereignty.

The food sovereignty discourse, like that of food security, has had a profound impact on policy making around the world. It seeks to create discussion on aspects of the food system that the food security discourse misses.

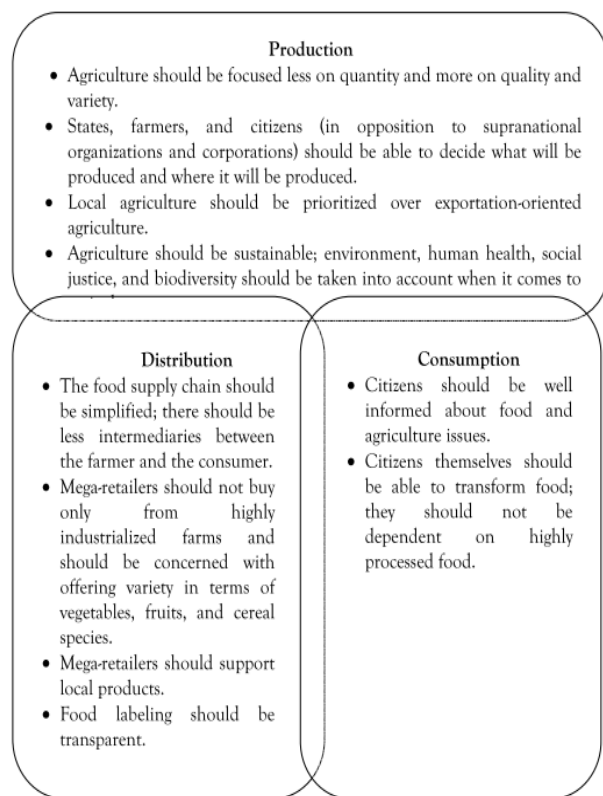


Figure 1.0: Concept and Function of Food Sovereignty (Issaoui-Mansouri 2011, p.13)

Food Sovereignty, like Food Security, has played an influential role in the food system discourse. It has inspired many policy visions which call for an alternative to the dominant industrial system, such as the Peoples Food Policy explored later in this piece.

Conclusion

The dominant food system is unsustainable due mainly, in simple terms, to the fact that the free market does not effectively account for environmental and social values. As Lawrence et al. (2012b, p.34) assert, it is simply a failure of the market that not all citizens in Australia can access the foods they need for a healthy lifestyle. Much power in the international food market is skewed in favour of corporations which, along with dominant economic institutions, have compelled states to deregulate their markets to make systems efficient. However, this can also be interpreted as disabling social and environmental safety nets which account for market externalities. Neoliberal economics tout the effectiveness of the free market as a provisioning system, however, in practice the case is

not to simple. This is especially poignant in the case of the food system, which being an absolute necessity for life, cannot afford to fail.

True food security can only be achieved when considered an important byproduct of food sovereignty, where the three pillars of sustainability (society, environment and economy) are equally valued. Wiedemann (2012 p.688) emphasises that social and economic stability rest on the good health and function of the natural resource base and more specifically that, "...the ability of agricultural systems to maintain food production is fundamental to a stable society." Earnest acknowledgment of the value of social and environmental capital must occur to allow decision making which understands the costs and benefits of trade offs (Helms 2004, p. 382). *Systematic* changes must occur to include more people in a more meaningful decision making. Challenges of distribution must be accounted for, while finding a way to increase food availability for a growing world population. The concepts of Food Security and Food Sovereignty contrast to remind people of the various aspects inherent to a healthy food system, and policies often take inspiration from one or both. In order to understand the theoretical foundation of prominent food policies, understanding these positions is important.

Part B: Australian National Food Plan White Paper

National Food Plan

In 2012, the Australian Government released the NFP. The Plan is the first of its kind, and sets the direction for the food system in Australia for the next 25 years. Its strategy is divided into four sections; Growing Exports, Thriving Industry, People and Sustainable Food.

Growing Exports

- Increase the value of Australian exports by 45%
- Build stronger trading ties in Asia
- Have Australian food recognised around the world as safe, sustainable and of good quality.

Thriving Industry

- Increase agricultural productivity by 30%
- Increased innovation in food manufacturing
- More people in agriculture and fisheries workforce with post-school qualifications
- Build infrastructure to support growing industry, moving food effectively to markets
- Increase participation by food businesses in the digital economy, creating connections with global markets
- Make Australia one of the most efficiently regulated countries in the world to reduce business costs

People

- Improve access to nutritious food for those in remote and disadvantaged communities
- Increasing reputation to ensure Australia is considered one of the top three producers for safe food
- Ensure Australians have information necessary to make decisions about food
- Educate children about food production
- Contribute to global food security by helping farmers in developing countries to gain access to agricultural technologies

Sustainable Food

- Ensure Australia produces sustainable food, adopting innovative practices to increase production and improve environmental outcomes
- Reduce per capita waste

Discussion of Conceptual Standpoint

The conceptual analysis of the NFP will be established within the framework provided by Turner et al. (2013), who describe outcomes of scenarios that depend on different food policy approaches. This framework illustrates the relative strengths, weaknesses and ultimately, the practical differences between policy approaches. The Australian Food Sovereignty Alliances' (AFSA) *Peoples Food Plan* will be juxtaposed against the NFP to demonstrate the range of visions in the Australian food policy landscape.

Turner et al. (2013) characterise three distinct food future scenarios, considering government policy a main driver of which scenario comes to fruition. Given the scope of this piece, only two ('Adjustment' and 'DIY') will be examined, however the 'Control' scenario is also important.¹ The 'Adjustment' scenario is defined by global markets driving agricultural systems. The focus of food production is obtaining the highest return, meaning food is more likely to be exported for top dollar than reserved for the domestic market. Technological progress is usually high without any profound shifts to alternative systems, and efforts to reduce greenhouse gas emissions are uncoordinated, resulting in moderate reductions (Turner et al. 2013). Figure 1.1 illustrates the consequences of this system on a range of qualitative outcomes. The approach taken by the NFP contributes to an

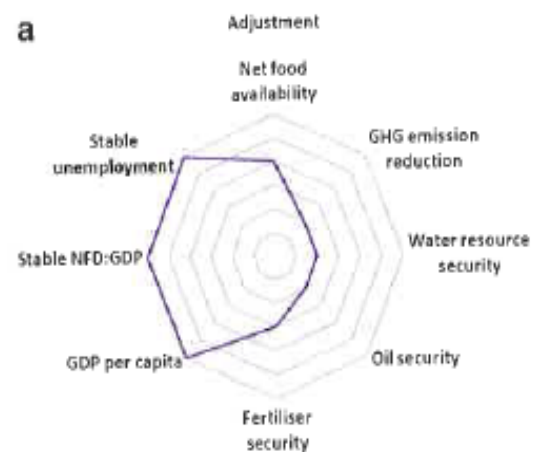


Figure 1.1: Relative 'adjustment' scenario using subjective measures. Better outcomes are towards the perimeter, worse to the centre. (Turner et al. 2013, p.276)

¹ For more information of the character and outcomes of the scenarios, including the 'Control' scenario not addressed in this report, see: Turner et al. 2013. 'Australian Food Security Dilemmas: Comparing Nutritious Production Scenarios and Their Environmental, Resource and Economic Tensions.' In: Q. Farman-Bowers, V. Higgins & J. Miller eds. 2013. *Food Security in Australia*. New York: Springer, pp.259-278

‘Adjustment’ type scenario.

The ‘DIY’ scenario is defined by the dominance of local food and energy production. Regional economies are revived, and innovation and community learning are encouraged. Importantly, environmental awareness is the foundation of efforts to reduce waste, improve land and water health and rapidly reduce greenhouse gas emissions (Turner et al. 2013, p. 263). The Peoples Food Plan is categorised as a DIY type policy, and the relative impacts are demonstrated in Figure 1.2.

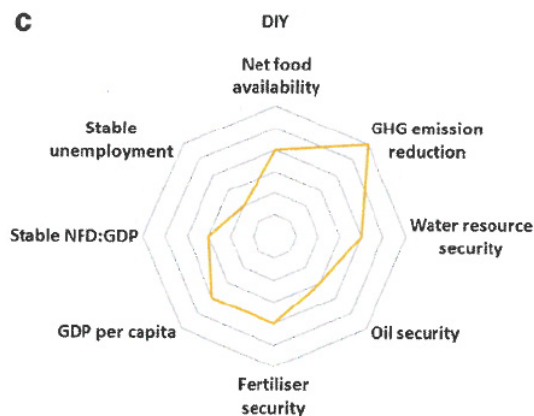


Figure 1.2: Relative ‘DIY’ Scenario using subjective measures. (Turner et al. 2013, p.276)

The NFP takes a ‘business-as-usual’ approach to food security, and value attributed to food is primarily as an exportable commodity, secondly as a good necessary for life. The Plan asserts that it, “sets out key goals to grow our domestic industry and increase the value of our food exports” (DAFF 2013a, p.3), as the major focus of the NFP is to expand quality and quantity of food for an increasing Asian population. The need to account for the food insecure domestically is acknowledged four pages later, stating, “All

Australians must have access to enough safe and nutritious food to meet their needs” (p. 7). Only a small proportion of Australians are food insecure, and thus, the Government can focus a large amount of food production on export and growing of wealth. Dovers (2013 p. 125) asserts that policy approaches are often chosen for convenience as much as ideology and indeed, extending growth into Asia is convenient, as over 50% of Australian food exports in 2011-12 went to Asia (DAFF 2013b, p.4). Additionally, Australia is the sixth largest exporter of farm products worldwide, contributing around 3% of global agricultural exports (Lawrence et al. 2012a, p.175). The PFP, however, sees this understanding of food utility as flawed, and raises concerns that the commodification of food means people concentrate on products and prices as opposed to an intrinsic element to the health and wellbeing of both the individual and community (AFSA 2012, p.2).

The NFP seeks to enable farmers to operate independently in the market while the role of government is minimised (Lockie & Higgins 2007, p.1), aligning with the dominant neoliberal economic paradigm. To do this, it proposes investment into research and development into growing markets, branding, and deregulation, for example (DAFF 2013a,

p.9). It takes a productionist stance, focusing on increasing output by agricultural education and technological innovation to make farming more efficient. The PFP, however, believes that given the crucial importance of a healthy food system, and farmer and consumer health, the government ought to play a much larger regulatory role to secure food integrity. For example, a major facet of the PFP is the transitioning to a much more localised system of production and consumption. This involves conceptualising the most important activity of the food system at a local and regional scale as opposed to a national and international one, and providing an institutional framework to match (AFSA 2013, p.8). From here, the encouragement of a regional food economy and market will provide diversified distribution channels (p.8). The PFP is skeptical of the fairness of free trade agreements and the broader free market paradigm, asserting that the benefits flow overwhelmingly to corporations instead of serving citizens they are designed to make goods cheaper for. It emphasises that the larger market paradigm produces social and environmental perversities, such as allowing hundreds of tonnes of fresh produce to be put in landfill while people starve in Australia and around the world (AFSA 2013, p. 25). AFSA opposes this economic regime, asserting again that regional food economies should prevail over the corporate lead trade arrangements which see corporations growing at the expense of the environment and the general population (p.25).

The NFP understands the food system to be a linear procession of production, trade, consumption and waste, given that the vast majority of food in Australia follows this pattern. A more cyclic pattern would be characterised by food being produced and consumed in the same geographic area, with waste being recycled into the system of production again in a short period. Indeed, this kind of regional cyclic food system is advocated by the PFP, which sees value in consumers intimately understanding each step and consequence of the whole system. A main position of the PFP is that the enormous amount food waste produced in Australia needs to be recycled, particularly at a local and/or regional level to retain productive capacity and decrease the financial and environmental costs associated with organic waste being put into landfill (AFSA 2013, p. 36)

Problems inherent to the food system are conceptualised according to a traditional understanding of food security, in terms of adequate supply, nutrition and access for the vulnerable, the NFP asserting that, “our actions need to target disadvantaged groups that experience higher rates of food insecurity” (DAFF 2012, p.56). This narrow scope does not

acknowledge the negative side effects of the system that have the ability to undermine the food security of many more citizens in the future than just the chronically insecure. Nonetheless, the NFP outlines a suite of social security measures that help the vulnerable to access food, such as employment schemes and the National Disability Insurance Scheme. It subsidises non-government agencies, such as food aid services and establishes 'Outback Stores' - grocery stores run by the community that improve access to nutritious food in remote communities (DAFF 2013a, p.57). The PFP draws inspiration from the food sovereignty dialogue for its conceptualisation of the problems and solutions (AFSA 2012, p.4). It is not enough that people have access to nutritious food of their choice (as the traditional food security definitions would imply), the processes behind their alimentation must be understood, as it results in healthier social and environmental outcomes. Additionally, people must have more power over their food than simply the choice of what to buy. They must be able to demand certain standards of nutrition and fairness of production. Until the populace is genuinely informed and engaged with the food system, it will be dominated by commercial interest (making money), instead of valuing the safety and health of all citizens (p.4).

The NFP acknowledges the importance of a population that is well educated in food and waste management and encourages local food networks through grants to new farmers markets and community gardens, for example (DAFF 2013a, p.10). There is a particular emphasis on the education of children, for example, in the funding of the Stephanie Alexander Kitchen Garden Program (p.63), which sees volunteers teach primary school children how to tend a kitchen garden and prepare food with the produce. Compared to the attention allocated to extending production and export, these efforts are very small. AFSA places such educative initiatives at the centre of its PFP strategy. Education, local food systems and practical engagement of citizens in the production and consumption of food is the cornerstone of the ideal food system planned by the PFP.

Overall, the NFP does not advocate a systematic change to the way food is produced, supplied and consumed. This is because food security, measured in terms of citizens having enough nutritious food of their choice to sustain a fulfilling life, is quite high in Australia despite some areas of insecurity, and the export market for food is well established and lucrative. Employment is high and income safety nets means most Australians are able to afford food, spending an average of 17% of average income on food (DAFF 2013a, p.56). The NFP advocates a continuation of the same industrial

system which is completely dependent on overstretched natural resource stocks and social dislocation. The current level of food security is unsustainable as environmental and social problems have the ability to undermine the viability of the food system into the future. For this reason, this piece asserts that while radical short term change is not appropriate, transition to a more multi-faceted food system is necessary. This involves a more concerted effort to diversify production methods, access and consumption. While the NFP acknowledges the value of such initiatives, it does not provide enough assistance. Overall, the NFP pursues a deepening of the current market based system while providing band-aid type solutions to the systematic environmental damage and social perversities.

Analysis of Effectiveness

The effectiveness of the National Food Plan in solving food security issues is analysed here according to economic, environmental and social aspects. The inextricable relationships between them will be demonstrated, showing that sustainability can only be achieved when perversities are conceptualised as symptoms of systematic problems.

This is not a technical analysis but conceptual analysis that will investigate whether the NFP's underlying conceptualisation of the food system, its problems and proposed solutions will be effective in solving problems when translated into policy.

The scope of this piece is not large enough to critique the entire policy, so two salient themes will be examined. Firstly, the viability of increasing agricultural production and value, which includes value adding, the problems of peak phosphorous, and competing land use interests and scarcity. Secondly, the NFP's regulatory position will be understood, looking at the approach taken to the supermarket duopoly as an example.

The major strategy expounded by the NFP is assistance and support of growing and deepening market ties in Asia and increasing production to meet growing demand. It acknowledges the challenge of increasing scarcity of resources, and so plans investment in research and development, branding and efficiency measures to do more with less. As previously asserted, doubts (for example, McMichael et al. 2007; Rosset 2008; Gerster-Bentaya 2013) have been raised that the business-as-usual approach to food security will be able to solve the distributive, social, environmental and subsequent economic issues. Waston & Merton question the viability of various components of the Plan, such as value adding (2013, p.323) and the potential for growth in Asian markets (p.325). For example, they assert that the Plan generalises excessively about the needs of a homogenous Asia,

and doesn't account for the considerable variation between peoples. Additionally, the economics of food pertaining to these contexts are, "too intricate to make confident predictions of how trade flows in agricultural products will pan out." While the NFP aims to facilitate trade through diplomacy and promotion, and invest in more research and development, Watson and Merton believe this should be increased to be the main aim of the plan for Asia (p.325), instead of rebranding, for example.

Even if this approach were sustainable, there is skepticism that Australian productivity can continue at current levels, let alone more. Lawrence et al. (2012a, p.31) cite four main limitations to future expansion of agricultural output: lack of arable land; lack of water; climate change and that the state of environmental health is declining rapidly.

Given the dependence on non-renewable resources such phosphorous, nitrogen and oil for high output cropping worldwide, their inevitable scarcity is one of the most profound practical challenges to the current food system. Phosphorous reserves, for example, are expected to be exhausted in 50-100 years, with peak phosphorous occurring around 2030 (Cordell et al. 2009, p.1). This is especially unsettling in the context of predicted increase of phosphorous demand by 50-100% by 2050 (p.2). It is suggested that after around 50 years of intensive application, the critical levels are usually passed and use can plateau or decrease (p.3). This is positive for Australian agriculture given that it has had a substantial history of phosphorous use. However, it is problematic given that many countries (especially in the developing world) are increasing their demand. Australian food security is based on a stable international food regime, so scarcity and rising prices for inputs in producing nations mean increasing instability for the Australian market. Cordell et al. note that the market based measures promoted to ensure sustainable use, such as efficiency initiatives and price rises which correspond to scarcity, are not sufficient to achieve prudent provisioning (2009, p.1). The NFP advocates such market based measures, and as such do not provide a convincing solution to scarcity of inputs which are absolutely necessary to the industrial system.

Waste is another major distributive issue in the global food system. Of all food produced in Australia, up to 40% is thrown away and this number increases in other places such as the US. A commendable aspect of the NFP is the strategy to curb waste and convert the remainder into a useful product. To diminish, it supports state based educative programs such as the *Love Food Hate Waste* initiative run by the NSW Government (DAFF 2013a,

p.86). To reuse, the National Waste Policy has been formed, which aims to divert organic waste from landfill into productive uses such as composting, biofuel or animal feed (p.86). To compensate for distributional failures of the system, it supports non-government schemes such as those that recycle discarded food back into the community to feed those who cannot afford to buy healthy meals (p.86). While this is planned at a national level, the PFP incorporates waste management at primarily regional and local levels. It similarly seeks to encourage state measures but on a more intensive scale (AFSA 2013, p.12).

There are a variety of competing land use priorities that the Australian Government must assist in allocating. While the neoliberal paradigm would advocate reliance on the free market in this task, it is often unfeasible given the incapacity for the market to appropriately incorporate complex social and environmental values. A current debate in which this point is pertinent is in coal seam gas (CSG) exploration and extraction. CSG deposits have been found in Australia's most productive farming areas, raising concerns about the contamination of aquifers that are crucial to farming operations and environmental health (Lawrence et al. 2012b, p.33). The cost of potential damage must be weighed against the considerable profit which would come as a result of allowing large scale CSG extraction. In Queensland, for example, it is estimated that in 2020, farming will earn around AU\$2.2 billion while mining (including CSG) will earn around AU\$16 billion (p.33). The NFP made no specific reference about this very considerable threat to Australian farming viability. Considering the faith that the Government puts in the market as a provisioning system, and the complex and problematic nature of accounting for non-marketable values inherent to social wellbeing and environmental health, the prospects for agricultural and environmental advocacy by the government in this aspect are bleak.

The NFP does not give a convincing solution addressing the salient supermarket duopoly. The Government is reluctant to regulate and dissolve the duopoly for fear of causing unnecessary market restrictions, hindering competition and growth. It asserts that representatives of different industry stakeholders such as supermarkets and farming bodies have collaborated to form industry standards which can voluntarily be adhered to (DAFF 2013a, p.50). This solution is ineffective as competition will naturally overcome self regulation in the vast majority of cases, as it is counter intuitive to put a company at a competitive disadvantage when profit is the ultimate aim of any business.

In the few examples of the strategy espoused by the NFP, it is observed that in many aspects, the viability and effectiveness of its approach is flawed. This is mainly due to an over reliance on the market to provide fair provisioning and a conceptualisation of the food system which is overwhelmingly based in the Food Security discourse, placing importance on supply, export and deregulation. While the viability of the PFP is not the focus of this piece, its approach to food, based in the idea of Food Sovereignty, demonstrates an alternative vision which could ease the problems inherent to an industrial, internationally based food system.

Part 3: The NFP and Food Policy in the Australian Capital Territory

State of ACT Food Security

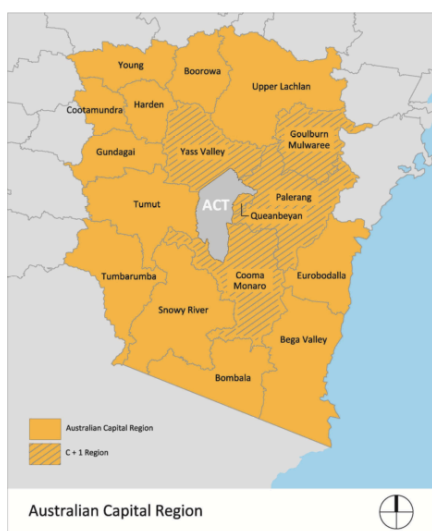


Figure 1.3: The Australian Capital Region (Turner, Pearson & Dyball 2012)

Food security is ever more important due to a confluence of environmental and social issues. Until this point, however, it has been paid little attention. For this reason, research and collection of data of food security, especially on a local scale, has been minimal. While some information is available, more research must be done to provide a more comprehensive understanding of food security (Turner, Pearson & Dyball 2012, p.1).

In early planning of the ACT there was a focus on being self-sufficient in food, contributing significantly to the fact that the fertile soils of the Pialligo were identified for vegetable production in the early 20th Century. Since then, land use has been zoned in such a way that agriculture remains viable, with the productive capacity of the land being acknowledged in the importance of ACT urban planning (Butt 2011 in Turner, Pearson & Dyball 2012, p.11).

It is important to note that the food system within the ACT is closely linked to the processes of the surrounding region, and so the Australian Capital Region (ACR) (see Figure 1.3), which incorporated the ACT and seventeen surrounding NSW local government areas, will play a part in the analysis of the ACT food system for this report.

The Agricultural Commodities Survey indicates that in the ACT there are 58,286 hectares of agricultural land and 75 farms, however, not all those farms are used for human food production (ABS 2012). Of the 21% of land within the ACT identified as being for

agriculture, almost all was for dry land grazing. The goods and volume of such produced in the ACR is displayed in Figure 1.4, the total of which accounts for around 85% of ACR agricultural land use by area.

Product	ACR Production (Tonnes)
Apples	20,525
Beef	36,576
Cheese	12,000
Chicken meat	5,607
Grapes	5,893
Wine	4,717
Lettuce	109
Milk - fresh	17,000
Milk -all dairy	142,816
Oranges	486
Potatoes	544
Rice	-
Sheep meat	30,061
Wheat	273,896
Pork	13,656

Table 5: Production *Data from Agstat 2005/2006

Figure 1.5 uses data from Figure 1.4 and shows that in the case of many foods, the ACR is capable of sustaining itself. The amount that the ACT currently

Figure 1.4: ACR production in 2000 (Turner, Pearson & Dyball 2012, p.18)

feeds itself is unanswerable at this point. While the extent is unknown, the majority of food is provided by two major vertically integrated companies, Coles and Woolworths.

Product	ACR Production (Tonnes)	ACR Crude Consumption	ACR Production to ACR Consumption %
Apples	20,525	9,780	210%
Beef	36,576	18,384	199%
Cheese	12,000	5,922	203%
Chicken meat	5,607	19,874	28%
Grapes	5,893	29,213	20%
Wine	4,717	19,616	24%
Lettuce	109	4,336	3%
Milk - fresh	17,000	52,864	32%
Milk -all dairy	142,816	161,198	89%
Oranges	486	18,447	3%
Potatoes	544	34,221	2%
Rice	-	23,678	0%
Sheep meat	30,061	7,033	427%
Wheat	273,896	251,110	109%
Pork	13,656	12,987	105%

Table 6: Production to Consumption *Data from Agstat 2005/2006

The majority of Canberra’s food is transported by truck from Sydney on four major roads, which could pose vulnerability issues into the future as the price of oil rises (Turner, Pearson & Dyball 2012, p.13), thereby raising the cost of food and potentially diminishing access to inexpensive nourishment.

Figure 1.5: Production vs. Consumption within the ACR (Turner, Pearson & Dyball 2012, p.19)

Food, supplied mostly by the industrial market based system, accounted for 22% of Canberrans ecological footprint, making it the single biggest factor after provisioning of services (Dey 2010 in Turner, Pearson & Dyball 2012, p.14).

A study into recipients of food aid through Anglicare’s Emergency Relief Program found that the most vulnerable and food insecure citizens in the ACT were often low income earners, recipients of government benefits, renters, homeless, unemployed, part of single parent households, disabled or indigenous; corresponding with national trends (King et al. 2013, p.2). Some 98.8% of the 171 respondents were food insecure and 82.2% were severely food insecure (p.2).

Citizens of the ACT have become increasingly interested in a sustainable food system over the past decade (Turner, Pearson & Dyball 2012, p.5), and there is a growing understanding of the multifaceted nature of issues. Citizens demand urban planning which incorporates a range of uses, such as open space, recreation, future infrastructure, agriculture and more (p.5).

Regionally grown produce and meat is most readily available at farmers markets', whose continued growth has increased farmers' capacity to sell their produce locally. The Capital Region Farmers Market attracts around 5000 shoppers per week (Capital Region Farmers Market 2013), while many other farmers markets service other consumers.

Urban farming in a range of forms also plays a part of ACT food production, though, documenting it is problematic. Its value has been widely acknowledged (see Gerster-Bentaya 2013) as urban farming connects people to the food system can impact on the city's economy, public health, environment, land use, and other community systems (Pothukuchi & Kaufman 1999, p.221). While the resurgence in urban food production is known, there is no reliable data on what and how much is being grown, as the last comprehensive survey was executed in 1992 (Turner, Pearson & Dyball 2012, p.12). There are currently 17 public community gardens in Canberra, while at least 9 plots exist in public housing complexes for residents.

The NFP and ACT Food Security, Policy and Planning

A number of ACT non-government organisations desire that local food production and consumption play a greater role within the broader national food strategy.

The Canberra City Farm asserts that while global and national outlooks are valid, the under utilised capacity to increase local food systems should be a focus of the NFP (Pipkorn 2012, p.1). Also, given the broad national scope adopted by the NFP, Canberra City Farm questions the inherent bias of the Government to favour large commercial interests as they are most visible (p.2). It asserts local systems have a positive environmental, social and economic effect, especially in the face of an overwhelmingly aging farming workforce that has, "limited transition plans for younger farmers" (p.1).

The Canberra Environment Centre, in its submission to the ACT Legislative Assembly, emphasises the increasing interest and initiative that Canberrans are taking to understand

their food system, and believe that the significant social and natural capital should be exploited to produce more food for local consumption. It asserts that while only 10% of Canberra's money is spent on food, the production and delivery of food via the commercial system accounts for 20% of the ACT ecological footprint and this should be remedied (Wauchope 2010, p.2).

SEE-Change and Fusion Canberra, in their 2013 campaign *Our Hungry Future*, assert that while it is unfeasible to expect that food produced in the ACR can wholly supply the region, the current, industrial system cannot continue to be the sole source of food (SEE-Change and Fusion 2013, p.2-3). They propose that the systems compliment each other, and as such, that local systems should increase their capacity (p.3).

Many local NGOs that deal with food security in the ACT and ACR more broadly tend to agree that the current food system is fundamentally flawed in that it depends, in large part, on the degradation of the environment. Additionally, a range of positive outcomes can be gained from increasing the proportion of food produced locally to where is it consumed. Furthermore, these organisations often advocate a more democratic and inclusive food system, in which participants are well enough informed that they can make informed decisions about how and where to buy their food, what to buy and how to use it.

In terms of advocating a more food and health literate population, especially in children, the NFP supports the ACT region in some ways. Firstly, two schools in the ACT and surrounding region, Majura Primary School and Queanbyan South Primary School, participate in the Stephanie Alexander Kitchen Garden Program. As stated, this program teaches students how to grow their own fruit and vegetables and how to prepare meals with their produce. Secondly, ACT groups are eligible to apply for grants in assistance of community food initiatives. Up to \$10000 of funding is available to community gardens, city farms or similar activities and up to \$25000 for farmers' markets, food rescue and larger scale similar activities (DAFF 2013c), with \$1.5 million allocated nationwide (DAFF 2013a, p.68).

Given that the primary focus of the NFP proposes a 'business as usual' approach to the future of Australian food, the NFP doesn't affect the ACT in a profound way in terms of changing the system. For the most part, the population will continue to acquire food from the conventional system. While it acknowledges the value of local systems, and has some education and waste policies which work collaboratively with state governments, it does

not do enough to encourage local systems in terms of funding and supporting policy for state and local governments.

The ACT Government must, independently of the NFP, meaningfully encourage urban food production. They assert that consumer choices and independent, market factors are not going to encourage the change quick enough and that Government intervention is necessary to transition to a more sustainable system. Efforts already taken by the ACT Government to reduce food waste are commended (Turner, Pearson & Dyball 2012, p.28). One of the most important recommendations is to drastically improve the knowledge base about food security within the region, as without a reliable foundation of information, policy is difficult to tailor and monitor (p.28).

Conclusion

Food plays an integral role not only in keeping humans alive, but in informing the way life is carried out, its quality and the societies lived in, amongst other things. That all people around the world and in Australia have enough nutritious food of their choice is not enough - the process is of great importance. If the system provides food to some at the expense of others and the environment, the security of all involved is precarious. The prevailing food system operates in this way, producing enormous amounts of food at the expense of the world's resources, while also creating social perversities on a range of spatial scales. Additionally, the challenge of an ever growing population stipulates that even more food is needed from an already exhausted system. These factors have made planning for food in the future a necessity. The way that ideas pertaining to food are understood plays an enormous role in dictating the policy formed to respond to problems. This piece has demonstrated this link by analysing the National Food Plan, and the contrasting Peoples Food Plan. Additionally, the consequences of the NFP on regional policy and planning in the context of the Australian Capital Territory is explored.

The National Food Plan presents the first scheme for Australia's medium term future. It is informed by an orthodox conceptualisation of food, the system, the important stakeholders, problems and solutions. The food system is linear, and supply is the problem to compensate for the small portion of vulnerable, food insecure citizens. In the face of scarcity, the market is advocated as the fairest and best tool to provision resources.

It's first priority is the enhancement of production and value of food for export to a growing Asian market, while also advocating the need for an environmentally and socially responsible system. Efforts are also made to curb food waste, instill food-wise values, and encourage decentralised food production systems. The major instrument used to achieve these aims is the free market, informed by a broader neoliberal economic paradigm.

Conversely, the Peoples Food Plan takes inspiration from the food sovereignty dialogue, emphasising that food is a good for life and livelihood first and should not be seen as a commodity. The food system should be cyclic, with recycling an integral component. People should be intimately aware of how their food has come into being and how their choices affect the system. Food security is a byproduct of food sovereignty, and is ensured when the environment and social cohesion is not ruptured. Operating primarily on a regional and local scale as opposed to a national and international one, the PFP overwhelmingly emphasises the need to make food cycles smaller so that smaller

businesses thrive, competition is created, consumers are aware of the consequences of their choices in terms of food and resources are recycled back into the system. While the market plays an important part in this plan, the national framework is regulated to ensure that smaller markets thrive at the expense of a larger, simplified market. In stark contrast with the NFP, export orientated food production plays almost no part in its food future.

This report acknowledges the difficulty of policy making in this area given the range of interests, stakeholders and difficult time and spatial scales, and its purpose is not to make policy suggestions. However, it finds that the National Food Plan does not adequately plan for a food system which breaks from past necessities of environmental and social degradation. According to the NFP, decision making in the food system of the future will lay in the hands of the deregulated market, making corporations, which seek to enhance profits over insuring the true food security of Australian citizens, major decision makers. This has been demonstrated even in contemporary times, with the unwillingness of the Government to regulate the distributive market, which would dissolve the harmful duopoly between Woolworths and Coles. For fear of obstructing growth, real farmers and communities suffer.

As such, it has little consequence for food planning on a regional scale. In a future economy of low greenhouse gas emissions, true food security and improved environmental outcomes, local food production must be fostered. If regional governments seek to encourage such systems, the NFP offers little assistance.

References

- Australian Bureau of Statistics (ABS), 2012. *71210DO001: Agricultural Commodities, Australia 2010-11* [online] Canberra: Australian Bureau of Statistics. Available at: <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/7121.0main+features42011-12> [Accessed 15 October 2013]
- Australian Food Sovereignty Alliance (AFSA), 2012. *The Peoples Food Plan for Australia: Overview* (Report) [online] Available at: <http://www.australianfoodsovereigntyalliance.org/wp-content/uploads/2012/10/20120914-PeoplesFoodPlan-DiscussionPaper-Overview.pdf> [Accessed 12 October 2013]
- Australian Food Sovereignty Alliance (AFSA), 2013. *The Peoples Food Plan: Policy Directions*. [online] Available at: <http://www.australianfoodsovereigntyalliance.org/wp-content/uploads/2012/10/PFP-policy-august13.pdf> [Accessed 12 October 2013]
- Alexandratos, N., 1999. World Food and Agriculture: Outlook for the Medium and the Longer Term. *Proceedings of the National Academy of Sciences of the United States of America*, 96, pp.5908-14
- Capital Region Farmers Market, 2013. *Information* [online] Available at: <http://www.capitalregionfarmersmarket.com.au/information.htm> [Accessed 26 September 2013]
- Cordell, D., Drangert, J. & White, S., 2009. The Story of Phosphorous: Global Food Security and Food for Thought. *Global Environmental Change*, 19(2), pp.1-14
- Croft, M., 2013. *Discussion on Food Sovereignty at Community Forum* [speech/address] (Personal communication, 21 August 2013)
- Department of Agriculture, Fisheries and Forestry (DAFF), 2011. *Australian Food Statistics 2009-10*. [online] Canberra: DAFF. Available at: http://www.daff.gov.au/data/assets/pdf_file/0011/1910819/food-stats2009-10.pdf [Accessed 15 September 2013]
- Department of Agriculture, Fisheries and Forestry (DAFF), 2012. *Australia's Agriculture, Fisheries and Forestry at a Glance 2012*. [online] Canberra: DAFF. Available at: http://www.daff.gov.au/data/assets/pdf_file/0003/2161173/at-a-glance-june2012.pdf [Accessed 27 September 2013]
- Department of Agriculture, Fisheries and Forestry (DAFF), 2013a. *National Food Plan: Our Food Future* (White Paper) [online] Canberra: DAFF. Available at: http://www.daff.gov.au/data/assets/pdf_file/0011/2293328/national-food-plan-white-paper.pdf [Accessed 17 August 2013]
- Department of Agriculture, Fisheries and Forestry (DAFF), 2013b. *Australian Food Statistics 2011-12*. [online] Canberra: DAFF. Available at: http://www.daff.gov.au/data/assets/pdf_file/0007/2269762/daff-foodstats-2011-12.pdf [Accessed 10 September 2013]
- Department of Agriculture, Fisheries and Forestry (DAFF), 2013c. *Community Food Grants*. [online] Canberra: DAFF. Available at: <http://www.daff.gov.au/agriculture-food/food/community-food-grants> [Accessed 2 October 2013]
- Dovers, S., 2013. The Australian Environmental Policy Agenda. *Australian Journal of Public Administration*, 72(2), pp.114-128
- FAO, 2002. *World Agriculture: Towards 2015/2030*. (Summary Report) [Online] Rome: FAO. Available at: <ftp://ftp.fao.org/docrep/fao/004/y3557e/y3557e.pdf> [Accessed on 28/8/2013]
- Freedman, D., & Bess, K., 2011. Food Systems Change and the Environment: Local and Global Connections. *American Journal of Community Psychology*, 47, pp.397-409
- Gerster-Bentaya, M., 2013. Nutrition-Sensitive Urban Agriculture. *Food Security*, 5(5), pp.723-737

- Helms, M., 2004. Food sustainability, Food Security and the Environment. *British Food Journal*, 106(5), pp. 380-387
- Issaoui-Mansouri, K., 2011. Food Sovereignty as an Emerging Concept. *Kasarinlan: Philippine Journal of Third World Studies*, 26(1-2), pp.11-21
- Keating, A., 2013. Food Security in Australia: The Logistics of Vulnerability. In: Q. Farmar-Bowers, V. Higgins & J. Miller eds. 2013. *Food Security in Australia*. New York: Springer, pp.21-32
- King, S., Bellamy, J., Kemp, B. & Mollenhauer, J., 2013. *Hard Choices: Going Without In A Time of Plenty*. (Report for Anglicare Sydney, NSW South, NSW West & ACT and the Samaritans Foundation) [online] Sydney: Anglicare. Available at: <<http://www.scribd.com/doc/140278319/ANGLICARE-Hard-Choices-Report-2013>> [Accessed 7 October 2013]
- Kruger, C., 2012. Biggest Winner of Price Wars: Supermarkets. *The Age*, [online] 2 November. Available at: <<http://www.theage.com.au/business/biggest-winner-of-price-wars-supermarkets-20121102-280lq.html>> [Accessed 5 September 2013]
- Kurtenbach, L., 2007. Fossil Fuel Depletion Brings Monumental Change. *The Star Phoenix*, [online] April 5. Available at: <<http://search.proquest.com.virtual.anu.edu.au/docview/348766205?accountid=8330>>
- La Trobe, H. & Acott, T., 2000. Localising the Food System. *International Journal of Sustainable Development & World Ecology*, 7(4), pp.309-320
- Lang, T., Barling, D. & Caraher, M., 2001. Food, Social Policy and the Environment: Towards A New Model. *Social Policy and Administration*, 35(5), pp.1-12
- Lawrence, G., Richards, C. & Burch, D., 2012a. The Impacts of Climate Change on Australia's Food Production and Export. In: Q. Farmar-Bowers, V. Higgins & J. Miller eds. 2013. *Food Security in Australia*. New York: Springer, pp.173-186
- Lawrence, G., Richards, C. & Lyon, K., 2012b. Food Security in Australia in an Era of Neoliberalism, Productivism and Climate Change. *Journal of Rural Studies*, 29, pp.30-39
- Lockie, S. & Higgins, V., 2007. Roll-Out Neoliberalism and Hybrid Practices of Regulation in Australian Agri-Environmental Governance. *Journal of Rural Studies*, 23, pp.1-11
- McMichael, A., Powles, J., Butler, C. & Uauy, R., 2007. Energy and Health 5: Food, Livestock Production, Energy, Climate Change and Health. *The Lancet*, 370(9594), p.1253-1263
- McMichael, P., 2012. *Development and Social Change: A Global Perspective*. California: SAGE Publications
- Menezes, F., 2001. Food Sovereignty: A Vital Requirement for Food Security in the Context of Globalisation. *Development*, 44(4), pp.29-33
- Pipkorn, J., 2012. *Canberra City Farm National Food Plan Submission* (National Food Plan Submission for Canberra City Farm Organisation)
- Pinstrup-Anderson, P., 2008. Food Security: Definition and Measurement. *Food Security*, 1, pp.5-7
- Pothukuchi, K. & Kaufman, J., 1999. Placing the Food System on the Urban Agenda: The Role of Municipal Institutions in Food Systems Planning. *Agriculture & Human Values*, 16, pp.213-224
- Roberts, W., 2008. In: Parker, F. & Morgan, E., 2013. *Hungry For Change: The Australian Food Sovereignty Alliance*. In: Q. Farmar-Bowers, V. Higgins & J. Miller eds. 2013. *Food Security in Australia*. New York: Springer, pp.113-128
- Rosset, P., 2008. Food Sovereignty and the Contemporary Food Crisis. *Development*, 51(4), pp.460-463

Schanbacher, W.D., 2010. *The Politics of Food: The Global Conflict Between Food Security and Food Sovereignty*. California: ABC-CLIO.

SEE-Change and Fusion Canberra, 2013. *Our Hungry Future: A Joint Project Between SEE-Change Inc. and Fusion Canberra to Focus the Issue of Local and Global Food Security*. (Discussion Paper) [online] Canberra: Fusion Canberra. Available at: <<http://www.see-change.org.au/>> [Accessed 10 October 2013]

Turner, B., Pearson, D. & Dyball, R., 2012. *Food in the ACT* (Study for ACT Government, Environment and Sustainable Development Directorate) [online] Available at: <[http://www.actpla.act.gov.au/_data/assets/pdf_file/0011/34112/20130304 - Food in the ACT - study by UC and Fenner School.pdf](http://www.actpla.act.gov.au/_data/assets/pdf_file/0011/34112/20130304_-_Food_in_the_ACT_-_study_by_UC_and_Fenner_School.pdf)> [Accessed 26 Sept 2013]

Turner, G.M., Larson, K.A., Ryan, C. & Lawrence, M., 2013. 'Australian Food Security Dilemmas: Comparing Nutritious Production Scenarios and Their Environmental, Resource and Economic Tensions.' In: Q. Farmar-Bowers, V. Higgins & J. Miller eds. 2013. *Food Security in Australia*. New York: Springer, pp.259-280

Watson, A. & Merton, E., 2013. 'Food Security in Australia: Some Misplaced Enthusiasms?' *Economic Papers: A Journal of Applied Economics and Policy*, 32(3), pp.317-327

Wauchope, G., 2010. *Submission to the Inquiry into the Ecological Carrying Capacity of the ACT and Region* (Submission to the ACT Legislative Assembly Standing Committee on Climate Change, Environment and Water for the Canberra Environment Centre)

Whitehead, L., 2013. Dairy Farmers Face Ruin Amid Supermarket Milk War. *ABC News*, [online] 14 February. Available at: <<http://www.abc.net.au/news/2013-02-13/dairy-farmers-face-ruin-amid-supermarket-milk-war/4517476>> [Accessed 5 September 2013]

Wiedemann, S.G., 2012. Plenary Session 5: Food Matters, Part 2: Nutrition and Sustainability. (Plenary Session) *Australasian Medical Journal*, p.688