



National Food Plan Unit  
C/o Department of Agriculture, Fisheries and Forestry  
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2<sup>nd</sup> September, 2011

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Dear Senator the Hon. Joe Ludwig

**National Food Plan Issues Paper**  
**Submission of the Australian Food Sovereignty**  
**Alliance**

**1. INTRODUCTION / SUMMARY**

The Australian Food Sovereignty Alliance (AFSA) welcomes the opportunity to comment on the *Issues Paper to inform development of a national food plan*, prepared by DAFF. We represent 110 organisations across Australia who are working for an equitable, sustainable and resilient food system for all Australians.

The Australian Government is to be commended on its initiative in beginning the process of developing, for the first time, a National Food Plan for the country as a whole. Given the scope, scale, complexity and urgency of the issues that confront the food system as a whole, this initiative is both timely and necessary.

That said, we believe that a much more broadly based, wide-ranging, participatory and inclusive approach to the Plan's development needs to be undertaken. As regards the substantive content of the proposed Plan, there is a need for much bolder questioning of conventional economic orthodoxies.

Our submission focuses on the underlying assumptions that are indicative of DAFF's approach to the core issues, rather than specific answers to the 48 questions listed in Appendix 2 of the paper. In the course of our submission we will however touch on some of the over-arching questions.

Basically, ***the main point we want to make*** is that the Issues Paper in its essential aspects and its core assumptions ***continues to perpetuate the comfortable presumption that the future will look much like the past***, and therefore ***downplays the urgent need for change towards much more resilient, sustainable and fair food and farming systems***. We need a National Food Plan that presents to the Australian public a convincing vision of food and farming systems that will successfully meet the pressing challenges of the present and the future. At the heart of this vision must lie ***the recognition that food is a basic human right that everyone is entitled to***; it is not simply another commodity produced for export and profit.

In practice this means:

- a fair price for farmers,
- a shift towards agro-ecology as the ‘normal’ method of farm production,
- a transition away from factory farming,
- improved access to healthy and nutritious foods for all,
- controls and proper regulation of energy-dense, nutrient-poor foods (e.g. prohibitions on advertising of junk foods to children), and
- a committed whole-of-society effort to eliminate the horrendous levels of waste that we currently tolerate at all points in the food and farming system.

What we are talking about here is a National Food Plan that ***places as its highest objective the well-being of***: farmers, communities, individuals, ecosystems, livestock, and the country as a whole.

***All of the above requires strong political leadership***. Food and farming are so vital and cross-cutting that, in our view, the National Food Plan must be led and coordinated from the Prime Ministers’ Office, not DAFF.

We also have significant concerns about the process taken to date, including narrow stakeholder involvement, the lack of public engagement, general lack of transparency and the fact there is no clear mechanism for coordinating a “whole of government approach”. This reduces the chances of the National Food Plan, as currently conceived, of being relevant or effective in meeting the current and future challenges regarding food and farming. We have detailed our concerns and made suggestions about the process going forward in the addendum to this submission.

We have kept the submission brief, however we look forward to being able to engage in a genuine, open and transparent spirit of dialogue on all issues concerned. Over the coming months we will expand on the points made below and take every opportunity to contribute to the development, design and implementation of the National Food Plan. We will do this in the belief that our ongoing engagement, together with that of the many hundreds of thousands of Australians who daily work for a sustainable, fair and resilient food system, will help produce a National Food Plan that is capable of meeting the challenges of near- and medium term future.

## 2. UNDERPINNING ASSUMPTIONS

The Issues Paper is framed on a number of assumptions that can, and have, been widely called into question. These assumptions - such as “Our nation’s food supply is secure” and “There is therefore no foreseeable risk to Australia’s food security” - set the scene for an approach that does not recognise the impossibility of a broadly ‘business as usual’ approach.

- a. *‘Our nation’s food supply is secure...there is no foreseeable risk to Australia’s food security’<sup>i</sup>*

Although Australia produces considerably more food than it consumes, this level of production is built on quite precarious foundations. A reliance on fossil fuels and phosphorous to deliver such high levels of production cannot be considered sustainable in the long run. And our soils have deteriorated to such an extent that we need to focus on forms of agriculture that preserve and nourish them from within, rather than assuming that an endless supply of external nutrients will always be available, or for that matter that continually pouring agri-chemicals into the land is desirable.

Therefore, we would agree that food security is achievable in the future, but ***we need to start asking questions that go beyond the ‘how much’ (production), and rather begin to focus on what is produced and for who, how it is produced, under what conditions, how producers are compensated for their efforts, and what happens to the food once it leaves the producer.*** These questions are priorities of the food sovereignty movement worldwide.

In taking this position, the issues paper runs counter to analysis from diverse sources (as outlined below), including work undertaken and recently completed by the Government’s own independent scientific advisory board (PMSEIC). We request that ***the National Food Plan be informed by a more strategic assessment of risks to food supply and security, with due consideration given to the well-being of a much larger population in increasingly unstable climatic conditions, and with severe resource constraints.***

Some further material pertaining to the risks to Australia’s (and international) food supply includes:

- **The Coming Famine: The Global Food Crisis and What We Can Do To Avert It**, Julian Cribb, 2011
- **The Prime Minister’s Science, Engineering and Innovation Council (PMSEIC): Australia and Food Security In a Changing World, and Challenges at Energy-Water-Carbon Intersections**
- **Paddock to Plate: Policy Propositions for Sustaining Food and Farming Systems**, Andrew Campbell, Australian Conservation Foundation
- **The Environmental Food Crisis**, 2009, United Nations Environment Programme
- **Victorian Food Supply Scenarios: Impacts on Availability of a Nutritious Diet**, 2011, Victorian Eco-Innovation Lab, University of Melbourne

- IASSTD (2009), **Agriculture at a Crossroads – Global Report**, International Assessment of Agricultural Knowledge, Science and Technology for Development
- PCI (2009), **The Food and Farming Transition: Towards a Post Carbon Food System**, Post Carbon Institute
- Larsen et. al (2008), **Sustainable and Secure Food Systems for Victoria: What do we know? What do we need to know?**, Victorian Eco-Innovation Lab, university of Melbourne

These resources should be considered part of our submission and hence essential reading.

There are several authors who examine these and related issues from a longer range, holistic and critical perspective. The current dilemmas facing agri-food systems in Australia and globally cannot be properly grasped without such a perspective; and that framing policy responses in its absence runs the grave risk of repeating mistakes which have brought us to the present situation, thus aggravating the factors leading to food system failures rather than resolving them. Relevant works in this field include:

- **Stuffed and Starved: Markets, Power & the Hidden Battle for the World Food System**, Raj Patel
- **Waste: Uncovering the Global Food Scandal**, Tristram Stuart
- **Agriculture and Food in Crisis**, Fred Magdoff and Brian Tokar (eds)
- **Agri-culture: Reconnecting People, Land and Nature**, Jules Pretty
- **Agro-ecology: The Science of Sustainable Agriculture**, Miguel Altieri
- **Stolen Harvest: The Hijacking of the Global Food Supply**, Vandana Shiva
- **Food Sovereignty: Reconnecting Food, Nature and Community**, Hannah Wittman, Annette Aurélie Desmarais, and Nettie Wiebe
- **Fair Food: Growing a Healthy, Sustainable Food System for All**, Oran Hesterman
- **The Omnivore's Dilemma: A Natural History of Four Meals**, Michael Pollan
- **Eating Animals**, Jonathan Safran Foer

b. *'...food production will need to increase by about 70 per cent...'* (p vii)

Debates around food policy and food security are often dominated by the simplistic assumption that the over-riding need is to produce 'more food', despite ***the clear evidence that the production of 'more food' is not actually the key factor, or the most appropriate political-economic action, in increasing food security.***

The key critiques of the current global agri-food system note that most or all of the benefits of increasing production accrue to those with interests in intensified and commoditised food systems, and not to those who are already marginalised and unable to access the abundant food that already exists. Therefore, simply increasing food production does little or nothing to increase food security.

We will not rewrite the widespread critique of this claim here, but outline the key arguments below your further consideration.

- **Global food production currently exceeds demand by a substantial margin.** According to some estimates, the world currently produces enough food to feed 10 or even 12 billion people.<sup>ii</sup>
- It is estimated that **only 43% of grain produced is currently available for human consumption**, the rest is fed to animals, used for agro-fuels or wasted.<sup>iii</sup>
- **The challenge is not about the amount of food produced, but who gets it, and under what terms** – the grain currently fed to animals would be sufficient to feed 3.5 billion people<sup>iv</sup>.
- Uncritical assumptions about linear growth of meat consumption throughout the world overlook the fundamental physical constraints to this trajectory – ranging from land and water, to grain, to greenhouse gas emissions, to fossil fuel supply.
- There is currently **an extremely high amount of waste in the system** (preliminary estimates suggest that as much as 50% of all food produced in OECD countries is wasted at various points along the supply chain)<sup>v</sup>
- Similarly, the 30 million tonnes of fish needed to sustain the growth in aquaculture correspond to the amount of fish discarded at sea<sup>vi</sup> (UNEP 2009).

**It is therefore essential to understand that hunger and malnutrition persist in a world of food abundance. Global food security will be achieved**, not by further boosting production in commodity exporters such as Australia and the United States, but rather **by addressing the gross structural inequalities that characterise the existing system. The major need**, as recognised by the International Assessment of Agricultural Knowledge, Science and Technology for Development<sup>vii</sup>, and recently reaffirmed by the UN Special Rapporteur on the Right to Food<sup>viii</sup>, **is to boost domestic agricultural capacity in countries that are currently net food importers.** Many of these countries were once self-sufficient in food and even net food exporters, and there is no reason in principle or practice why they should not once again attain that status.

**Australia's role should be to provide technical support, training and assistance to developing countries in helping them meet this goal by strengthening the productive capacity of their own agricultural sectors, particularly small women farmers.** Further, as documented by the UN Special Rapporteur on the Right to Food and others, research demonstrates that agro-ecological methodologies not only boost the productive capacities (and hence incomes) of small farmers, they also do so in ways inject much greater levels of resilience in the food system in terms of meeting the challenges of both climate change (drought, floods and so on) and peak oil (minimising the need for expensive fossil-fuel based external inputs).<sup>ix</sup>

- c. *'Continued improvements in international trading rules that allow food to flow where it is needed will...help global food security'* (p vii)

The assumption that the further liberalisation of trade in agricultural commodities will somehow contribute to the achievement of global food security is simply contradictory to the evidence. **Free trade in agricultural commodities has not delivered global food security.** On the contrary, in the period since the beginning of the Uruguay Round of the Global Agreement on Trade and Tariffs, which subsequently led to the inauguration of the

World Trade Organisation, the numbers of malnourished persons in the world have risen by 30-40%, and many experts anticipate that they will rise still further in the coming years and decades.<sup>x</sup> Trade liberalisation has combined with debt-driven processes of structural adjustment to bring about the destruction of domestic agricultural capacity in many countries in the Global South, and a generalised rural crisis as seen in the growth of urban slums and waves of economic migration.<sup>xi</sup> When the impacts of food price volatility produced through rising energy prices and speculative activities in commodity markets are taken into account, the picture is one of a recipe for intensifying social crisis and political instability. The food price riots of 2008, and the so-called ‘Arab Spring’ of 2011, bear out this analysis.<sup>xii</sup>

The Issues Paper correctly notes that a high proportion of the world’s poor that are farmers, but assumes the appropriate response is simply, and only, to increase production. However, the IASSTD review counters this perspective, noting that “the global trend has been towards a decapitalization of poor farmers and their resources (as well as rural areas), as they experience declining terms of trade and competition with low-cost producers”.<sup>xiii</sup> Lowering the cost of food through increased production in other countries and increased import access to their domestic markets therefore undermines the viability of these farmers, and entrenches poverty and thus food insecurity.

Therefore the AFSA reiterates its stance that the focus, as regards global food security, must be on boosting domestic agricultural capacity of food importing countries in the Global South. ***Further entrenching import dependencies must be avoided***, both for reasons of principle and political pragmatism: ***hunger-induced rioting may result in social and political instabilities, the spread of political extremism, and the generation of large new waves of economic migration. Australia will not be immune from any of these developments, which will place intense pressures on the social and political fabric of this country.***

d. ‘Australia produces much more food than it consumes...’ (p viii)

While this is true in the strict sense of gross tonnages, it is not true as regards the varieties and quantities of food needed for all Australians to follow a balanced and healthy diet. In particular, ***Australia does not produce enough leafy green and orange vegetables, nor does it produce enough fruit.*** These conclusions follow from work being undertaken in the course of the review of the Australian Dietary Guidelines, on the basis of a draft New Food Modelling System for Australia, released in 2010 by the National Health and Medical Research Council.<sup>xiv</sup> The slide reproduced below, which was prepared by Dr Amanda Lee of Queensland Health and presented by her at the National Sustainable Food Summit held in Melbourne on 5-6 April 2011, demonstrates that ***Australians are eating insufficient quantities of most vegetable groups, and that domestic supply is currently inadequate to meet the recommended dietary requirements of the total population.***

The obvious conclusions to be drawn from this data are that:

- Australians as a whole need to be encouraged to eat more fruit and leafy green and orange vegetables, and

- that greater quantities of fruit, and all vegetables in these categories, be produced domestically.

This requires that greater attention be paid, as a matter of priority, to circumstances of horticultural producers in Australia. In particular, we believe that **market gardens in urban and peri-urban fringes should in most circumstances be protected from further urban development**. These fringe zones represent some of the most productive food-growing land in Australia, and their location close to major population centres accords them a special place in our agricultural landscape.

Food group- food	Draft Foundation Diets omnivore patterns Adults (mean g/day)	Intake- adults (mean g/day) most recent data (NNS '95)	Change to meet requirements: Adults would need to eat:	Available* minus population requirements (1000 T/year)
<b>Total vegetables</b>	362	273	30% more	146
-starchy veg	62	106	40% less	446
-green leafy/brassica	75	57	30% more	-240
-orange veg	75	31	140% more	
-other veg	150	77	90% more	
Legumes	40	7	470% more	44
<b>Total fruit</b>	300	142	110% more	-249
Nuts/seeds	18	4	350% more	n/a
<b>All grain: (cereals)</b>	352	271	30% more	1026
-wholegrain/ †fibre	217	83	160 % more	n/a
-refined/ ‡fibre	136	188	30% less	n/a
<b>Meat, poultry, fish, eggs, legumes and alternatives</b>	157	147	7% more	850
-poultry, fish, eggs, legumes etc	99	70	40% more	664
-red meats	58	77	20% less (mostly men)	590
-fish and seafood	29	21	40% more	n/a
<b>Total dairy foods**</b>	684	336	103% more	207
-reduced fat	578	103	460% more	n/a
-high/medium fat	108	233	45% less	n/a
<b>Other choices- energy-dense, nutrient-poor foods and drinks</b>	0-10% total energy intake***	~35% energy intake	~60- 100% less***	n/a

\* FAOstat (2002) and home production data (1992); † including milk, yogurt, cheese excluding butter/cream; ‡ depending on age, gender, height & physical activity level

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Further to this, a recent Australian analysis explored the implications for domestic provision of a nutritious diet of different combinations of land and water use, greenhouse gas emission reduction trajectories, and energy supply and found significant tensions between these objectives.<sup>xv</sup> **It cannot be assumed that a surplus of the required foods will be able to be produced domestically while other objectives are also met.** Further, this report also suggested that for a variety of reasons it would be unwise to rely on imports 'to meet core nutritional requirements'.<sup>xvi</sup> These impending challenges must be taken into account in decision-making about land, water and other resource availability for food production.

### **3. GENERAL APPROACH**

The issues paper is basically framed as if business as usual, with some minor tweaks, is an appropriate approach to developing a National Food Plan. We have briefly outlined five key areas where this is patently not the case.

#### **a. The health of Australians is declining - 16% of the burden of disease can be attributed to food.<sup>xvii</sup>**

Approximately 60% of Australian adults, and 25% of Australian children, are overweight or obese, according to the National Preventative Health Taskforce, which also estimates the annual cost of obesity at \$56 billion annually.<sup>xviii</sup> The current generation of Australian children will be the first in the post-1788 history of the country to have a reduced life expectancy, compared with previous generations. At the same time, as many as 2 million Australians, including 1 million children, experience food insecurity at some point each year.<sup>xix</sup> This number is increasing as cost of living pressures have intensified in recent years, with many emergency providers of food relief reporting sharp increases in the demand for their services. Public health tracking has revealed that fruit and vegetable inflation has consistently outpaced poor nutritional products for more than a decade.

#### **b. The prosperity and well-being of farmers continues to decline, leading to fewer and older farmers**

The terms of trade for Australian farmers have worsened steadily over many decades, to the point where the average farmer must now produce 'four times the volume, to earn less than half in real terms', what farmers earned in the early 1950s.<sup>xx</sup>

#### **c. Ecosystem decline threatens future food production**

60% of our soils are degraded, and many of our major water systems are under severe stress as a result of irrigated agriculture. Australia has one of the worst records in the world for biodiversity loss, much of which is attributable to land-use patterns. The loss of productivity from our natural resources has been masked by the increasing use of irrigation, energy and synthetic fertilisers and chemicals. As these become less affordable and available, the importance of healthy ecosystems for food production is once again becoming very clear.

#### **d. Rural communities are doing it hard<sup>xxi</sup>**

Australian farmers report double the average levels of depression and suicide.<sup>xxii</sup> As a result of these trends, the total number of Australian farmers declines by around 1800 every year, the average age of the Australian farmer is now 55<sup>xxiii</sup>, and many rural communities are faced with a harsh present and a bleak future.

#### **e. The food system is intensely vulnerable to restrained oil resources**

As a result of the logic of economies of scale, the system has become dependent on highly extended distribution networks and centralised distribution centres. The construction and

successful functioning of such a system has only been possible because of a reliable supply of cheap oil. If that assumption no longer holds true – and the price of oil has risen five-fold in the past decade – food will not only become increasingly expensive; the functionality of the system as a whole may be at risk due to supply shocks and disruptions (e.g. as a result of wars and social upheavals in oil-producing nations). The extent of this vulnerability has been emphasised by Lloyds Insurance – “Tight profit margins on food products, for example, will make some current sources unprofitable as the price of fuel rises and local suppliers become more competitive. Retail industries will need to either re-evaluate the ‘just-in-time’ business model, which assumes a ready supply of energy throughout the supply chain or increase the resilience of their logistics against supply disruptions and higher prices.”<sup>xxiv</sup>

#### 4. RESPONSES TO OVER-ARCHING QUESTIONS

1. What is the most important thing you think a national food plan should try to achieve?

***The National Food Plan must recognise the seriousness of all aspects of the current situation, and clearly articulate a vision and a strategy for a fair, sustainable and resilient food future for the country as a whole.*** Issues of industry competitiveness in global markets are of second-order importance in this hierarchy of priorities.

***A National Food Plan should endeavour to create the policy framework for the building of fair, sustainable, and resilient food and farming systems for all Australians.*** Further, ***the Plan should be based on a food system approach***, i.e. one that recognises the social, cultural, economic, historical and environmental interactions of food production, distribution, manufacturing, retailing, consumption (eating), and disposal / nutrient recycling. ***It should represent the result of an inclusive, whole-of-food-system collaboration. Its foundation should be the internationally-recognised right to food.***

This will include clear policy positions and implementation pathways on key issues, including but not limited to:

- ***Identification and protection of prime agricultural resources nationwide***, ensuring in particular that sufficient high-quality farmland is available to meet the totality of current and anticipated domestic food needs, based on a nutritious diet, now and for the future
- ***Recognition of the key role that farmers play in ensuring the integrity and well-being of the country as a whole***, and the creation of pathways that provide viable livelihoods for farmers so that young people will once again want to enter this vocation
- ***The elevation of a holistic vision of universal public health***, based on a full recognition of the universal right to food, as a key priority of the National Food Plan, i.e. no Australian will go hungry, and the burden of dietary-related ill-health will be progressively reduced and eliminated
- ***The integration into all primary and high school curriculums of hands-on learning programmes*** that raise awareness about the multiple impacts of the food and farming system, and why our food and food producers cannot be taken for granted
- ***A strategy for progressively reducing and eliminating the tremendous levels of waste*** that exist across all elements of the food supply chain, with a focus on recovering nutrients for recycling into compost in order to rebuild degraded soils
- ***Recognition of the need to progressively shift towards agro-ecological methods of production*** in many farming sectors as the path to a sustainable agricultural future; and the creation of incentives for farmers to facilitate this transition
- ***Recognition of the multiple social, environmental and economic benefits that local and regional food systems can and do play***; and the creation of programmes to support these systems, study their impacts, and widely disseminate the results

## 2. What do you think the vision and objectives for a national food plan should be?

*The national food plan should through its vision and objectives endorse and foster the many existing and emerging forms of agriculture and food distribution systems in Australia that offer sustainable, resilient and fair food futures for all.*

This vision is that shared by many millions of Australians – farmers and non-farmers alike, namely ***an equitable, sustainable, resilient and democratic national food system***. This system is one in which:

- ***our farmers are valued and can support thriving rural communities***, with growing numbers of young people once again wanting to embrace farming as a vocation,
- ***all Australians are healthy and our diets support our well-being***,
- ***our prime farmland is protected*** from the destructive impacts of extractive industries so that the food security of future generations is guaranteed,
- ***our soils and waterways are restored***, and
- ***food and farming make a major contribution to ecosystem restoration and health, and climatic stabilisation***.

This vision is one of a vigorous food future based in diversified farming, thriving social enterprises, and expanding community food systems: from backyard gardeners, Community-Shared Agriculture and thriving independent and diverse farming landscapes that provide good livelihoods, as well as food, energy and ecosystem services for their inhabitants and neighbouring cities.

We see a vigorous food future based in diversified farming, thriving social enterprises, and expanding community food systems: from backyard gardeners, Community-Shared Agriculture and thriving independent and diverse farming landscapes that provide good livelihoods, as well as food, energy and ecosystem services for their inhabitants and neighbouring cities.

The move towards this vision is based on the principles of Food Sovereignty, which include an over-arching focus on food for people, and the valuing of food providers. These principles are set out in the Addendum to this submission.

From this vision, the fundamental objectives of the Plan should be focused on ensuring that our food and farming systems contribute to the achievement of the following goals:

- a. Health and well-being for all Australians
- b. Profitable farms / good livelihood for farmers
- c. Regeneration of our natural environment and ecosystems
- d. Social fairness and well-being for our farmers and rural communities
- e. Australia's prime agricultural land is safeguarded for this and future generations

### 3. What do you see as the major risks to Australia's food supply in the coming years and decades? How could they be avoided or managed more effectively?

There are two principal risks that we foresee:

- *Australia's (and the world's) continued reliance on fossil fuels and non-renewable phosphorus to produce our food*
- *Aging / loss of farmers – particularly those with intimate knowledge of landscape and skills*

#### Fossil Fuels and Phosphorous

The latest World Energy Outlook 2010 from the International Energy Agency (IEA) acknowledges a global peak in conventional oil production in 2006 and anticipates substantial decline rates from currently producing fields.<sup>xxv</sup>

“Peak Oil” refers to the “maximum rate of oil production in any area recognising that it is a finite natural resource, subject to depletion”.<sup>xxvi</sup> When a country's production peaks, it becomes more reliant on imports (unless demand is reduced). When the maximum rate of global oil production is reached, increases in consumption can no longer be sustained - demand will outstrip supply. The ability to access remaining oil reserves becomes increasingly expensive and difficult, requiring substantially (and consistently) higher prices to make investment in this production commercially viable. As higher energy prices affect energy demand there is a direct relationship with economic expansion or contraction. The current global financial situation, in which the return to ‘normal trend’ economic growth is increasingly being questioned, is thus intrinsically linked to the reality of peak oil.<sup>xxvii</sup>

Australia's domestic primary oil production (crude oil, condensate and LPG) peaked in 2000-01 and has declined on average 5% per year to 2007-08.<sup>xxviii</sup> This has increased our reliance on imported oil and oil products every year since. It is reasonable to assume that Australia's domestic oil production will continue to fall over the period 2010 – 2030, requiring increasing imports – or alternative fuel sources – to fulfil demand.

*The importance of peak oil for food systems cannot be overestimated.*

While peak oil is sometimes seen primarily as a transport issue (as mentioned above), liquid fuel availability and cost is critical to the agriculture and food system more widely.

Farm machinery and pumps are run with petroleum fuel and other materials and equipment used on farms are often derived from oil products or depend on petroleum fuels for manufacture. Between 1990-92 and 2002-04, the amount of energy used on Australian farms increased 49% (in KToe – ‘000T oil equivalent), compared to the rest of the economy at about 25% i.e. agriculture has become more energy intensive faster than other sectors.<sup>xxix</sup> Similarly, the proportional costs of fuel to agriculture are much higher than to other sectors, accounting for 32.4% of agricultural expenditure in cropping, 21.1% (beef) and 15.4% (dairy), but less than 1% of costs for most other industries.<sup>xxx</sup>

Oil and gas are also used for production of pesticides and herbicides and other agricultural chemicals, particularly fertilisers. To fully understand the implications of this vulnerability, we recommend reading PCI (2009).

*Increasingly desperate attempts to maintain fossil fuel dependent systems will have serious impacts for food systems and the climate.* We can see this in the rapidly unfolding dynamic around coal-seam gas exploration in the eastern Australian states, especially Queensland and NSW, large portions of which have been slated for mineral and / or gas exploration in one form or another. We would make the following specific observations regarding the situation in Queensland, many of which apply with equal force to NSW:

- Queensland does not have an effective policy or legal framework to protect our best agricultural lands from competing uses. Resource extraction and urban sprawl are the major drivers behind the loss of Queensland agricultural lands.
- Existing State laws and policies prioritise resource extraction over and above farming. Exploration permits for coal, minerals and gas cover most of the State.
- A new state planning policy is being prepared that seeks to protect 'strategic cropping land' from competing land uses (i.e. mining and gas). The policy is a welcome step – but the highest protection offered (which prohibits activities that permanently alienate farming land) applies to only 1% of Queensland and even within those areas the protection can be removed in so-called exceptional circumstances. This 1% includes areas covering Darling Downs, Lockyer Valley, Granite Belt and South Burnett ('Southern Protection Area') and areas covering the 'Golden Triangle' region of Central Queensland near Emerald and Rolleston ('Central Protection Area').
- Further, coal-seam gas wells are considered by the Queensland government to be a temporary activity (due to the relatively small footprint of individual wells – not a permanent one (unlike an open-cut mine) and will probably fall outside the new planning policy (although storage ponds may be considered 'permanent').
- The Queensland government recently exempted from the new planning policy an underground coal mine planned within the 'Golden Triangle'.
- Conflicts between farmers and mining and coal-seam gas companies are increasing. In a current legal case a group of farmers to the west of Dalby and Millmerran have challenged an exploration permit (Authority to prospect) given to a coal-seam gas company. The farmers have said the permit should not have been given because of the impacts on groundwater, loss of farmland, and noise/dust pollution (public health impacts). The arguments are being heard in the Land Court of Queensland.
- Agriculture is not recognised as a legitimate land use within urban areas

It is important to note that the assumption of greenhouse benefit from development and use of unconventional gas has now been drawn sharply into question, largely as a result of revised estimates of methane emissions from the wells themselves.<sup>xxxii</sup>

Like peak oil, the topic of peak phosphorous is now becoming understood. Phosphorous is of course an essential nutrient for plant growth. Unlike nitrogen, however, it cannot be fixed from the atmosphere. According to a 2007 analysis extrapolating from levels of phosphate production in Nauru and the United States, the global peak of phosphorous production was estimated to have occurred in the early years of the 21<sup>st</sup> century.<sup>xxxii</sup> This presents a severe challenge to the sustainability of agricultural systems which depend on inputs of phosphorous from external sources. These concerns are heightened if, as the Issues Paper urges, world food production is raised from existing levels by 70% by the middle of the century.

#### *Aging Farming Population*

It is estimated that 60% of Australian farmers planning to retire or hand over the business in the next decade. We ask the question: who are they going to hand it over to? In many cases, their land will not be passed down to sons or daughters, as in earlier generations. Succession planning now often involves subdivision and sale to developers, or alternatively to foreign investors. On that issue, little is known about just how much farmland in Australia is owned by foreign interests, nor what it is used for. The AFSA recommends to the Australian Government that the Foreign Investment Review Board rules be tightened to ensure greater monitoring and transparency with regard to this issue. Further, we believe that there is a strong national interest, in terms of ensuring domestic food security, that prime Australian farmland be used for domestic food-growing purposes.

The median age of farmers in farm families was 52 in 2006 and is likely to have risen another year since then. More significantly, 40% of farmers are over 55, with 18% over 65.<sup>xxxiii</sup> Australia is rapidly losing its farming population, and because terms of trade for most farmers have declined so precipitously, most young people judge, quite rationally, that farming is a great deal of hard work, requires substantial capital investments, involves a high degree of risk, and returns are relatively low. This incentive structure is achieving the perverse outcome of consistently high levels of rural depression, suicide, and an exodus from the land. It needs a thorough revision as a matter of urgency.

#### **Managed more effectively:**

***The realities of peak oil and peak phosphorous require a rationalisation in the use of these vital resources. Government at all levels needs to plan for an energy constrained future. We believe that this necessitates a rapid transition towards more localised and regionalised food distribution systems.*** On the farm, it requires a shift to agricultural production methods that do not rely so heavily on external fossil fuel and agri-chemical inputs. We believe that a sustainable and resilient agriculture will increasingly be based on agro-ecological methods, which will at the same time re-build soil fertility.

**4. What does food security mean to you? How would this be achieved? How would we know if/when we are food secure?**

The AFSA understands food security by reference to both the Food Sovereignty principles articulated above and in the Addendum, as well as to the UN FAO articulation of the principles of: availability; accessibility; utilisation and stability. The issues paper identifies all these, but then proceeds to ignore access and utilisation, collapsing any responses into availability and 'affordability'. From these principals it is clear that the physical amount of food available is necessary but insufficient to deliver food security.

Time must also be taken into account – increasing the amount of food produced *now* by undermining the ability to produce food in the future i.e. causing further degradation of soil and water resources, cannot be considered to enhance food security. In our view, genuine food security is based on the full and universal enjoyment of the right to food, and, for farmers, of the right to farm. This means in practice that:

- ***All Australians must at all times have sufficient physical and economic access to adequate amounts of nutritious, safe and culturally appropriate foods that are required for a full and healthy life***
- ***All farmers, regardless of size and economic value of their farming operation, must be supported in optimising their levels of production from their land, ideally adopting sustainable principles which we see as expressed in agro-ecological methodologies***
- ***The production of food must be regenerative*** – improving the health and quality of the natural resources, ecosystems and communities that produce it, strengthening food production capability in the future.

Achieving genuine food security in this sense requires a suite of political and practical actions, including the following:

- ***Implementation of the right to food in legislation at the Federal and State levels***, following recommendations and policy guidelines developed over recent years by the FAO
- ***The creation of appropriate institutions at the Federal and State levels to oversee and coordinate the implementation of the right to food***
- ***Taking the steps necessary to redress the worsening terms of trade which is producing the rural crisis in Australia***
- ***Promoting diverse market and distribution mechanisms that improve farmer livelihoods and create more sustainable and resilient food systems*** – e.g. expanding the network of farmers and growers markets, facilitating the development of community-supported agriculture enterprises, supporting the establishment of micro-food enterprises, supporting local government in their development of local food strategies, scoping papers and sustainable agriculture strategies

- ***Supporting and building community-level food systems***, such as urban farms, community gardens, edible landscapes, backyard 'permablitzes', school gardens, and so on

We will know when we are genuinely food secure by the following criteria:

- No Australians experience hunger or food insecurity
- The obesity epidemic has been conquered and the diets of the overwhelming majority of Australians contribute to their health and well-being, rather than making them ill
- Farmers no longer experience levels of suicide and depression double the national average
- Farmers can stay on the land, no longer do an average of 5 farmers leave the land every day
- Multiple pathways for young people to enter farming have been created and the average age of the Australian farmer is closer to 40 than 60
- Australian soils and waterways are being restored to full health and functionality
- The rate of species extinction in Australia has been dramatically slowed
- Agriculture and food systems in Australia contribute to climate change mitigation
- Agriculture and food systems in Australia are not vulnerable to supply shocks and disruptions as a result of peak oil

**5. What are the most important benefits that Australian consumers get or should get from our food supply? Why?**

In the first instance, Australians have a right to expect that they will have secure access to nutritious, safe and culturally appropriate foods at all times. As outlined above, this is the first priority of any genuinely sustainable, resilient and fair food system.

Secondly, Australians should want – and many already do want – to pay a fair price for their food, one that fully reflects the costs of its production and which ensures a decent return to the farmer or grower who produced it, and which enables them to be stewards of the land. Unfortunately the current food supply system in Australia, in which the great majority of value in the food chain is extracted by players other than the primary producer, means that it is difficult to achieve this objective.

This is another powerful argument for supporting the multiple initiatives around the country to relocalise the food system. At farmers' markets, farmers receive most of the value for their produce, and patrons get the benefit of a direct relationship with the farmer as well as a price that compares very favourably with that paid in the supermarket checkout. The same is true of the nascent community-shared agriculture initiatives in different areas of the country, such as the Food Connect model.

In summary, Australians – we prefer the term, 'food citizens' rather than consumers – through their food purchasing decisions should obtain high quality and nourishing produce, and in the process be supporting sustainable and environmentally-progressive livelihoods for Australian farmers and growers.

6. What two or three actions:

- By the government sector would most benefit food consumers?
- By the non-government sector would most benefit food consumers?

*Government:*

- ***Ensure that consumers are able to make choices about what they eat*** (the essential information requirements for effective free market function) through clear labelling of food, particularly in relation to areas of legitimate consumer concern e.g. GM, irradiation, origin etc.
- ***Ensure a fair playing field for sustainable, healthy and fair food products by removing unnecessary barriers and costs***
- ***Support the emergence of food system innovations that improve access to good food***, whether these are through local government and urban development (e.g. Food Sensitive Planning and Urban Design) or community action to re-establish sustainable food systems (e.g. FoodCare – based on LandCare)

*Non-Government:*

- The non-government sector is very active in this space. Increased coordination of activity to facilitate access to better food would be of use.

## 7. What do you see as the major opportunities for Australia's food industry in the coming years and decades? How could they be realised?

If we define Australia's food industry as all those making a living from food and farming then the major opportunity is to lay the foundations of a national food system that can be truly multi-functional, resilient and sustainable: creating jobs and prosperity; nurturing generations of healthy Australians; caring for the land, its magnificent and diverse ecosystems, and for the people who live and work within them.

***Sustainable farming is building diverse ways of producing food that sustain and renew all the elements of healthy, resilient life on Earth.*** We are supporting living soils, clean waterways, thriving biodiversity, and a stable climate. We envision food systems whose vitality increasingly comes from the power of the sun, and so which don't wholly rely on expensive and non-renewable external inputs.

***Sustainable distribution systems are those that ensure a fair return for farmers and fresh, healthy food is available to all.*** There are major opportunities as we identify, experiment and scale-up emerging models of food supply chains that really work for farmers and eaters, while providing diverse employment and small business opportunities and reducing oil vulnerability.

***The substantial economic benefits of these new systems for local farmers, food-related businesses and local economies are becoming evident.*** For example, Michael Shuman of the Business Alliance for Local Living Economies (BALLE), and his colleagues Brad Masi and Leslie Schaller, recently carried out a study examining the social, economic and environmental impacts of a 25% shift in meeting local food demand in the 16 counties of North East Ohio (population: 4 million) from local production. The resulting report, [\*The 25% Shift: The Benefits of Food Localization for Northeast Ohio & How to Realize Them\*](#), made some significant findings, namely that the 25% shift to localising the food supply could:

- Create 27,664 new jobs, and reduce the unemployment rate by 12.5%
- Increase regional output by \$US4.2 billion and state and local revenue by \$US126 million
- Increase the food security of hundreds of thousands of people
- Reduce 'near-epidemic levels of obesity and Type-II diabetes'
- 'Significantly improve air and water quality, lower the region's carbon footprint, attract tourists, boost local entrepreneurship and enhance civic pride'<sup>xxxiv</sup>

Another recent study from the Union of Concerned Scientists in the USA outlines the economic benefits of local food systems:

"As they grow, local and regional food systems create jobs and raise incomes in the areas they serve, keeping customers' food dollars active in the local economy as farmers increase spending on inputs and equipment to meet growing demand. Local food outlets can also become catalysts for economic development in their immediate surroundings: people who shop at farmers markets are likely to patronize

neighbouring businesses as well. The benefits can be substantial: according to the report, modest public support for up to 500 farmers markets each year could create as many as 13,500 jobs over a five-year period.<sup>xxv</sup>

## 8. What two or three actions:

- **By the government sector would most benefit businesses that make, distribute and sell food?**
- **By the non-government sector would most benefit businesses that make, distribute and sell food?**

### *Government:*

- ***Support, foster, champion the many and varied forms of sustainable agriculture in Australia*** – as these help reduce dependency on imported / off-farm inputs to production and hence production costs
- ***Protect productive land and water resources from exploitation*** e.g. fracking, mining
- ***Independent research and strong legislative frameworks re: GM to ensure that the risks are borne by those who profit*** (not by those who eat or those who are trying to farm next door e.g. as in the case of WA farmer Steve Marsh)
- ***Application of research funding to farmer-led experimentation and innovation in energy and agricultural systems***
- ***Ensure free and fair market conditions for all players in the food system***, reducing the power of key agents which at present exercise disproportionate control (i.e. supermarkets)
- ***Review of regulatory impediments to small independent farmers and local food systems***. Consider where these are actually necessary for smaller operations (or where they are being burdened with risks that apply to industrialised and concentrated production systems), removal of excessive barriers where possible and simplification / support where necessary so that these requirements do not impede competition from smaller players.
- ***Recognise that real traceability*** i.e. knowing exactly where the food comes from (because you bought it from them), ***is a very strong incentive for high attention to food safety***. Regulation should be focused on outcomes not processes i.e. evidence of unsafe food considered more important than tightly defined processes (which may be prohibitively expensive for smaller producers and processors).

### *Non-Government:*

- There is a thriving movement of businesses, social enterprises and non-profits working to make, distribute and sell food in a manner consistent with goals of fairness, sustainability and resilience. ***There is no need for the government to 'pick winners' or create this innovation because it is well underway*** – it is being led by the 'non-government'.
- ***The efforts of these movements are being effectively coordinated scaled up through improved knowledge sharing***; Government and philanthropy can assist by providing small amounts of funding for experimentation and uptake of successful models; and for initial infrastructure investment. A leading example is the National Good Food Network in the USA which is “bringing together people from all parts of the rapidly emerging

good food system – producers, buyers, distributors, advocates, investors and funders – to create a community dedicated to scaling up good food sourcing and access.”

- ***The Australian Food Sovereignty Alliance is the first Australian attempt to develop this network and knowledge infrastructure here.***
- This network of leaders in good food systems are providing a wealth of knowledge that we are starting to pick up and apply in Australia, however we also note that the rapid development of the sector in the USA is supported by wide-ranging support from the United States Department of Agriculture<sup>xxxvi</sup>

### **Concluding Remarks**

As we have demonstrated, while the need for change is both unavoidable and urgent, there are tremendous opportunities for all Australians to join together in what will be an historic and hugely rewarding effort of building a fair, sustainable and resilient food and farming system.

The Federal Government has shown leadership in announcing its intention to develop a National Food Plan to guide future policy in this vital area. We stand ready to work with the Government, in a critical but supportive manner, as the further development of the Plan takes place in the following months.

We recommend that the Government closely investigate the concept of **resilience** as it develops its own thinking in this field.<sup>xxxvii</sup> We also urge the Government to examine the programmes developed by the United States Department of Agriculture to support local and community food initiatives in the US in recent years, and the impact these programmes have had, as mentioned above.

Please do not hesitate to contact us for further detail or clarification of any of the points made in this submission.

Yours sincerely

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## ADDENDUM

### PRINCIPLES OF FOOD SOVEREIGNTY

#### **1. Focuses on Food for People:**

- *insists on the right to nourishing food for everyone*
- *insists that food is more than a commodity*

#### **2. Values Food Providers:**

- *supports the right to produce food*
- *supports sustainable livelihoods*

#### **3. Localises Food Systems:**

- *places providers and consumers at the centre of food-related decision-making*
- *rejects food dumping and inappropriate food aid*
- *resists food system dependency on remote and unaccountable corporations*

#### **4. Localises Control:**

- *places control in the hands of local food providers*
- *recognises the need to inhabit and to share territories*
- *rejects the privatization of 'natural resources' and the protects the global commons – water, air, land, seeds, climate*

#### **5. Builds Knowledge and Skills:**

- *builds on traditional knowledge*
- *uses research to support and pass this knowledge to future generations*
- *rejects technologies that undermine or contaminate local food systems*

#### **6. Works with Nature:**

- *uses nature's contributions in the design & management of sustainable food systems*
- *builds and maintains resilience*
- *rejects energy intensive, mono-cultural, industrialised, and destructive production methods<sup>xxxviii</sup>*

## COMMENTS ON THE PROCESS OF DEVELOPING A NATIONAL FOOD PLAN

The AFSA welcomes the commitment by the Federal Government to develop a National Food Plan. We believe that the cross-cutting nature and multiple impacts of contemporary food and farming systems is such that the need for an overarching policy and institutional framework at the national level, supported by similar frameworks at the state, regional and local levels, is now both an essential and an urgent task of governments worldwide, if we are to successfully meet current and future challenges regarding food and farming. The development of a National Food Plan, and an appropriate institutional structure to oversee its governance and implementation, is therefore an opportunity of historic significance, and the Government is to be commended for taking this visionary step.

Recognising that the processes to date are only the first steps in development of the National Food Plan, the AFSA, together with other organisations such as the Public Health Association of Australia, the Food Alliance and the Sydney Food Fairness Alliance, have on several occasions raised concerns about inclusiveness and transparency of this process, reiterated here:

- **Narrow stakeholder involvement** - the development of the entire process to date appears to have been initiated and driven by industry. The existing Food Policy Advisory Working Group is overwhelmingly comprised of representatives of large industry, with no representation from health, environment and community groups. The preponderance of issues raised in the issues paper overwhelmingly reflect industry concerns. No fewer than half of the 48 questions on which the Government is seeking opinions concern the development of a 'competitive, productive and efficient food industry'. This contrasts with the four questions concerning diet and nutrition, and the single question concerning environmental sustainability.
- **No public engagement in the development of the National Food Plan** – As noted above, the framework and assumptions that are guiding the development of the Plan have largely been set by industry, and this is reflected in the Issues Paper. As was the case with the development of Scotland's National Food and Drink Policy, the wider Australian public should have been involved in setting expectations and priorities for the development of the National Food Plan.<sup>1</sup> Had there been such public engagement from the start, we would already have made significant progress in articulating a shared vision and set of strategic objectives for the country's first National Food Plan. Instead, what we have is a lengthy document that is primarily responsive to the needs and priorities of large industry stakeholders, and this has set the terms of debate about which the public is expected to respond. Further, unlike industry lobby groups, individuals and community groups do not have teams of staff dedicated to writing lengthy and technical submissions. Given limited resources and a restrictive time frame, many will struggle to respond adequately to this Issues Paper. An ongoing process of community-level forums in multiple locations would have been a far more appropriate process to follow if the

Government wished to receive substantive input from a wide and diverse range of stakeholders

- **Lack of transparency** – The minutes of the meetings of the National Food Policy Advisory Working Group have not been made public, despite repeated requests from the AFSA and others. The Round-Table meetings scheduled for August and September are by invitation only, with many prominent, knowledgeable and experienced individuals and groups being excluded from these meetings. Neither the invitations list nor the criteria on which the list was developed have been made public; and there is no guarantee that the minutes of these meetings will be made public
- **No clear mechanism for coordinating a ‘whole-of-government’ approach** – as mentioned earlier, food and farming are cross-cutting sectors and impact on multiple policy areas: trade, health, education, climate change, environment, energy, and water, being the most important. While the Minister for Agriculture, Fisheries and Food has indicated that he is ‘working closely with a number of ministerial colleagues’, there is as yet no clear and formal cabinet mechanism in order to achieve a genuinely integrated ‘whole-of-government’ approach to the National Food Plan. This contrasts for example with the approach adopted in the UK to development of the *Food 2030* national food strategy, when a sub-cabinet committee was established at the outset to coordinate the process of policy formation.

As the AFSA has stated consistently, we believe that a National Food Plan must respond to the needs and priorities of all Australians, and most especially those who are disadvantaged by the way the food and farming system operates at present. It is a mistake to assume that there is a coincidence between the interests of large industry and the interests of ordinary Australians; often those of the former are advanced at the expense of the latter, and it is the role of government to mediate these areas of potential conflict. For this reason, the development of a National Food Plan is a tremendous opportunity for the Federal Government to engage with the broadest possible range of stakeholders to develop a truly innovative and genuinely sustainable, resilient and fair food policy for this country. However for such an outcome to be achieved, the process of policy development itself must be participatory and inclusive; and regrettably this has not happened to date.

## ENDNOTES

<sup>i</sup> Issues Paper, Foreword from Senator the Hon. Joe Ludwig, p iii; Issues Paper Executive Summary, pviii.

<sup>ii</sup> **PROMOTION AND PROTECTION OF ALL HUMAN RIGHTS, CIVIL, POLITICAL, ECONOMIC, SOCIAL AND CULTURAL RIGHTS, INCLUDING THE RIGHT TO DEVELOPMENT**, Report of the Special Rapporteur on the Right to Food, Jean Zeigler, Human Rights Council, Seventh Session, A/HRC/7/5, 10 January 2008

<sup>iii</sup> Nellemann, C., MacDevette, M., Manders, T., Eickhout, B., Svihus, B., Prins, A.G., and Kaltenborn, B.P., 2009, **The Environmental Food Crisis: The Environment's Role in Averting Future Food Crises**, United Nations Environment Programme, 19.

<sup>iv</sup> *Ibid.*, 27

<sup>v</sup> See Tristram Stuart, **Waste: Uncovering the Global Food Scandal**, pp188-189. Stuart states that 'the empirical studies suggest that rich countries waste around half of their food supplies, but at present the data is too scant for an accurate assessment'.

<sup>vi</sup> UNEP 2009 *op cit.*

<sup>vii</sup> **Agriculture at a Cross-Roads**, 2008, [International Assessment of Agricultural Knowledge, Science and Technology for Development](#).

<sup>viii</sup> **Agro-Ecology and the Right to Food**, Olivier de Schutter, [UN Special Rapporteur on the Right to Food](#).

<sup>ix</sup> See also Oxfam's [GROW Report](#), which highlights the fact that the majority of malnourished persons are also small farmers.

<sup>x</sup> Food and Agriculture Organisation, 2010, **State of Food Insecurity in the World 2010**. The FAO notes that the decline in the numbers of malnourished persons by 75 million in 2010 from the 1 billion malnourished in 2009 was attributable to the improving global economy. With global recovery now threatened and food prices once again reaching record highs, it seems probable that the numbers of malnourished will soon pass the 1 billion mark once more. As to future trends, studies suggest that a rapid expansion of agro-fuels will impact heavily on the poor in the form of substantial price rises for basic grains, which could lead to a 25% increase in malnutrition amongst women and children by 2020: von Braun, J., 2008, **Biofuels, International Food Prices, and the Poor**, International Food Policy Research Institute, Testimony to the US Senate Committee on Energy and Natural Resources, June 12, 2008.

<sup>xi</sup> See Sharma, D., 2006, **Trade Liberalization in Agriculture: Lessons from the First 10 Years of the WTO**, APRODEV, Brussels, available at:

[http://www.diakonia.se/documents/public/IN\\_FOCUS/Social\\_Economic\\_Justice/Trade/APRODEV\\_Tradelib\\_Lessons\\_dec05.pdf](http://www.diakonia.se/documents/public/IN_FOCUS/Social_Economic_Justice/Trade/APRODEV_Tradelib_Lessons_dec05.pdf). The author comments that "What the report has found is that, ten years after the WTO came into existence on 1 January 1995, the impact of agricultural liberalization on farming communities and landless workers, especially on women, has been disastrous – the past decade has seen rural livelihoods collapsing in the developing countries, leading to more unemployment and more migration from the rural to the urban areas": 7. See also Lagi, M., Bertrand, K.Z., and Bar-Yam, Y., 2011, **The Food Crises and Political Instability in North Africa and the Middle East**, *Physics and Society*, <http://arxiv.org/abs/1108.2455>.

<sup>xii</sup> For a discussion of how these various policies and trends interact to produce social instability and widespread suffering, see Bello, W., 2009, **The Food Wars**, Verso, London, and Holt-Giménez, E., and Patel, R., 2009, **Food Rebellions: Crisis and the Hunger for Justice**, Pambazuka Press, Oakland.

<sup>xiii</sup> IAASTD (2009), **Agriculture at a Crossroads – Global Report**

<sup>xiv</sup> <http://www.nhmrc.gov.au/guidelines/public-consultations/archived-public-consultations/draft-new-food-guidance-system-austral>

<sup>xv</sup> Larsen, K., Turner, G., Ryan, C., and Lawrence, M., 2011, **Victorian Food Supply Scenarios: Impacts on Availability of a Nutritious Diet**, VEIL, University of Melbourne.

<sup>xvi</sup> These factors include: include: "an increasing incidence of governments responding to domestic food security concerns by slowing or banning exports of food (and fertilisers); severity and frequency of extreme weather events disrupting both production and distribution of food; and potential for energy and food constraints to directly impact on distribution systems, and/or trigger social and political unrest": *ibid.*

<sup>xvii</sup> According to a recent analysis by the Queensland Department of Health: see Jardine, A., Endo, T., Bright, M., Macleod, S.L., Harper, C., 2007, 2010, **Risk factor impact on the burden of disease in Queensland 2007**. Queensland Burden of Disease and Injury Circular series 2, no. 6. Brisbane, Qld Health, 2010.

<sup>xviii</sup> National Preventative Health Taskforce, 2009, **Australia: The Healthiest Country by 2020. Technical Report 1, Obesity in Australia, A Need for Urgent Action**, Commonwealth of Australia, 5

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- <sup>xix</sup> According to Food Bank: <http://www.foodbank.com.au/default.asp?id=1,134,,115>.
- <sup>xx</sup> Henzell, T., 2007, **Australian Agriculture: Its History and Its Challenges**, CSIRO Publishing, Collingwood, ix-x.
- <sup>xxi</sup> Ted Henzell, *Australian Agriculture: Its History and Challenges*, CSIRO Publishing, Collingwood
- <sup>xxii</sup> According to the National Rural Health Alliance, 'men in regional and remote areas were 1.3 to 2.6 times more likely to end their life by suicide than their urban counterparts': **Fact Sheet 14: Suicide in rural Australia**.
- <sup>xxiii</sup> ABS, 2011, **Land Management and Farming in Australia, 2009-10**.
- <sup>xxiv</sup> Lloyd's Risk Insight (2010). *Sustainable Energy Security: Strategic Risks and Opportunities for Business*. Available online at:  
[http://www.lloyds.com/~media/Lloyds/Reports/360%20Energy%20Security/7238\\_Lloyds\\_360\\_Energy\\_Pages.pdf](http://www.lloyds.com/~media/Lloyds/Reports/360%20Energy%20Security/7238_Lloyds_360_Energy_Pages.pdf). Viewed March 2011.
- <sup>xxv</sup> See for example the commentary on the 2010 World Energy Outlook from respected international energy expert, Kjell Akelett, Professor of Physics at Uppsala University, Sweden:  
<http://peakoil.com/consumption/kjell-aleklett-world-energy-outlook-2010-%E2%80%93-a-cry-for-help/>. On 13 April 2011, the Executive Director of the International Energy Agency acknowledged that 'the age of cheap energy is over': <http://www.peakoil.net/headline-news/iea-the-age-of-cheap-energy-is-over>.
- <sup>xxvi</sup> As defined by retired petroleum geologist and one of the world's foremost experts on the topic, Dr Colin Campbell: <http://www.peakoil.net/>.
- <sup>xxvii</sup> Here we would refer readers to the work of Nicole Foss (aka Stoneleigh), an internationally-acclaimed writer and speaker on the interconnectivities between energy, finance and economic activity:  
<http://theautomaticearth.blogspot.com/2008/12/debt-rattle-december-7-2008-energy.html>.
- <sup>xxviii</sup> Australian Petroleum Production and Exploration Association, 2008, **When the River Runs Dry?**
- <sup>xxix</sup> OECD (2008), *Environmental Performance of Agriculture in OECD countries since 1990*, Paris, France, [www.oecd.org/tad/env/indicators](http://www.oecd.org/tad/env/indicators)
- <sup>xxxxx</sup> Dodson, J., Sipe, N. and Sloan, S. (2008) **Assessing the impact of rising petroleum prices on agricultural production in rural and regional Australia**, *proceedings of the Planning Institute of Australia (Queensland) Annual Conference*, 17-19 September 2008, Longreach, Queensland.
- <sup>xxxi</sup> Deutsche Bank (2011), *Comparing Life Cycle Greenhouse Gas Emissions from Natural Gas and Coal*, Deutsche Bank and Worldwatch Institute
- <sup>xxxii</sup> Patrick Dery and Bart Anderson, 2007, **Peak Phosphorous**, *Energy Bulletin*, <http://www.energybulletin.net/node/33164>.
- <sup>xxxiii</sup> <http://www.agribusiness-australia.com.au/education/200912/380/>
- <sup>xxxiv</sup> Available at <http://www.neofoodweb.org/>.
- <sup>xxxv</sup> Union of Concerned Scientists (2011), *Market Forces: Creating Jobs through Public Investment in Local and Regional Food Systems*, [http://www.ucsusa.org/food\\_and\\_agriculture/solutions/big\\_picture\\_solutions/market-forces.html](http://www.ucsusa.org/food_and_agriculture/solutions/big_picture_solutions/market-forces.html)
- <sup>xxxvi</sup> e.g. [http://www.csrees.usda.gov/nea/food/in\\_focus/health\\_if\\_usda\\_local\\_food.html](http://www.csrees.usda.gov/nea/food/in_focus/health_if_usda_local_food.html), <http://blogs.usda.gov/tag/food-hub/>, [http://www.usda.gov/wps/portal/usda/usdahome?navid=KYF\\_MISSION](http://www.usda.gov/wps/portal/usda/usdahome?navid=KYF_MISSION), <http://ngfn.org/resources/ngfn-cluster-calls/usda-programs-and-funding-opportunities/?searchterm=usda>,
- <sup>xxxvii</sup> See for example the work of the Stockholm Resilience Centre: <http://www.stockholmresilience.org/>.
- <sup>xxxviii</sup> These principles are a lightly edited version of the 'Pillars' developed at Nyéléni 2007, reproduced from Food Secure Canada: <http://foodsecurecanada.org/six-pillars-food-sovereignty>