

FOCUS



Food policy imperatives in a warming, drying world

Under growing carbon, water, energy and nutrient constraints, food security and community well-being demand new planning. Andrew Campbell feels Australia is well placed for innovation, and its benefits.

Harvesting rice at Morundah, NSW. Constraints on water availability in Australia are already demanding some re-thinking of traditional cropping regimes. Greg Heath, CSIRO

We have recently been reminded of how easily the immediate swamps the important. Collapsing world credit markets and myopia on Wall St are of course important, but in the long view they are but an artefact of a financial system out of whack with the fundamentals of production, distribution and consumption.

Ross Garnaut rightly points out that climate change and the imperative to tackle it will be around long after the current financial crisis has washed through our superannuation statements and the credibility of bank executives and financial markets. As both Garnaut and Nicholas Stern have observed, climate change represents the world's biggest market failure.

Now is exactly the time to be rewiring, re-stumping and re-plumbing the economy in order to meet the environmental challenges ahead. A key emerging issue in

the climate change debate that exemplifies this challenge is food.

We need to grow much more food over coming decades, from probably less land and with less available water than we have now, with much higher costs for energy, water and nutrients, in a much more difficult climate, especially in southern Australia.

The food system is a major component of export income, our largest manufacturing sector, a huge employer, the largest water user and the second largest cause of greenhouse gas emissions. Most Australians think of their water use in terms of showers, toilets, gardens and swimming pools, but by far the largest component of household water use is through the food we consume.

The food system is also implicated in the obesity epidemic, which Access

Economics estimated was costing the country more than \$20 billion annually in 2005. At present, the cheapest calories in the supermarket and fast foods are the least healthy for us, facilitating consumption of fats, sugars and salts at unhealthy levels.

Healthy environments, healthy farming systems and healthy people are intricately intertwined. The performance and resilience of our food system should be a high priority for public policy, industry leadership and community concern.

Getting real

At its best, Australia produces an extraordinary range of very high quality, healthy foods, and our best farmers are doing a remarkable job under difficult conditions. But too many rely on 'exceptional circumstances' relief payments to survive. CSIRO and Bureau of Meteorology research makes

it clear that current dry conditions will be far from exceptional in coming decades, especially in southern Australia. As the drought review released recently by Federal Agriculture Minister Tony Burke has found, the current system is also struggling to deal with insidious and corrosive social impacts, including elevated levels of stress, depression and suicide, deterring talented young people from careers in agriculture.

We need to turbocharge our agricultural research, extension, education and training effort to develop and roll out farming systems that are more intrinsically Australian: that are resilient in the face of extreme weather and extreme seasonal variability; that are miserly with water and conserving of energy; that are at least carbon-neutral and produce their own energy where appropriate; that maintain groundcover and are kind to the soil; that don't displace native wildlife or habitat; that are highly profitable in good seasons and don't lose money in bad seasons; that preserve and build their

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natural, human and financial capital; that recover quickly from shocks and stress; that generate jobs and income in regional communities; and that produce healthy products in high demand for good prices.

Further along the food chain, we also need to be much smarter using energy, water and nutrients and we need to reduce net waste radically. Overseas, big retailers such as Tesco (UK) are taking important steps. Tesco aims to halve total greenhouse gas emissions from its distribution network by 2012, and from its total operation by 2020. It has invested £25 million in a Sustainable Consumption Institute headed by the former vice-chair of the IPCC, to work on an internationally recognised carbon footprint methodology that will assist in food labelling.

Food is a big infrastructure issue. For example, we could reduce transport

emissions from the Victorian food system by 40 per cent just by adding more rail depots and using them. The Murray Goulburn Co-operative's milk tankers alone do 17 million kilometres each year. Their big emissions saving opportunity is to convert the tanker fleet to CNG (compressed natural gas), but infrastructure bottlenecks prevent this being implemented across the state throughout the year.

Following suit

The scope to increase urban food production (especially in our very spread out cities) is immense, and there are examples from which to learn. For instance, in the USA during World War II, cities produced 40 per cent of America's food.

Cuba provides another example of the complete rewiring of a national food system. When the Berlin Wall fell in 1989, US\$6 billion in Soviet subsidies to Cuba disappeared almost overnight, GDP shrank by 25 per cent between 1989 and 1991, oil imports fell by 50 per cent, the availability of fertilisers and pesticides fell by 70 per cent, and food and other imports fell by 50 per cent. Food intake fell from 3000 calories per person per day to 1900.

But the Cubans built a new food and farming system by re-orienting their science and extension effort to make agroecology (recycling organic matter, use of legumes, vermiculture, raised beds, crop rotation, companion cropping and biopesticides etc) the dominant paradigm. Between 1994 and 1999 food intake rose back up to 2580 calories per capita per day.

This also had spin-offs in the health sector with the development of natural medicines. Cubans broke up their large state-run farms and ensured fair prices to farmers, trebling average incomes. They emphasised local production and urban agriculture in order to reduce transport (and hence energy) costs, and built a new extension system around farmer-to-farmer training.

Food availability is also a big planning issue. Kirsten Larsen of the Victorian Eco-Innovation Laboratory has coined the term Food Sensitive Urban Design, to refer to approaches that make it easier for people in urban areas and high-rise buildings to grow and/or to access fresh, whole foods. The design of stormwater systems, the management of organic wastes, the protection of fertile soils in and around cities, and community and individual food gardens are all elements of such an approach.



The farmers' market in Koonwarra, Victoria, typifies the sort of local access to fresh food that could be better facilitated through food sensitive urban design. Helen Burge

Where we are rolling out new suburbs, we need to do so in ways that shorten food chains, not lengthen them – for example better integrating farmers' markets with public transport.

Other countries have worked across the food system in a strategic way to deliver better health outcomes at a community level. For example, during 1972–92, and with integration between agencies in a systematic approach, Finland reduced deaths from coronary heart disease by over 55 per cent through targeted dietary and health initiatives.

Food is one of the most fundamental indicators of how well we are managing our resources. In a policy sense, the food system is connected to pretty much everything else – health, transport, energy, planning, education and obviously agriculture. Improving the performance and resilience of the food system in a more demanding climate will test our abilities to work better across traditional policy and sectoral boundaries. If we can pull it off, however, we will have developed highly valuable know-how that will be in intense demand around the world, creating premium export opportunities.

Andrew Campbell conducted an analysis for the Australian Conservation Foundation of the outlook for the Victorian food system in a carbon, water, energy and nutrient-constrained world.

More information:

Campbell A (2008) 'Paddock to plate – food, farming and Victoria's progress to sustainability'. Australian Conservation Foundation. www.acfonline.org.au/futurefoodfarm