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Citation: Barling, D., Lang, T. & Sharpe, R. (2008). Addressing the challenges of UK national food security. *Living Earth*, 234(Spring), pp. 14-19.

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The root of the problem

Food security has risen up the political agenda, but sufficiency of supply is not the whole challenge say **Dr David Barling, Professor Tim Lang** and **Rosalind Sharpe**. Instead, we should look at 'food capacity' and the sustainability of our models of production and consumption

As it did in the 1930s and again in the 40s and 70s, food security has risen silently but rapidly up the political agenda. In the recent decades of consumerist bonanza economics, politicians have been lulled into seeing food supply as a problem confined to the developing world. Memories of the 70s oil crises faded. Now, in the era of climate change, an urgent focus on global food supply and demographics, agricultural methods and GM is back. This time, it's the rich world nations which are feeling doubly threatened – worried about their own food supply, and worried about the impact of insecurity elsewhere.

Although there is real evidence that the fundamentals of 20th-century food security are changing, discourse is being pitched still too much in defensive mode. We think there is an opportunity to switch from that – and the neo- and eco-Malthusian concerns (of which more later) about adequacy of supplies – into a more optimistic discourse about what we call national food capacity. The premise we wish to articulate is that national food capacity is a way of linking the capacity to produce the appropriate food for society's needs and for our future environmental sustainability. A study by the Stockholm Environmental Institute in 2006 showed how the UK's food system operates as though there are six planets, so heavy is current UK food's footprint. We are using land inappropriately, and increasingly relying on others to produce our food.

In the need to change direction, the UK is by no means alone. Much food security attention is currently on China. In 2007 overall food price inflation was 18% and pork meat shot up 43%. In the UK, food eaten at home accounts for less than 10% of household expenditure, in China for many households it accounts for over half. The price rise so troubled the Chinese government that it halted its promotion of biofuels, calling on farmers to return to producing food, not fuel. In richer countries, the impact of food inflation is already being registered. Much cited are tortilla protests in Mexico and boycotts on bread in France and tomatoes in Argentina.

Consumers used to declining not rising food costs can be quick to react. If such reactions emerge in affluent countries, pity the poorer countries. A concern for them motivated the UN's Right to Food special rapporteur to state last year that biofuel production was a "crime against humanity". For decades, declining food prices have been an indicator of 'progress'. Worry about the reversal led to high-level discussion at the World Economic Forum in January. World grain stocks are at the lowest level for 25 years. In the UK, food prices as measured by *The Grocer* rose 8% over the last two years, furthermore, water specialists have been warning of a coming crisis for years.

Focusing on food supply

So, what is behind this interest in food supply? One factor has been the rush to biofuels by the US and European Union. The EU set a goal that bioethanol and biodiesel will provide 20% of transport fuel by 2020. This has been widely criticised, most recently by the Commons Environmental Audit Committee. Analysts recognise that whether oil supplies are at 'peak' or not is immaterial. To use land previously available to grow food as a fuel substitute is probably folly. It is energy inefficient in its own terms, let alone for its knock-on effects on food prices. It has been calculated that the EU's then 15 countries would need to use more than 70% of land currently down to cereals, oilseeds and sugar to produce biofuels equivalent to just 10% of those countries' transport fuel. With the possible exception of Brazil's use of sugar cane (arguably a much better use of its prodigious growth capacity than eating it), biofuels add to rather than resolve policy problems. They distort prices and land use, confounding rather than promoting a shift to sustainable lifestyles. Brazil already provides 20% of its transport fuel from biofuel, but it is probably exceptional. Is the era of cheap food therefore coming to an end? The considered view ranges from 'probably' to 'possibly'. Analysts vary in the emphases they place on different factors. Deep green analysts are the most





sober but in truth, nothing is certain yet. There is considerable policy room for manoeuvre if only political and business leaders chose to act in concert. But there is not much sign of that yet.

Optimists argue that the current dislocations in food markets will sort themselves out. Government subsidies plus investors turning to commodity markets as a safe haven in these uncertain financial times don't help, but sanity will prevail. Back in the early 70s there was a not dissimilar short period of food crisis talk. Then, like today, there was concern about oil running out. Two major famines – in Sudan and Bangladesh – sparked sober assessments of world shortages.

However, this time the concerns about structural factors are both deeper and more numerous than about mere oil prices or the adequacy of famine relief and food reserves. This time there is a coincidence of at least seven structural pressures which are reshaping the capacity to meet food demands equitably. These include: land (there's not much more of it); demography (lots more people); fossil fuel energy (it's near to its limits); dietary change (richer diets leave deeper ecological footprints); climate change (it's set radically to change production and impact on natural resources); water (stress is set to affect billions of people); and urbanisation (more people now live in towns than in food-growing rural areas). All of these changes are emerging at a time when a market mentality dominates national and international food institutions. This is not a good recipe for bold thinking. Governments rely on big companies while companies know their limits. One does not have to subscribe to the original Malthusian prognosis to recognise that these are serious challenges for food governance and supply chains. In his *Essay on the Principle of Population* of 1798, the Rev. Thomas Malthus argued that food supplies can only grow arithmetically while population has the tendency to increase geometrically. Events in the 19th century proved him wrong, and his ecologically inspired neo-Malthusian successors again wrong in the late 20th century. Production rose due to improved techniques on and off the land. But the scale of the 21st-century challenge, 9 billion people by 2050, is what worries analysts. More land could be released for food, but only by chopping down forests, which provide vital climate change mitigation features.

With Brazil, Russia, India and China, plus other countries becoming more prosperous, their diets are already going through the Nutrition Transition. This phrase refers to the shift from a restricted but adequate diet – staples with plants, meat and dairy only occasionally – to a more 'western' diet. This features soft drinks rather than water, more meat products replacing plant proteins and more value-added processed foods, with their accompanying toll of fat, salt and sugars. The evidence that this transition is already under way is strong. In a series of studies of developing countries, Prof Barry Popkin and colleagues at the University of North Carolina have shown



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the remarkable ‘pull’ that growing soft drink, meat and dairy consumption is having. The World Health Organisation and national health organisations already note the rise in ill-health due to western-style over-consumption: the so-called epidemiological transition from malnutrition to mal-consumption. But health bodies have not so far laid equal emphasis on the environmental impact of this dietary change. This is changing.

The 2007 Food and Agriculture Organisation Livestock's Long Shadow report about the impact of more livestock has been akin to throwing a boulder into a lake; the ripples are spreading far. Long a promoter of animal production as developing world farmers' route to better incomes, the FAO acknowledged that meat production is remarkably heavy in its land use. Not only are animals slow converters of energy (sun, soil, plant growth), they also tend to be fed extra food by their farmers. Their ecological footprint is therefore heavy. While the FAO didn't go this far, a shift to vegetarian or less meat-based diets could reduce the ecological burden, but that would require controls on consumption and consumer aspirations which would be politically tricky. It's not a route taken up by any country so far.

The UK position

The official UK position is reflected in a cleverly argued paper published in late 2006 by the economics team at the Department for Environment, Food and Rural Affairs (Defra). This articulated the dominant position within government – and certainly reflects mainstream Treasury thinking. The paper argued that as a rich country the UK will always be well-placed to buy food on open markets. It is a myth that the UK fed itself in living memory. Indeed, one has to dig back to the mid-18th century to find near complete self-sufficiency. The government's patience with farming wore famously thin with the 2001 foot and mouth disease outbreak. It led to a Commission which argued in its 2002 report that farming needs to be more market-led while delivering environmental public goods. This has been the overall strategy ever since. In that context, a switch from food to fuel production has come like the proverbial White Knight on a charger to big farming. Not only have grain prices rocketed but switching to growing fuel offers doubly rich pickings. To the Treasury, this looks like a winner. Stop thinking of food; grow fuel. Within Whitehall it is no longer unthinkable to ask ‘what are farmers for?’ We detect a new political map emerging about food in the UK. If the politics of food in the late 80s and 90s was about safety and diet-related ill-health, the coming period will





see further complexity with the return of the old policy questions about land, food supply and price. It's uncertain where political advantage will lie, but already different positions are discernible. From preliminary work we have been conducting, funded by the Esmée Fairbairn Foundation, we discern clear positions emerging with differing diagnoses, analyses and prognoses. The new positions go beyond old Left/Right or Free Trade/Protectionism distinctions or parliamentary groupings.

The new politics of food in Britain

The currently dominant position within Whitehall is without doubt that articulated by Defra: 'We can buy our way out'. In 2006, the UK was 63% self-sufficient in food but this rises to 73% for indigenous foods, those which could be produced here. Compare that to 1939, the last really serious food policy near panic, when home production was about a third of consumption, and one can appreciate the Defra/Treasury insouciance. 'Leave it to Tesco' is a detectable policy response: let retailers sort out any supply discontinuities when they come. A study by Cranfield University on resilience for Defra supported this view. A sudden shock might be bearable but only if business can return to normal; what if the ground rules are fundamentally changed, such as by climate change or world water crisis or western economies faltering? Already, in the case of climate change, the relatively small retail and manufacturer initiatives cannot be construed as a joined-up food policy. Companies themselves are increasingly aware of this. As a recent report for the Sustainable Development Commission on government-retailer relations pointed out, companies want a clearer lead from government on what a sustainable food system would look like. 'Tell us what that is, and we'll unleash our powers on competing within that new framework' might summarise that view.

In the diametrically opposite camp are those arguing for a radical change of direction: 'Prepare for a new paradigm'. They highlight equally sound evidence. It's irrelevant whether peak oil has happened or is about to. What matters is to recognise that the 20th century's agricultural productivity revolution was heavily oil reliant. Tractors replacing horses as motive power released land previously allocated to producing horse fodder and raised production. Oil facilitated fertilisers, the other main factor. So with competing demands on oil and land, we need to start thinking and experimenting. Now. One expression is the Transition Towns movement. The focus here is on how to engage communities to reshape food culture from the bottom up. Imposing hi-tech solutions like GM won't resolve consumer demand. A post oil, climate-changed world requires people to behave differently and for food production to respond to different signals.

Within the food chain, a minority of people openly espouse either end of this policy spectrum. Many advocate a position that reflects their economic interests (commercial farmers) and their social and

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cultural concerns (rural life) or previously mentioned fears around resilience of current means of supply. But one thing is clear. There are distinct shifts away from the old 'leave it to market' position appearing. Most category managers and hands-on food sector managers know they are restricted from delivering what they could by a combination of financial signals – company commitments to shareholders – and government timidity. Many tell us that they could begin to deliver a more radical step-change if only the playing field was level, and if government championed the unlocking of the current policy lock-in. Too many of the new fundamentals for the 21st century are being responded to by niche offerings such as organics.

At the heart of the new food security politics is the challenge of how to address all the fundamentals at the same time. The evidence for addressing each of them is strong. That is why the balance of thinking is moving towards big rather than piecemeal change. Food policy needs to integrate individual behaviour within the planet's needs and capacities. To these ends, we propose that policy ought to focus on analysing and enabling what we call food capacity. This effort should highlight three key features. Firstly, production capacity to stress the production base, supply chain governance and necessary skills (at a time of collapsing employment on the land). Secondly, load-bearing capacity to indicate food's impact on environment, land and natural resources (in a time of climate change stress). Thirdly, social capacity to refer to the all-important social dimension of consumption and consumer expectations (at a time of rising diet-related health costs and consumer expectations of low prices which fail to internalise full environmental costs). The food security discourse needs to build sustainability issues into its core. Sufficiency of supply is not the whole challenge. Future capacity has to deliver sufficiency, but appropriately. Food capacity captures this complex policy direction. This is different to the current drift which is limited and incremental when what is needed is bold thinking to build a potential to use resources sustainably, create flexible supply chains and reduce the strain of the currently environmentally heavy food system. ■

How can Fellows help?

The RSA is well placed to contribute to and shape national debate. Much as it has pioneered thinking about personal carbon credits, the RSA could engage its Fellowship on the key questions arising over the mapping and delivery of a sustainable food system. What would this look like? How can we reduce the 25% of bought food currently thrown away to landfill? Such questions are central to building a food economy and culture which has the capacity to be genuinely secure. If you would like to join other Fellows to discuss these issues, please contact the RSA Networks team at networks@rsa.org.uk