

Food security and sustainability

The perfect fit



SDC position paper



Sustainable
Development Commission

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1. Executive Summary

As advisors to the UK Government, the Sustainable Development Commission (SDC) has both followed and contributed to the re-emerging debate about UK food security with great interest. At all levels of UK governance – national, regional and local – there are active discussions about what food security means and how it should or could be delivered. This paper is the SDC’s formal contribution to that process.

The paper argues that sense can only be made of the debate if food security policy is based on delivering sustainability. No food policy will deliver what is needed in the twenty-first century unless it re-shapes food systems in line with sustainable development goals. The UK Government has the appropriate framework in *Securing the Future*, but this is not yet driving top level food policy statements. The message that there is an ideal ‘fit’ between sustainable development and food security is in danger of being submerged in appeals to single-issue solutions. Food security is a complex issue which in future will require the entire food system and consumers to change. This needs championing.

To that end, the SDC recommends that:

1. The UK Government adopts a new definition of food security in terms of genuinely sustainable food systems, where the core goal is to feed everyone sustainably, equitably and healthily; which addresses needs for availability, affordability and accessibility; which is diverse, ecologically-sound and resilient; and which builds the capabilities and skills necessary for future generations.
2. The Government makes a clear statement of intent to encourage maximum appropriate and sustainable food production in line with the proposed new definition of sustainable food security.
3. Department for Environment, Food and Rural Affairs (Defra) and Devolved Administration (DA) partners should undertake specific sector assessments for grain, meat and dairy, fruit, vegetables, fibre and forestry, assessing them

for their contribution to home consumption, environment, employment, economy and health, and indicating how to deliver optimum levels of home production, sustainably.

4. Defra should give greater urgency to updating its soil strategy and should give food production capacity a high priority in its planning.
5. Defra and Department for Business, Innovation and Skills (BIS) should review food labour requirements giving special attention to four issues: the potential to create new work in primary food production; how to improve labour conditions and pay in the food system; the opportunities for generating growth in horticulture; and the future of food and farm advice systems.
6. Defra and the Domestic Affairs (Food) Cabinet Sub-committee, together with the Devolved Administrations, should co-ordinate relevant Departments (Department of Health (DH), Defra, Department for International Development (DFID), Department for Children, Schools and Families (DCSF), Department of Energy and Climate Change (DECC) and agencies (Food Standards Agency (FSA), Environment Agency (EA), Health Protection Agency (HPA) and Food and Environmental Research Agency (FERA)) to deliver new advice on sustainable diet taking account of people’s different circumstances such as income and cultural predilections.
7. Defra and Devolved Administrations should map a more ambitious new Common Sustainable Food Policy and begin exploration with EU Member States as to how the Common Agricultural Policy (CAP) might be shifted in that direction.

2. Background: global reasons for concern about food security

It is frequently pointed out that globally there is enough food to feed the world, measured as calories per capita, if it was better distributed.

¹ According to this analysis, food security is a matter of distributional justice, and the challenge is to make markets work more efficiently, to smooth out barriers to effective distribution and to raise output for the future. But even if the problem of gross maldistribution could be resolved – a highly charged political issue – the distributional analysis underplays or even does not recognise the critical issue of ‘how’? On this the evidence is overwhelming. Sustainability has to be the basis on which the world produces food and ensures healthy consumption for all. Food security can only be achieved if food systems become sustainable. They are not at present, as is summarised later.

Strains ahead include: population rising to nine billion by 2050; climate change looking certain, and requiring adaptation and mitigation; water stress; pressures on land use; finite fossil fuel sources; requirements either to increase fertiliser use dramatically or to build soil fertility (or both); and more. Professor John Beddington, the UK Government’s Chief Scientific Adviser, has spoken of a coming ‘perfect storm’ of rising demand, stagnant production and climate change.² Some see technologies such as genetic modification and a new era of hi-tech industrialised farming as the way forward, dismissing more sustainable lower-input agriculture as irrelevant. But the systematic International Assessment of Agricultural Science, Technology and Development knowledge, co-initiated and led by the current Chief Scientist at Defra when at the World Bank, suggests that more ecological solutions, based on engaging and supporting small farmers could

yield the most dramatic change.³ Reliance on single technology solutions is unlikely to resolve the complex array of problems ahead, which are partly social, partly environmental and partly about control over food systems.^{4,5}

One thing is agreed: more food needs to be produced or made available for more people from soil and food systems which will be adapting to an era of climate change, water stress, land use tensions, and concomitant social pressures. The question is, how?

Although political recognition of this sober picture has grown in the last few years, the signs were there for some time that the rate of increase in food productivity of previous decades was slowing down. In 2005-08 world food commodity prices then rocketed, sending global food security rapidly up the international political agenda.⁶ A long arranged intergovernmental meeting in Rome in June 2008 organised by the UN’s Food and Agriculture Organisation (FAO) became a crisis meeting, leading to promises to increase aid, research and development (R&D) and better trade.⁷

Figure 1 documents how global commodity prices rose from 2005 gradually at first but then rapidly, only to fall back. Figure 2 gives the picture for key food commodities in the year April 2008-April 2009. Prices were in fact already falling when the governments met at FAO in Rome in June 2008.⁸ But prices have not returned to levels prior to the price spike, and many observers anticipate that they will rise again.

Fig 1. FAO Food Price Index 2005-09

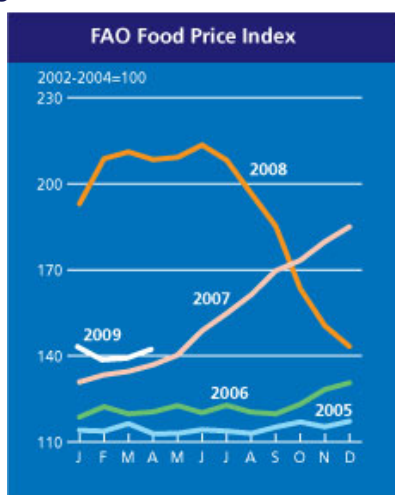
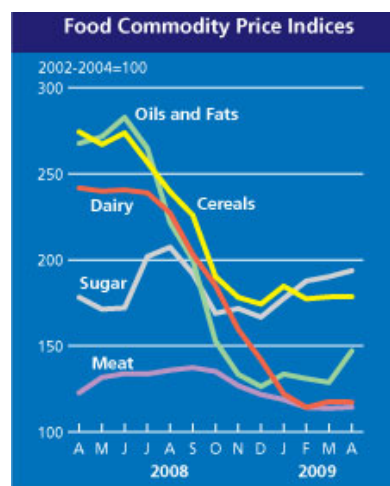


Fig 2. Commodity prices 2008-09



Source for both Figures: <http://www.fao.org/worldfoodsituation/en/> [accessed May 12 2009]

3. Reasons why food security is an important UK policy issue

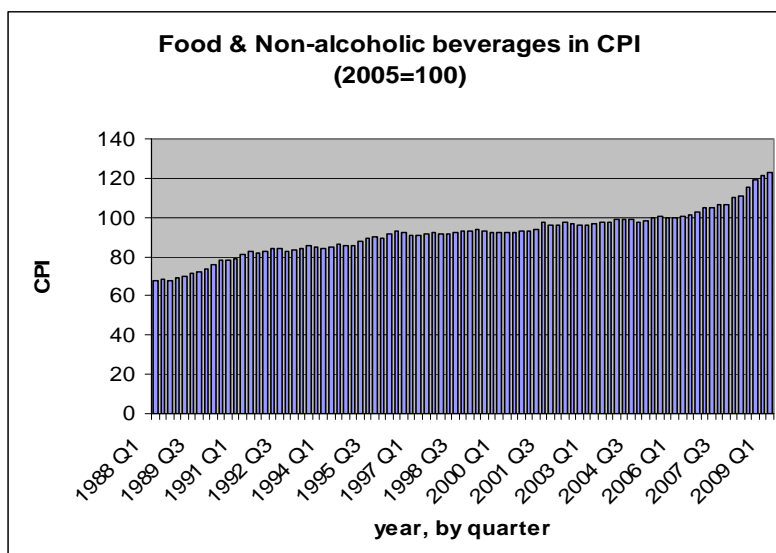
Food is a major UK employer, with over three million employees, accounting for 14% of employment.⁹ The current supply chain is the result of decades of investment, planning and change. Modern retailers, for instance, are frequently held up as the epitome of modernity and efficiency. For 60 years, consumers have enjoyed cheaper food, which has been regarded as a cultural indicator of progress. Food's share of domestic expenditure fell from over a quarter in 1950 to about a tenth today.

But in the UK, food prices over the last year began to rise. As the SDC's study on the effect of oil had anticipated, if oil went to \$100 a barrel, the effect on food would be to raise UK food prices between 5-10%.¹⁰ They indeed rose throughout 2008 but began to drop in the first quarter of 2009,¹¹ reflecting the drop in world

oil and food commodity prices. Figure 3 shows the steady rise in the Office of National Statistics(ONS) food and non-alcoholic beverage quarterly consumer price indices from 1988 to the first quarter of 2009.

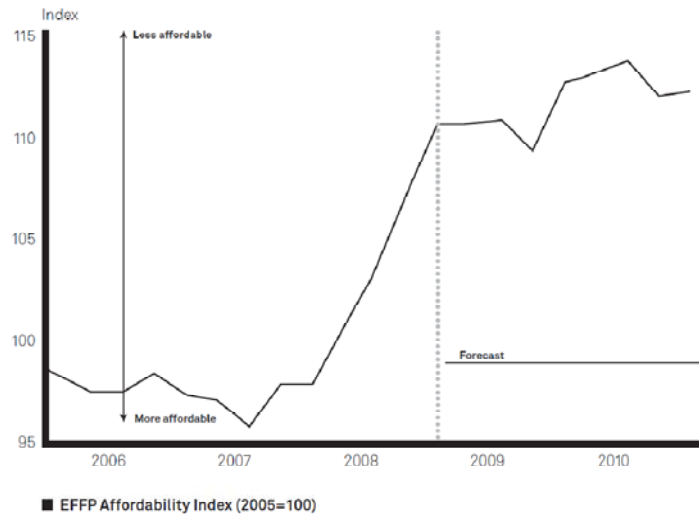
It should be noted that although global food commodity prices have dropped in the last year from the high point of 2008, they have not returned to 2005 levels. Nor do most observers think they are likely to go down further. Work by Cranfield University for English Farm & Food Partnership (EFFP), for example, forecasts no big falls in UK food prices, and its Food Affordability Index forecasts increased pressure on consumer food purchasing due to the effects of the recession. Cranfield and EFFP calculate that from 2005 to 2007 food became more affordable, then less throughout 2008 but will be squeezed in the near future (Figure 4). They anticipate that the rate of retail food price index will slowly rise up to 2011 (Figure 5).¹² This suggests that food prices are likely to be sensitive issues for consumers in the future.

Fig 3. Food & Non-alcoholic beverages in UK Consumer Price Indices 1988-2009



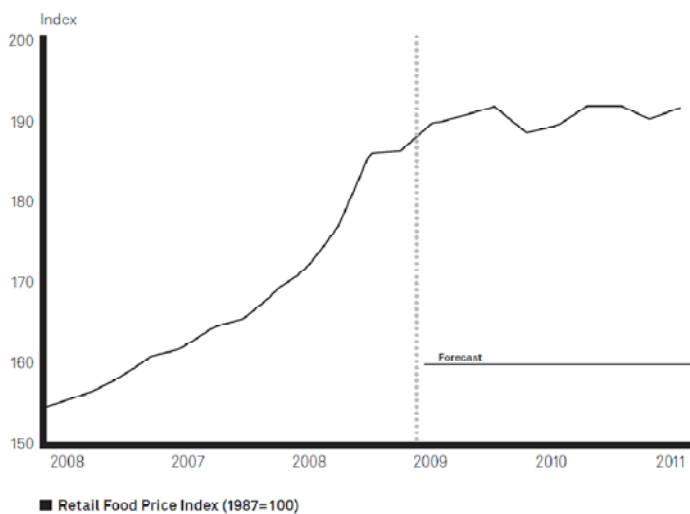
Source: Office of National Statistics

Fig 4. Projected Affordability of Food: EFP Affordability Index, 2005 - 2011



Source: English Food and Farming Partnership / Cranfield University¹³

Fig 5. UK retail food prices, 2008-2011



Source: English Food and Farming Partnership / Cranfield University¹⁴

In recent years, governments have relied on the big food retailers to deliver low prices in the name of the 'cheap food' policy. The UK food system has witnessed price wars as fierce competition between supermarkets squeezed supply chains. Part of this picture has been a gradual reduction of UK sourced food since the 1980s. This approach has tended to rely on a strong, high value sterling enabling UK retailing to source widely from the EU and world, particularly since the 1994 General Agreement on Tariffs and Trade (GATT) and EU CAP reforms.

But as the current financial crisis unfolded, the value of sterling has dropped and imported food has become more expensive. While consumers have experienced this as a squeeze on affordability, retailers have been troubled by the destabilisation of price volatility and sterling's diminished purchasing power.

A number of reports began to highlight potential fragilities coinciding with the uncertain state of sterling.¹⁵ The pressures on the pound added to other structural stresses.

But the core fact remains that if the UK has to purchase on international markets, its food prices will reflect the status of currency markets as well as international and national food production levels. Conventionally, this might be expected to send signals that there is an opportunity to produce more food from home resources, but the food system is not an engine which can be turned on or off at the flick of a switch. Farmers and growers work to longer time horizons; theirs is a slow business requiring confidence in the long-term and constancy of policy framework.

In fact, for many years, the UK food trade gap – the value of food imports compared to that for exports – has inexorably widened, as documented by the organisation Food from Britain (FFB). This was set up by the Conservative government to increase exports to close the food trade gap, but was itself closed on March 31 2009. Despite encouraging exports, the gap had continued to grow.

Concerns about the food trade gap have usually been downplayed in Government by the argument that the UK's financial and service sectors plus manufacturing income more than compensate, and that these economic powerhouses will give the UK financial strength to purchase food on open markets. However, in the current recession, and in the credit crunch, it is questionable whether this argument still carries such economic or political credibility.

The slow decline in UK food production has become an additional burden rather than a source of economic stability.

Generally UK food imports come from within the EU, accounting for 68% of food imports. According to Defra, the UK sources food from 26 countries, a diversity which it sees as a strength.¹⁶ The EU as a whole currently has a high level of food self-sufficiency. Soya is not EU-sourced, however, but is common as an animal feed and food ingredient. There has been particular sensitivity about soya planting on land which was formerly tropical forest.

Defra and HM Treasury have long argued that, as a rich developed economy, the UK is in a strong position to buy sufficient food on world markets. Other similarly affluent countries take a different policy position: the US and France

being two.¹⁷ Politically, the need to address home production is being more fully engaged with by Scotland and Wales than England.

4. Scotland, Wales and Northern Ireland

In the Devolved Administrations (DAs), Scotland and Wales particularly, important processes are underway. Northern Ireland has been held back by a long period in which there was no devolved government, but with the log-jam broken, progress is possible once more. We anticipate food security thinking to feature there, not least championed by its meat and dairy lobby.

Scotland launched a National Food Discussion in 2007, a discussion paper in January 2008,³⁵ and then in June 2008 outlined a new National Food and Drink Policy in which food policy would deliver a 'healthier, wealthier, smarter, greener Scotland'. The generation of new policy has come via five work streams: sustainable economic growth; food and drink choices; celebrating and enhancing Scotland's reputation; 'walking the talk' (particularly on public procurement); and security, access and affordability.³⁶ In November 2008, the Minister reiterated commitment to linking with sustainability when outlining policy on food security.³⁷

In Wales, there is not yet a strategy summarised in one document but a number of strands are emerging. Policy has mainly been concerned with supporting Welsh production and culture through rural policy. There is also a strong cultural emphasis, not least due to the extent of small farms and uplands, but also to language and heritage. Another strand is health.

On food security *per se*, the Welsh Assembly Government has reservations about Defra's emphasis on open markets as the key to food security, and wants more emphasis on regulation to prevent the ill-effects of markets. The three strands – farming (the *New Farming Strategy*³⁸), health (the *Quality of Food and Appetite for Life*^{39 40}) and local food production and sourcing⁴¹ – are under development. No overarching policy linking food security and sustainability has yet been made, despite

preliminary steps. An inquiry by the National Assembly for Wales's rural development sub-committee was launched in January 2009 on the production and promotion of Welsh food.⁴²

5. The task ahead: building food security on sustainability grounds

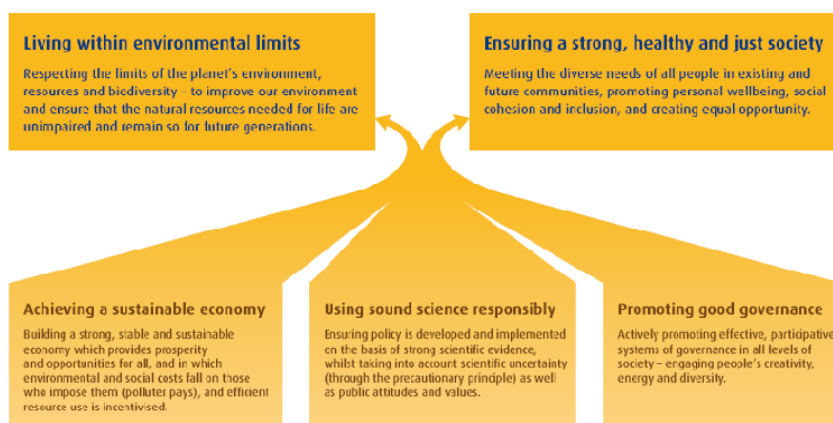
Like all national food policies, the UK's appears currently to be caught in a tension between great political exposure on the one hand and global uncertainties on the other. The SDC believes that to refocus food security through the lens of sustainability helps resolve this dilemma. The need to put UK food onto a sustainable footing began to be recognised within Government with the Cabinet Office, *Food Matters* report.¹⁸ But the process of realignment of food security with the Government's approach to sustainable development which has begun, needs to accelerate across the UK as a whole, within the Devolved Administrations, regionally and locally.

Sustainable development requires the integration of economic, environmental and social outcomes into all policy-making and operational decisions, not simple trade-offs.

Securing the Future, the Government's overarching strategy for sustainable development, articulates five principles to underpin policy-making (see Figure 7).¹⁹ These can and should be translated into thinking on food security.

Measured against the goals of sustainability, the current UK food system fails. It is a major source of greenhouse gases.^{20,21} It is water intensive.^{22,23} It accounts for one in four lorry trips on UK roads, half of which are empty, according to the IGD.²⁴ It is delivering a diet which is a major factor in preventable causes of ill-health through excess salt, fat, sugar and calories.^{25,26} It is adding huge burdens to both public and private purses, as was recognised by the Wanless reports in 2002 and 2004 and by the Chief Scientific Adviser's Foresight report on obesity in 2007, for example.^{27,28} UK consumers badly need to change how and what they eat, if their diet is to deliver the government's core goals of 'living within environmental limits' and 'delivering a strong, healthy and just society' as laid out in *Securing the Future*.²⁹ The 'fit' between sustainable development and food security in real terms is therefore tight and undeniable; however the 'fit' in terms of government policy does not yet reflect this reality.

Fig 7. The principles of Sustainable Development



Source: *Securing the Future*, HMG, 2005

The debate about food security thus sits at the heart of policy challenges ahead, and the debates about what kind of food system we need, how change and adaptation will be delivered and how to ensure clarity of purpose. With these questions in mind, this paper now raises the following issues:

- The redefinition of food security in sustainable terms
- Deciding how much food the UK could produce if it chose to reverse the decline
- The capacity of land and soil to produce food
- The labour and skills capacities required to deliver this
- What consumers could and should eat to be both healthy and live within environmental limits

- The Common Agricultural Policy implications of a renewed emphasis on appropriate home production.

5.1 The need for a clear definition of sustainable food security

The term food security can mean all things to all people. It has been used in nearly 200 different ways across the world.³⁰ Yet despite this variability – or perhaps because of it – food security continues to feature in local, national and international food policy discourse. A list of major UK statements on food security is given in Table 1.

Table 1 Major statements on UK Food Security, 1940s - 2000s

Date	Policy / document	Comment
1947	<i>Agriculture Act</i>	Gave commitment to rebuild UK farming capacity after decades of gradual decline following 1846 Repeal of the Corn Laws
1972	UK signed the <i>Treaty of Rome</i>	Signaled willingness to bring UK farming within EU Common Agricultural Policy
1975	<i>Food From Our Own Resources</i>	MAFF-led White Paper which reiterated case to grow sizeable proportion of food in the UK
2005	<i>A Vision for the CAP</i>	HM Treasury & Defra. Stressed role of international markets and recommended end to direct farm subsidies
2006	<i>Food Security and the UK: An Evidence and Analysis Paper</i>	Defra paper assessing current situation and providing critique of key arguments
2008	<i>Global Commodities: a long term vision Paper</i>	HM Treasury taking a long-term vision for a stable, secure and sustainable markets
2008	<i>Ensuring the UK's Food Security in a Changing World</i>	Discussion paper reiterating commitment to food security through market mechanisms
2008	<i>Food Matters: Towards a strategy for the 21st Century</i>	Cabinet Office: Food Policy strategy document includes food security; states that carbon reduction and health will be priorities ahead
2008	<i>Written Ministerial Statement: Food Security</i>	Rejection of self-sufficiency in favour of more complex position: "resilience of our food supply chains, access to safe, nutritious, affordable and diverse foods, and ensuring the long-term environmental sustainability of the food and farming sector"

Source: Barling, Sharpe and Lang (2008)³¹

The definition most commonly cited by Defra in recent papers is that of the UN Food and Agriculture Organisation (FAO).^{32,33} The FAO proposes that food security “exists when all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”.³⁴ The FAO’s definition of food security is sometimes translated as being about three A’s: accessibility, affordability and availability. These are acknowledged in Defra’s proposed food security indicators.³⁵ Defra has also recognised that a psychological dimension – confidence – is involved in food security. In 2006 it outlined food security’s common themes as: “availability of food; access of consumers to affordable, nutritional and safe food; resilience of the food system to significant disruptions, and *public confidence in that system*.”³⁶ The SDC agrees with the importance of this social dimension.

In 2008 Defra defined food security in everyday terms: “[w]e believe that global food security means everyone having enough to eat”.³⁷ The SDC has already proposed to Defra that this everyday definition should be given an additional clause: “... in a way that does not compromise future generations’ ability to feed themselves sustainably and healthily”.³⁸

While standing by this addition, the SDC now suggests that a new, more comprehensive definition would also be useful. The volatility of world food commodity prices and the upward pressures in domestic consumer prices add urgency to the need for a better, clearer goal for UK food security. A better definition would provide focus for Government policy, capture the need to build resilience, and provide the clarification that has been called for by stakeholders in public debate.³⁹

In January 2009, the Secretary of State for Environment, Food and Rural Affairs, made a statement of support for UK production at the Oxford Farming Conference which seemed to do just that and which was initially greeted as a turning point. He said: “I want British agriculture to produce as much food as possible. No ifs. No buts.”⁴⁰ But only a month earlier a Written Ministerial Statement had stated that “[...] we should not base our food security policy on the

pursuit of self-sufficiency [...]” and that “[t]he UK’s food security is strongly linked to global food security.”⁴¹

The policy thus appears to be positive about UK food while placing an equal emphasis on the global. In the new context – weak pound, economic recession, consumer spending power squeezed, producers uncertain – the question is what does this mean exactly? How does it translate into actual growing or farming? How does it link to land use pressures? How does this fit within the Common Agricultural Policy? Does this apply to all produce? How is it to be delivered?

The SDC believes that policy clarity can only come from a clear, coherent statement of what is meant by food security. We believe that the UK should adopt a clear policy building food security thinking on sustainability grounds.

Recommendation 1

The UK Government should adopt a new definition of food security in terms of “genuinely sustainable food systems

- where the core goal is to feed everyone sustainably, equitably and healthily;
- which addresses needs for availability, affordability and accessibility;
- which is diverse, ecologically-sound and resilient;
- which builds the capabilities and skills necessary for future generations.”

5.2 UK food production

There is a tension at the heart of the current food security debate. On the one hand are those who argue that as a rich country, the UK can and will always be able to purchase its food needs on world markets; that trade is the core means for delivering food security; and that there is no need to emphasise, let alone support, home production. On the other hand are those who see home production as key to food security, and that confidence can only come from reliable sources. Each of these interprets resilience differently. Cutting across both these approaches are questions over the

relative sustainability of different production and global trade systems.

All the prognoses on structural issues such as climate change and water ahead suggest that Europe is likely to be less drastically affected than other continents and will be morally bound to produce more food for areas which are unable to. However, recent climate impact projections show that in a high-emissions scenario, the UK and the rest of Europe will be far from immune from an increase in water shortages, heat stress and floods.⁴² Either way, there is a moral obligation on the UK to increase its output and to do so sustainably. The principle will be to maximise output appropriately. That last word is key. To continue reducing food production when the UK has soils, climate and potential to grow more surely fails the appropriateness test.

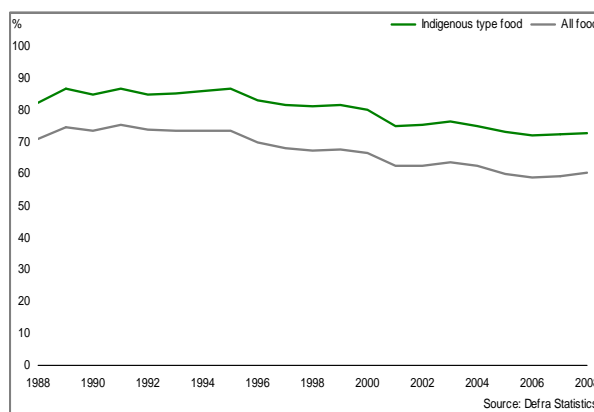
Today, UK food production overall is still gently declining but some perspective is needed. The modern low point for home food production was 1939 when around one third of food consumed came from UK farms. By the end of World War 2, this had doubled, and post-war food and farming policy set out to rebuild UK

farming through various measures such as marketing support and subsidies, the politics of which still reverberate.

This support for home production was first done at the UK level and then, after joining the Common Market (now the EU), through the Common Agricultural Policy (CAP). The high point of UK food production was reached in the early 1980s when over 80% of food consumed was home produced. Today, around 60% of all the food eaten in the UK originates in the UK. For indigenous-type foods, ie those which can be grown here, the proportion is around 74% (Figure 8).⁴³

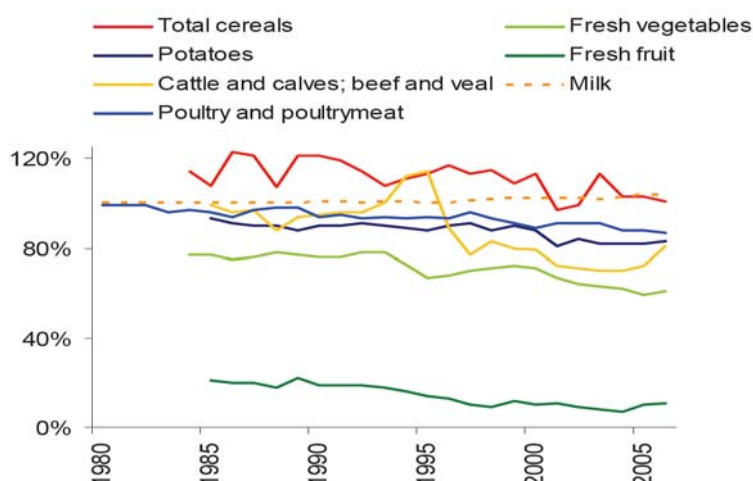
For foods produced here, self-sufficiency levels vary widely between sectors - Figure 9 gives some trends. Meat and dairy sectors are operating near or above the 100% self-sufficiency level as are cereals at nearly 100% self-sufficient (of which c.40% goes to animal feed). Only c.50% of UK vegetable consumption is from UK production, and fruit production is very low at c.10% of consumption. With the UK's relatively benign climate, far more could be produced. Defining what is appropriate is a priority.

Fig. 8 UK food self-sufficiency, 1990-2008



Source: Defra (2009): <https://statistics.defra.gov.uk/esg/publications/auk/2008/Chart%207-4.xls>

Fig. 9 UK food self-sufficiency ratios by commodity, 1980-2005



Source: Cabinet Office Strategy Unit (2008) *Food: An analysis of the issues*. p77.

Overall figures of home versus external production disguise considerable variation between products. UK 'glass house' soft fruit production grew 224% in the period 1997-2007,²² and there has been a dramatic growth of large polytunnel systems. UK strawberries, for example, saw remarkable production growth. In 1997-2007, UK strawberry production grew 125%, asparagus 66%, apples 29%, plums 17% and carrots 13%.⁹ However, declines were noted in french beans by 49%, brussel sprouts by 42%, cauliflower by 36%. Such variations are not to do with growing conditions but other factors: external competition, changing consumer and recipe tastes, skills, labour, age of growers and contracts.

Even apparent success stories such as strawberries, which have seen a remarkable upsurge in home production, have come at a cost. Table 2 gives the changes in land planted to fruit and vegetables by crop. The category 'glasshouse fruit' is the exception to the overall decline charted over the last decade, but its growth in practice has often meant acres of plastic poly-tunnels. A new industry has opened up in the English-Welsh borders but its 'localness' has come at some cost. Labour conditions have not always been good. Polish migrant workers went on strike at one major supplier in Herefordshire to UK supermarkets.⁴⁴ A hi-tech future for glasshouse-produced fruit and vegetables is promised by new huge Netherlands-style intensive production units such as Thanet Earth, now coming on-stream in Kent.⁴⁵

Table 2: Change in UK planted area for fruit and vegetables, 1997/2007

<i>Type of production</i>	<i>% change</i>
Field vegetables	-24%
Protected vegetables	-52%
Total vegetables	-24%
Orchard fruit	-19%
Soft fruit	-1%
Glasshouse fruit	+224%
Total fruit	-14%
Total fruit & vegetables	-22%

Source: Defra Basic Horticultural Statistics 2008 / Barling *et al* 2008 ⁴⁶

The SDC supports the calls for a clarification of national policy on food production. All sectors of the food and farming industries need clearer direction than they have at present. What are the options and what are the criteria for defining sustainable and appropriate land use? Does Defra see plastic greenhouse vegetable production as the future, or more Thanet Earths? If so, against what notion of sustainability is that being measured? Is the consuming public aware of technological options? How might smaller scale production contribute?

The SDC sees the need for a clear statement that the UK is committed to halt the decline in home food production. Such a view should not be confused with blind nationalism - nothing but home production whatever the cost - but is a call for policy to optimise food production where possible, on sustainable grounds and as appropriate. Current policy is not delivering that. Living within environmental limits means the UK taking its national, European and global responsibilities to use its good land and food growing potential to optimum levels.

Recommendation 2

The UK Government should make a clear statement of intent to encourage maximum appropriate and sustainable food production in line with the proposed new definition of sustainable food security.

Recommendation 3

Defra and Devolved Administration partners should undertake specific sector assessments for grain, meat & dairy, fruit, vegetables, fibre and forestry, assessing them for their contribution to home consumption, environment, employment, economy and health, and indicating how to deliver optimum levels of home production sustainably.

5.3 The capacity of land and soils to produce food

Soil is the foundation on which food production depends. It also holds carbon and has the potential to sequester more. Its importance in retaining water cannot be underestimated. All

these are under extra threat due to climate change. The dependence of intensive agriculture on nitrogen-based fertilisers whose manufacture involves heavy use of finite and costly fossil fuels is also problematic. All three major UK producers of nitrogen have been sold to overseas owners and there are now only two nitrogen manufacturing sites in the UK. For these reasons alone, more Whitehall attention is needed on maintaining UK soils in a fit state to grow food sustainably and more abundantly.

In 2002, Defra initiated a review of its soil indicators, but this has still not been completed. There was a First Soil Action Plan for England (2004-2006) and a draft Soil Strategy for England was put out for consultation on 31 March 2008 but no new Soil Action Plan is recorded as having been announced since.⁴⁷ There has been greater attention to soil's importance in Scotland with a consultation begun in 2008 and concluded this year.⁴⁸ This stated clearly that "soils are recognised as a vital part of our economy, environment and heritage, to be safeguarded for existing and future generations." The SDC notes that the Royal Agricultural Society of England expressed concern in 2008 about the weakened state of UK soil science due to a decline in policy support and research infrastructure.⁴⁹

Soil ought to be a priority throughout European agricultural policy. We need a renewed commitment to look after and nurture Europe's soils. For the UK, this is strategically more important than has been acknowledged. If, as at present, the UK continues to derive much horticultural produce from the Mediterranean region, it is in the UK's interest to ensure that soil in that region is well maintained. Yet reports have suggested that soil erosion is "very severe".⁵⁰ Regions such as Spain, which supplies considerable amounts of produce to the UK, are under strain already and judged to be due for more with climate change.

The SDC welcomes the fact that land use is being reviewed by the Foresight programme due to report in 2010.⁵¹ This should initiate a long needed policy correction. In some areas of the UK, Grade 1 and 2 agricultural land is already under pressure from flooding. The Fens, for instance, has 37% of England's acreage for vegetables grown in the open.⁵² UK vegetable

production today provides around half of what is consumed, low levels by health standards. In 2006, for instance, 59% of fresh vegetables were home-grown.

The loss of food growing land - to building, roads, 'development' - cannot be ignored. Soil is the most precious resource and everywhere needs to be kept in good condition to feed people while promoting eco-systems support. The case for better UK-wide co-ordination of soil science strategy and skills is overwhelming.

Recommendation 4

Defra should give greater urgency to updating its soil strategy and give food production capacity a high priority in its planning.

5.4 Labour and skills

A further issue we believe to be critical for sustainable food security is the question of labour and skills. Most UK food employment is off the land. Agriculture and fishing account for only 13% of jobs compared to 32% in retail and 38% in catering; manufacturing adds 10% and wholesaling a further 5%.⁵³ Like other countries, the British agricultural labour force declined considerably in the late 20th century, down from c.700,000 people in 1984 to just over 500,000 in 2007.

At the same time, there was a shift from full-time to part-time work. In 2004, the number of part-time farm workers exceeded full-time workers for the first time (excluding seasonal workers and salaried managers). The proportion of seasonal and casual workers has remained relatively stable over this period. The average age of farmers rose to 58 years by 2005, with 30% over 65 years. Only 3% are under 35 years of age. Farm wages historically are always low. They have improved over the last two decades but are still about four-fifths of the average industrial wage.⁵⁴ Judged by the likelihood of being killed while at work, UK farms are the most dangerous workplace in the country.⁵⁵ These are not facts which encourage young people to go into primary food production as a career.

Defra's 2007 rural development plan acknowledged that many rural industries such as agriculture, food processing and hospitality are "heavily reliant on migrant labour" and that in second stage food processing, "some 90% of the work force supplied by labour providers is made up by non UK migrant workers."⁵⁶ The Seasonal Agricultural Worker Scheme (SAWS) was created to formalise this casualisation of migrant labour. In practice UK horticulture has relied recently on labour from newly accessed Eastern European states, but currency fluctuations have added uncertainties to this system.

The good news is that in society as a whole, there is a heartening public appetite to learn growing skills. Vegetable gardening is on the increase again. Twenty-first century citizenship requires all people to learn some new skills, and to re-learn old ones (such as waste reduction and simpler diets). This educational demand requires Defra and its Devolved Administration partners actively to encourage and advise education reform in schools, colleges and higher education. As the SDC has argued in the 2009 *Prosperity without Growth* report,⁵⁷ the present recession could be a time to encourage new forms of production and to bring the many imaginative schemes that have emerged from civil society into the mainstream.

Earlier in this decade, Defra (and its predecessor MAFF) sent signals of support to 1990s-derived alternative retailing such as farmers markets, farm shops and box schemes. In addition to those schemes there is now an upsurge of civil society initiatives. These include large-scale projects such as Landshare to encourage those with land to make it available to those who wish to grow food;⁵⁸ Transition Towns wanting to build local resilience;⁵⁹ movements for zero carbon living;⁶⁰ and the National Trust's allotments scheme.⁶¹ Many such initiatives seek to integrate healthier lifestyles and wellbeing with more sustainable and local food production. Skills-building and tools for appropriate food production at various scales are central to such projects.

From inside the food and farming sectors, there is a sensible recognition of the need to support a skills shift in coming decades. Retailers, for example, trying to reduce the carbon footprint of their meat and dairy supply chains are

already aware of the limits to how much they can change food and farming culture by conventional supply chain management. A new framework for agricultural and horticultural knowledge improvement is needed. The Government founded and run Agricultural Development Advisory Service (ADAS) which used to provide precisely the kind of agricultural improvement and extension force needed today was privatised in 1997 after an earlier period of charging for services.⁶² Many local Colleges of Agriculture, too, have diminished roles as sources of knowledge and expertise for the rebuilding and re-orientation of food and farming that is now needed.

The SDC believes there is an opportunity for ambitious thinking about sustainable food production support services, not least in how better to harness gardening and small-scale food production advice, and to couple this with consumer change. In place of ADAS, we need today a Sustainable Agriculture and Food Advisory Service (SAFAS).

Recommendation 5

Defra and BIS should jointly review food labour requirements giving special attention to four issues: the potential to create new work in primary food production; how to improve labour conditions and pay in the food system; the opportunities for generating growth in horticulture; and the future of food and farm advice systems.

5.5 Sustainable Diets

In our 2008 *Green, Healthy and Fair* report, the SDC argued that clearer direction is necessary for consumers about how to meet both nutrition and environmental demands for sustainable living. The European EIPRO study found that food, drink, tobacco and narcotics (taken for data reasons together) accounted for an estimated 20-30% of the environmental impact of all consumption by European consumers. Meat and meat products (including meat, poultry, sausages or similar) was the largest contributor, accounting for 4-12% of the impact on global warming of all consumer products.⁶³ The Stern report estimated that agriculture and food are considerable sources of greenhouse gas emissions (GHGs).⁶⁴ Farm animals (globally) have been calculated as being responsible for

31% of GHGs, and fertilisers for 38% of nitrous oxide (N₂O). While farm animals' methane effects have been rightly highlighted,⁶⁵ the effects of fertilisers have received less attention but are more potent.

The UK food sector's contribution to the country's total GHG emissions has been estimated to be 19%.⁶⁶ Of that, agriculture accounts for 7.5%, fertiliser manufacture 0.7%, food manufacture 1.8%, packaging 1%, transport (within the UK) 1%, home-related use 2.3%, retail 1.7%, catering 1.5%, and waste disposal 0.4%. Thus, agriculture accounts for about half of food's total GHG emissions, with the other half evenly spread across processes after the farmgate through to domestic use.

Diet has other significant environmental effects besides GHGs such as water, waste and energy. On water, awareness of its importance for food system resilience is growing even in water-rich UK. The food, drink and agriculture industries are the UK's highest users of water; and some foods are very high in embedded water. 1kg of beef for example requires 10-20,000 litres of water; a cup of black coffee represents 140 litres of embedded water.⁶⁷ But how these figures vary by method of production and location needs more research. Waste is a clearer issue. An estimated one third of UK purchased food is thrown away by consumers, 6.7 million tonnes of food every year, most of which is avoidable. About one sixth of that is thrown away whole, untouched or unopened.⁶⁸ And on energy reliance, it is widely accepted that many of the productivity gains in the food sector in the twentieth century came about by using non-renewable fossil fuels to replace human and animal labour.^{69 70}

Sustainability is about more than environmental impact. There is strong evidence on diet's impact on health and its role as an indicator of social inequalities. For three decades, UK consumers have been made increasingly aware that what and how they eat affects population life expectancy. But the match of messages about the impact of diet on health and environment is less clear. What diet should consumers be encouraged to eat? Can we reduce our diet's footprint while improving health? Advice on eating a healthier diet such as the Food Standards Agency's 'Eatwell' plate now needs to be given a sustainability

dimension. The SDC shares the view of the Council of Food Policy Advisors that clarification of sustainable diets is a priority.⁷¹

Recommendation 6
Defra and the Domestic Affairs (Food) Cabinet Sub-committee, together with the Devolved Administrations, should co-ordinate relevant Departments (DH, Defra, DFID, DCSF, DECC) and agencies (FSA, EA, HPA and FERA) to deliver new advice on sustainable diet taking account of people's different circumstances such as income and cultural predilections.

5.6 A new Common Sustainable Food Policy

Most food imports to the UK come from the EU. During the 2005-08 global commodity price spike, the European Commission took a relatively low policy profile. This was partly because it was committed to allowing policy changes made to the Common Agricultural Policy (CAP) such as the de-coupling introduced in 2003 to work through. The EC has emphasised the reduction of CAP support for food and the transfer of policy support to environmental and social goods.

This has left CAP exposed, however, to the charge that in the new policy world, post the 2005-08 food crisis, its own food production is not receiving due focus. Yet there will clearly be new pressures on European land and farming ahead. Some expression of concern has been voiced in the European Parliament, with a resolution and report process begun in 2008.⁷² But there is little acknowledgement of how deeply climate change will oblige the EU to produce more food both for other harder hit regions and its own population.

The default position is to see food security as a development issue, as though European patterns of farming and consuming are not part of the problem. The Commission and Council are failing to provide leadership on this account. Some reluctance to do this stems from the EU's legacy of debate about free trade and protectionism over the CAP.

The new food security concerns are an opportunity for member states to engage. They all need to accelerate the shift to more

sustainable food and farming. The new EU agenda ought to be about a reformed CAP helping address the serious food problems facing humanity ahead. Here is an opportunity for a more ambitious new Common Sustainable Food Policy to replace CAP. A clear vision for European food systems to become low impact, healthy and just is possible. The SDC's proposed definition of food security as sustainability (given earlier) articulates just that.

The UK government could and should be a champion for this new Common Sustainable Food Policy – in effect a new overarching EU direction of travel for food and farming. This would be an opportunity for the UK to create new alliances and to champion sustainability as core to the delivery of food security in Europe. A Common Sustainable Food Policy need not signal a desire to return to previous forms of CAP support. Indeed, it would chime with current thinking on repatriation of CAP spending and on the need to deliver environmental goods through, rather than divorced from, food production.

While de-coupling of financial support from food production and the shift to payment for environmental goods has been hard won and has been welcomed by environmental organisations, there is a real danger that the land's importance for food production is now being de-emphasised just when a new effort is needed and sustainable food agenda is unfolding.

Recommendation 7
Defra and Devolved Administrations should map a more ambitious new Common Sustainable Food Policy and begin exploration with EU Member States as to how CAP might be shifted in that direction.

6. Conclusion

As the SDC indicated in its 2008 report *Green, Healthy and Fair*, the UK government policy mix is not delivering sustainability. The Cabinet Office 2008 *Food Matters* report was an important step in the right direction, outlining the case for 'joined-up' policy and recommending a framework based on delivering healthy nutrition and low carbon food systems. Its rationale was clear: a combination of public health, economics and social concerns. The SDC cannot emphasise too strongly how a similar combination justifies the case for shifting food production and consumer

eating behaviour in a more sustainable direction. A sustainable food security policy is needed to deliver that, especially in light of climate change impact on our food systems throughout the UK, Europe and the rest of the world. At all levels of food governance – from local to global - a long-term effort is needed to build food production to optimum levels everywhere, combining sound land use, sustainable supply chains and engaged consumer patterns. UK food security policy thus has to be core to the charting of what sustainable food systems could be in the future. The only route to food security is through sustainability.

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