



Food Security – UK Policy

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- Food security for the UK in peacetime has only recently been a subject of concern. Until 2008, the Labour Government justified financial support for farming as a means of obtaining environmental objectives. Even before the election in 2010, however, increasing concern over food security has encouraged renewed emphasis upon food production.
 - A related note is [Food Miles](#) (SN/SC/4984)
 - British Governments have resisted the view that food security concerns should be met by increased subsidy for domestic – or indeed European – agriculture. Instead they have argued for freer international trade.
 - However, the British Government has paid increasing attention to the role of domestic food production.
 - Several reports have argued that food security problems would return unless appropriate action was taken.
 - Food security is closely related to energy security and to the availability of fertilisers.
 - The Russian ban on wheat exports as a result of a drought in 2010 has raised concerns again. The Pakistan floods in 2010 are likely to create serious food supply problems in that area. Floods in Australia may reduce their harvest. Droughts in China could end six years of increasing crops. All these events are probably caused by climate change, although La Niña has also been important.
 - In October 2010 food prices returned to the exceptionally high levels last seen in the 2007/8 crisis. Since then they have continued to increase.
 - The Foresight Report, January 2011 stresses the enormous scale of the problem.

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1 Could food security be a problem for the UK?

For centuries, UK peacetime food supply has been taken for granted, mainly because of the ease of importing. Agricultural policy, both in the UK and the EU, has moved away from subsidy of food production to payment for environmental benefits. However, concerns have increased in recent years, especially in 2008, when world food prices rose sharply. They increased by nearly two thirds between January 2007 and June 2008.¹ This was related to a dramatic increase in oil prices. Brent crude oil prices more than doubled from less than \$60 per barrel in January 2007 to a peak of almost \$150 per barrel in early July 2008.

Fuel price rises increased production, transport and fertiliser costs. Some poor countries suffered severe problems in affording enough for people to eat. Even in the UK, food prices increased sharply. Some people blamed legislation in the EU and USA encouraging the growing of crops for biofuels, rather than for food. A further concern was that Eastern countries were increasing the amount of meat and dairy products in their diet, thus increasing international demand.²

The idea that the market will always operate also came under scrutiny. Some Asian rice producers suspended rice exports in 2008. The failure of the Doha Round of world trade talks increased the probability of bilateral deals and market protection.

Yet in the latter part of 2008, the problem appeared to go away again. The world oil price fell, with Brent crude oil prices below \$50 a barrel by the end of 2008. Food prices (FAO

¹ FAO, [Food Price Indices](#), February 2009

² "Food costs set to leap as East looks West for meat and milk", *Times*, 29 August 2007

data) fell by 32% between June and December 2008. Attention concentrated upon the worsening financial crisis.

However, food policy issues concern the much longer term and the problems of 2008 might return. For a start, oil prices have increased again and are likely to increase further because of depletion of world supplies. Not only does that increase farmers' fuel costs but it also raises fertiliser prices. In addition, climate change is almost certain to make food production more difficult. Although some cold northern areas should have a longer growing season, larger food production areas will become less efficient at food production through being too hot. The exceptionally hot summer of 2003 caused a decline of around 20% in European agricultural productivity.³ There are further potential problems through uncertain water supplies – floods in some areas and drought in others.

Indeed, climate change may already be affecting some major agricultural producers like Australia, where extreme temperatures may be undermining a major world supplier of wheat. A poor Australian wheat crop in turn reduces world stocks and means that other countries cannot rely upon being able to buy large amounts of wheat at low prices.

The question of whether food security is increased by subsidising domestic agriculture is a difficult one. The French Government is happy to use food security and recent high world prices as arguments for maintaining the Common Agricultural Policy.⁴ The UK Labour Government took the opposite approach, favouring open world markets. They argued, amongst other things, that food supply from domestic sources could be interrupted, for example by disease or extreme weather. World food supplies were not normally affected by such factors. The UK was a rich country that can afford to buy on the open market. The following paragraph summed up the UK Labour Government position:

5.4. The UK believes that effectively functioning markets are fundamental to ensuring global food security. The Government is committed to continuing to liberalise markets through the Doha Development Round of trade negotiations and reform of the EU's Common Agricultural Policy.⁵

In 2010, some concerns over food prices have returned after Russia banned the export of wheat as a result of a severe drought in August. The effect on the world's wheat market soon increased the UK inflation rate.

2 Labour Government food policy, 2008

In July 2008, the Labour Government published two reports on food policy. The Executive Summary of the Cabinet Office report stressed the need for a more sustainable food sector. Proposed key actions included:

- Well-functioning, competitive markets should provide fair prices for consumers and a fair deal throughout the supply chain. Reducing distortions in agricultural trade and raising agricultural productivity in the developing world would improve global food security.
- Recent rises in food commodity prices call for a concerted international response. The UK Government has acted promptly to address the challenges posed by

³ Ciais et al, "Europe-wide reduction in primary productivity caused by the heat and drought in 2003", *Nature*, Vol 437, 22 September 2005 pp529-533

⁴ "Sarkozy sets out vision of "new" CAP", *Agra Europe*, 14 September 2007

⁵ Defra, [Ensuring the UK's Food Security in a Changing World](#), July 2008

increases in global food prices. Actions taken include a £455 million aid package and work with international agencies to redouble efforts to raise agricultural productivity, especially in Africa.

Maintaining global food security while responding to climate change is a critical collective challenge for the 21st century.⁶

Defra also published a discussion paper on food security, Defra, [Ensuring the UK's Food Security in a Changing World](#), July 2008.

In February 2009, a Chatham House report was published arguing that UK food security problems would return, unless action was taken.⁷

3 Defra publications, August 2009

On 10 August 2009, Defra published a series of documents related to food security on a web page.⁸ Their careful approach does not lead to a single headline conclusion, but the following extract from the assessment on energy is worth noting:

The Government is keen to work with food chain businesses to ensure sufficient continuity planning occurs, particularly in light of the risks arising from just-in-time operations across the industry. The energy intensive nature of our food businesses makes this all the more vital as well.

Given this energy intensive profile, we have chosen to make energy dependency the headline indicator for the Assessment's resilience theme. Actual energy shortages might result in food production slow-downs or stoppages, with impacts on the availability and affordability of our food (and clear implications for the next Assessment theme, household food security). Defra believes the 2008 surge in energy prices was the most important driver of retail food inflation last year, reflecting this pervasive use of energy throughout the domestic food chain. Improvements in energy efficiency seen over recent decades mean, however, that the economy, and the food sector, are in better shape to withstand shocks to energy supply than previously. Energy intensity and absolute energy use is declining in UK agriculture and manufacturing, and the more recent surge in energy prices can be expected to increase the incentives to greater efficiency, as will pressures for more sustainable behaviours in food production and distribution.

While risks to our supplies of energy remain real whatever the level of intensity, the Assessment suggests that the trend over the next five to ten years will move from today's somewhat unfavourable position on energy dependency to a more positive one. This is not to say that we can relax our efforts to meet the low-carbon challenge. The Government will continue to encourage best practice and the use of technologies that can help our food supply chain to become even more energy efficient in future.⁹

4 Chief Government Scientist warns the world faces a perfect storm

The Chief Government Scientific Adviser Sir John Beddington has made several speeches stressing the severity of the problem, as the *Guardian* reported in 2009:

⁶ Cabinet Office, [Food Matters](#), July 2008

⁷ S.Ambler-Edwards et al, [Food Futures: Rethinking UK Strategy](#), February 2009

⁸ Defra, [Food Security](#) webpage

⁹ Defra, [UK Food Security Assessment: Our approach](#), August 2009

A "perfect storm" of food shortages, scarce water and insufficient energy resources threaten to unleash public unrest, cross-border conflicts and mass migration as people flee from the worst-affected regions, the UK government's chief scientist will warn tomorrow. In a major speech to environmental groups and politicians, Professor John Beddington, who took up the position of chief scientific adviser last year, will say that the world is heading for major upheavals which are due to come to a head in 2030.

He will tell the government's Sustainable Development UK conference in Westminster that the growing population and success in alleviating poverty in developing countries will trigger a surge in demand for food, water and energy over the next two decades, at a time when governments must also make major progress in combating climate change.

"We head into a perfect storm in 2030, because all of these things are operating on the same time frame," Beddington told the Guardian.

"If we don't address this, we can expect major destabilisation, an increase in rioting and potentially significant problems with international migration, as people move out to avoid food and water shortages," he added.

Food prices for major crops such as wheat and maize have recently settled after a sharp rise last year when production failed to keep up with demand. But according to Beddington, global food reserves are so low – at 14% of annual consumption – a major drought or flood could see prices rapidly escalate again. The majority of the food reserve is grain that is in transit between shipping ports, he said.

"Our food reserves are at a 50-year low, but by 2030 we need to be producing 50% more food. At the same time, we will need 50% more energy, and 30% more fresh water. There are dramatic problems out there, particularly with water and food, but energy also, and they are all intimately connected," Beddington said. "You can't think about dealing with one without considering the others. We must deal with all of these together."¹⁰

The warning has been repeated several times, including in January 2011, where he argued strongly for the growing of GM crops:

"A number of very important factors are about to change our world," said Beddington, an expert in population biology. "Its population is rising by six million every month and will reach a total of around 9,000 million by 2050. At the same time, it is estimated that by 2030 more than 60% of the population will be living in cities and will no longer be involved in growing crops or raising domestic animals. And on top of that the world's population is getting more prosperous and able to pay for more food."

Beddington said these factors indicated that the world was going to need 40% more food, 30% more water and 50% more energy by the middle of the century – at a time when climate change was starting to have serious environmental impacts on the planet, flooding coastal plains, spreading deserts and raising temperatures. "We could cut down tropical rain forests and plant crops on the savannahs to grow more food, but that would leave us even more vulnerable to the impact of global warming and climate change. We needed these regions to help absorb carbon dioxide emissions, after all."

Beddington said humanity had to face the fact that every means to improve food production should now be employed, including widespread use of new biotechnological techniques in farming. He stressed that no harm should be inflicted on humans or the

¹⁰ "World faces 'perfect storm' of problems by 2030, chief scientist to warn", *Guardian*, 18 March 2009

environment. His remarks were made in advance of publication tomorrow of a major report, "The Future of Food and Farming". (...)

Timing was crucial. "In 2008 food prices rocketed to their highest level for decades. People said it was just a one-off, but last year what happened? Wheat prices saw their fastest ever increase. The era of declining food prices is over and we have to face that," he added.

Almost a billion people now suffer serious food shortages and face starvation. "It is unimaginable that in the next 10 to 20 years that there will not be a worsening of that problem unless we take action now, and we have to include the widest possible range of solutions."¹¹

5 Labour Government strategy published in 2010

In January 2010, the Labour Government published its strategy [Food 2030](#). The summary contained these objectives:

What we want by 2030...

- Consumers are informed, and can choose, and afford healthy, sustainable food. This demand is met by profitable, competitive, highly skilled and resilient farming, fishing and food businesses, supported by first class research and development.
- Food is produced, processed, and distributed to feed a growing global population in ways which:
 - use global natural resources sustainably,
 - enable the continuing provision of the benefits and services given to us by a healthy natural environment,
 - promote high standards of animal health and welfare,
 - protect food safety,
 - make a significant contribution to rural communities, and
 - allow us to show global leadership on food sustainability.
- Our food security is ensured through strong UK agriculture and food sectors, and international trade links with EU and global partners which support developing economies.
- The UK has a low carbon food system which is efficient in using resources – any waste is reused, recycled or used for energy generation.

It then considers how to get there. In order to reach a resilient, profitable and competitive food system, it stresses the need to simplify regulation, continuing:

Our food system needs to be prepared for shocks and to be able to manage risk – from climate change, sharp commodity price increases, and natural disasters, to food

¹¹ "Genetically modified crops are the key to human survival, says UK's chief scientist", *Observer*, 23 January 2011

contamination. An important part of ensuring long term success is for food producers to make sure that their businesses are ready for these challenges.

A new cross-Government report looks at the causes and implications of the 2007-08 agricultural price spikes in detail and is available at

www.defra.gov.uk/foodfarm/food/index.htm.

It points to the importance of better functioning international markets to mitigate the size, impact and duration of any future spikes.

Using resources more efficiently reduces the environmental impact of producing our food, and saves money by reducing waste.

Government will help encourage wider public interest in how and where food is produced by:

- establishing clear and unambiguous country of origin labelling rules,
- providing consumers with better environmental and welfare information about their food and how it was produced.

Increasing food production sustainably

We need to increase food production to feed a growing world population – there'll be another 2-3 billion people in 40 years.

This food will need to be produced in a way that protects the natural resources on which food production depends - soil and water - and on which we rely for drinking water, to regulate our climate, stem flood waters and filter pollution.

We want UK agriculture to produce as much food as possible, as long as it's what people want, and it's done sustainably. Farmers have already shown what they can do, for example, by reducing fertiliser use while maintaining or improving yields. Fishermen have shown how they can reduce discards by using more suitable nets.

And the best way to get results is through cooperation, as we have done with the Campaign for the Farmed Environment. The UK can play an important role in helping the world to grow more food. The food industry has a business interest in making sure that its supply chains are resilient - both to the economic impacts of world financial markets, and to the environmental impacts of deforestation and climate change.

Civil Society helps by raising awareness of what's unsustainable and works with the food industry to improve their supply chains.

Government helps by investing in scientific research and new production methods, and by providing assistance to developing countries to improve markets so that their farmers can grow more food.¹²

The need to reduce carbon emissions is also covered. It is clear from the passage quoted above that the Labour Government had not abandoned its market-based approach to food security.

6 Food Stocks and the Government, September 2010

A PQ in September 2010 showed the Coalition Government continuing a similar policy to that of the Labour Government:

¹² HM Government, [Food 2030: how we get there](#), January 2010

Dan Byles: To ask the Secretary of State for Environment, Food and Rural Affairs what contribution her Department has made to the Strategic Defence and Security Review in respect of UK food security.

Mr Paice: I can confirm that DEFRA has contributed to work on the Strategic Defence and Security Review with regard to food supply, and other areas of departmental responsibility.

Dan Byles: To ask the Secretary of State for Environment, Food and Rural Affairs (1) what estimate she has made of the minimum number of days supply of food required for the UK to maintain an acceptable level of food security;

(2) how many days supply of food are routinely stored within the UK.

Mr Paice: We do not hold information on the total food held in the country. However in the 2008-09 marketing year (the latest actual figures available), the UK cereal closing stocks at 30 June 2009 were 4.169 million tonnes of cereals, representing around 73 days of consumption for that year. For the year ending 30 June 2010, forecast estimates equate to around 67 days. The average of cereal stocks held between 2003-04 and 2007-08 were typically equivalent to 50 to 55 days worth of consumption.

We work closely with the food industries on food supply chain resilience, and in 2009 DEFRA published a comprehensive assessment of UK Food Security (updated in January 2010) which shows that the UK enjoys a high level of food security. The assessment analyses a wide range of indicators (including on cereal stocks as mentioned above) and evidence for assessing UK food security structured around six themes:

global availability;

global resource sustainability;

UK availability and access;

UK food chain resilience;

food security at household level; and

safety and confidence in our food supply.

It remains one of DEFRA's priorities to ensure a secure, environmentally sustainable and healthy supply of food in the face of future challenges.

7 High World Food Prices October 2010

In November 2010, The FAO reported that food prices had risen to levels last seen in the 2007/8 crisis:

The FAO said its price index, a basket of wheat, corn rice oilseeds, dairy products, sugar and meats, jumped last month to 197.1 points – up nearly 5% from September and the highest level in more than two years. The index has now surpassed the levels seen during the early stages of the 2007 food crisis, and it is only below the peak of the calamity between February and July of 2008.¹³

¹³ “Big food price rises stoke fear of more riots in poorer states”, *Financial Times*, 3 November 2010

8 Foresight Report, January 2011 on scale of worldwide problem

In January 2011, Foresight reported on [The Future of Food and Farming: Challenges and choices for global sustainability](#). The following page from the Executive Summary gives an idea of the seriousness of the problem:

Introduction

Project aim: to explore the pressures on the global food system between now and 2050 and identify the decisions that policy makers need to take today, and in the years ahead, to ensure that a global population rising to nine billion or more can be fed sustainably and equitably.

The global food system will experience an unprecedented confluence of pressures over the next 40 years. On the demand side, global population size will increase from nearly seven billion today to eight billion by 2030, and probably to over nine billion by 2050; many people are likely to be wealthier, creating demand for a more varied, high-quality diet requiring additional resources to produce. On the production side, competition for land, water and energy will intensify, while the effects of climate change will become increasingly apparent. The need to reduce greenhouse gas emissions and adapt to a changing climate will become imperative. Over this period globalisation will continue, exposing the food system to novel economic and political pressures. Any one of these pressures ('drivers of change') would present substantial challenges to food security; together they constitute a major threat that requires a strategic reappraisal of how the world is fed. Overall, the Project has identified and analysed five key challenges for the future. Addressing these in a pragmatic way that promotes resilience to shocks and future uncertainties will be vital if major stresses to the food system are to be anticipated and managed.

The five challenges, outlined further in Sections 4 – 8, are:

- A. Balancing future demand and supply sustainably – to ensure that food supplies are affordable.
- B. Ensuring that there is adequate stability in food supplies – and protecting the most vulnerable from the volatility that does occur.
- C. Achieving global access to food and ending hunger. This recognises that producing enough food in the world so that everyone can potentially be fed is not the same thing as ensuring food security for all.
- D. Managing the contribution of the food system to the mitigation of climate change.
- E. Maintaining biodiversity and ecosystem services while feeding the world.

These last two challenges recognise that food production already dominates much of the global land surface and water bodies, and has a major impact on all the Earth's environmental systems.

In recognising the need for urgent action to address these future challenges, policy-makers should not lose sight of major failings in the food system that exist today.

Although there has been marked volatility in food prices over the last two years, the food system continues to provide plentiful and affordable food for the majority of the world's population. Yet it is failing in two major ways which demand decisive action:

- **Hunger remains widespread.** 925 million people experience hunger: they lack access to sufficient of the major macronutrients (carbohydrates, fats and protein).

Perhaps another billion are thought to suffer from 'hidden hunger', in which important micronutrients (such as vitamins and minerals) are missing from their diet, with consequent risks of physical and mental impairment. In contrast, a billion people are substantially over-consuming, spawning a new public health epidemic involving chronic conditions such as type 2 diabetes and cardiovascular disease. Much of the responsibility for these three billion people having suboptimal diets lies within the global food system.

- **Many systems of food production are unsustainable.** Without change, the global food system will continue to degrade the environment and compromise the world's capacity to produce food in the future, as well as contributing to climate change and the destruction of biodiversity. There are widespread problems with soil loss due to erosion, loss of soil fertility, salination and other forms of degradation; rates of water extraction for irrigation are exceeding rates of replenishment in many places; over-fishing is a widespread concern; and there is heavy reliance on fossil fuel-derived energy for synthesis of nitrogen fertilisers and pesticides. In addition, food production systems frequently emit significant quantities of greenhouse gases and release other pollutants that accumulate in the environment. In view of the current failings in the food system and the considerable challenges ahead, this Report argues for decisive action that needs to take place now.¹⁴

¹⁴ Foresight, [The Future of Food and Farming: Challenges and choices for global sustainability](#), Executive Summary, 24 January 2011