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Affairs Committee

Securing food supplies up to 2050: the challenges faced by the UK

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Environment, Food and Rural Affairs Committee

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Summary

The world faces what one of our witnesses described as “an unprecedented double challenge”: it needs to produce more food, but in a way that does not degrade the natural resources on which agriculture depends, and which decreases the food chain’s reliance on fossil fuels and reduces greenhouse gas emissions. Meeting this challenge will require a fundamental shift in thinking about food, on the part of Governments and consumers.

Two projections voiced at the UN Food and Agriculture Organisation’s “World Food Security” conference in June 2008 attracted particular attention. The Secretary-General of the United Nations, Ban Ki-moon, announced that food production would need to increase by 50% by 2030 to meet rising demand and the Director-General of the Food and Agriculture Organisation, Jacques Diouf, stated that food production would need to double by 2050 to feed a world population of 9 billion. It is important to bear in mind that these are projections rather than targets. They are a useful way of focusing attention on food production. However, they should also be used to draw attention to population growth, diet and waste at all stages of the food chain, and the need for policy responses in these areas. More information is needed about future patterns of consumption: what will be required is not simply an increase in production across the world, but an increase in the production of particular commodities to meet demand in particular parts of the world.

The UK has a choice about how to respond, both to secure its own food supplies and to increase the security of global supplies. We have considered the options and believe that the UK has a moral duty to make the most of its position in the globe and its natural advantages for producing certain types of food. The UK should not attempt to be totally self-sufficient, but it should aim to increase its production of those fruit, vegetables and cereals that are suited to being grown here. It is essential that this increase in production is carried out sustainably.

The Department for Environment, Food and Rural Affairs (Defra) has a responsibility to provide strong leadership on food policy to co-ordinate the response from other departments and to enable people to invest and plan. Defra has neglected food policy in the past. Following the loss of most of its climate change responsibilities to the Department for Energy and Climate Change, Defra has the chance to refocus its attention on food. We are encouraged by Defra’s increasing interest in this part of its brief, but there is a great deal still to do. Defra must produce a vision and strategy for food that provides a long term framework for the UK food and farming sectors, stretching beyond the short-term nature of the political cycle. The strategy should pull together the work of the various Government groups that are currently involved in food policy. The strategy cannot be expected to supply all the answers, but it should provide clear direction and indicate what further work is needed and the deadlines for its completion.

Defra must also provide leadership in Europe, to shape emerging European Union policy on the security of food supplies. The reform of the Common Agricultural Policy is an opportunity to ensure that European agriculture is in a position to produce as much food as it can, sustainably, and in response to market signals. The CAP should provide incentives and mechanisms to encourage farming that uses less water and fossil fuels,

produces less greenhouse gas emissions and does not degrade soils.

As well as providing clear leadership, Defra must tackle the existing weaknesses in the UK food system that will otherwise prevent it from achieving its long-term objective of securing food supplies. UK public-sector research into food and farming is still world-class in some respects. However, there is an urgent need to: increase the budget for public-sector food and farming research; ensure that research priorities reflect the importance of securing food supplies; and increase translational services and research so that research does not “sit on the shelf” once it has been completed. Defra must also act to address the potential skills gap in farming and in applied research. Defra has a role to play in fostering long-term, stable relationships in the food supply chain.

Consumers will play a vital part in enabling Defra to achieve its vision for the UK food system. They will need to be encouraged to think more about the environmental consequences of where and how their food is produced, and to be provided with sufficient information to enable them to make responsible choices. Increasing interest in local and home production on the part of some consumers is particularly encouraging in this context, because it is a way of reconnecting people with the process of producing the food that they eat. The role of local and home production, and of educating children about food, should be included in Defra’s vision and strategy for food.

1 Introduction: the global challenges

Background to the inquiry

1. Every day the shelves of UK supermarkets are full of a remarkable array of foods from around the world. Restaurants in the UK offer every type of cuisine. The availability of great food brands such as Heinz, Cadbury, and Kellogg is taken as read. It is therefore hardly surprising that the thought of food shortages or supply chain disruptions hardly enters into people's minds. The notion of any threat to the security of the UK's food supplies is, to the majority of its citizens, not so much alien as unthinkable. However, food supplies have been restricted in the UK within living memory—the rationing introduced during the Second World War continued in limited form until 1954. There were also widespread shortages of sugar in the early 1970s.

2. Until very recently, the UK Government seemed to take the availability of food largely for granted, too. Despite having the word “food” in its title, the Department for Environment, Food and Rural Affairs (Defra) regarded climate change as its principal priority. Melanie Leech, the Director-General of the Food and Drink Federation commented: “I think Defra would recognise that in recent years it has not felt the need to prioritise and focus on food issues.”¹ She noted that the food industry “has been rather good at delivering cheap, safe and nutritious food [...] to households” and “DEFRA has let it get on with it”.²

3. There have always been risks to the secure supply of food, but now these risks and the world's awareness of them are changing. In the past year, the political profile of food has soared. In November 2008, we asked the Secretary of State for Environment, Food and Rural Affairs, Rt Hon Hilary Benn MP, about Defra's priorities following the loss of the majority of its climate change responsibilities to the new Department for Energy and Climate Change. After a momentary hesitation, he replied: “We have got a particular priority now for food.”³ His answer reflects not simply a perceived need to refocus on the main areas for which Defra retains responsibility, but a growing awareness among Governments in developed countries that a food system that has appeared to work well since the end of the Second World War may not continue to do so unless it, and the issues associated with it, receive urgent political attention.

4. In the light of the new interest in food policy, our inquiry focused on the challenges involved in securing food supplies up to 2050 and how Defra should respond to them. We concentrated on the political aspects of securing food supplies. During 2008, we held several informal meetings with experts to help us to refine the inquiry's terms of reference. These terms of reference are set out in Appendix 1. We launched the inquiry on 11 December 2008 with an open discussion at Borough Market in London. The security of food supplies affects everyone and we were keen to hear from not only the key players in

1 Q 244 [Ms Leech]

2 *As above.*

3 Oral evidence taken before the Environment, Food and Rural Affairs Committee on 5 November 2008, HC (2007-08) 1178-I, Q 1

the food and farming industries, but members of the public who might not otherwise think of contributing to a Select Committee inquiry. We received 79 written submissions. We held eight oral evidence sessions, between January and May 2009, during which we heard from some of these contributors in more detail. The Chairman attended the conference on “World Food Security: the Challenges of Climate Change and Bioenergy”, held by the United Nations Food and Agriculture Organisation (FAO) in Rome in June 2008. The Committee visited Rothamsted Research, the John Innes Centre, the Centre for Food Policy, and Syngenta’s Jealott’s Hill International Research Centre. We also travelled to Brasilia and Sao Paulo in Brazil. We are most grateful to all who took part in, and assisted with, our inquiry.

5. As the Environment, Food and Rural Affairs Committee, we are responsible for overseeing the work of Defra. This means that our primary focus is the UK food system. However, given that the UK food system operates within the global system, there will be times when our comments touch on the responsibilities of the Department for International Development (Dfid).

6. We deliberately avoided the term “food security” in the title of our inquiry, because it has different meanings for different people. The nearest to a standard definition is that given by the United Nations Food and Agriculture Organisation in its 1996 World Food Summit Plan of Action: “Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.”⁴ However, for some, food security is a term primarily associated with developing countries and for others it is synonymous with self-sufficiency. In 2001, a glossary of terms issued to journalists by the World Trade Organisation defined food security, somewhat prejudicially, as a: “Concept which discourages opening the domestic market to foreign agricultural products on the principle that a country must be as self-sufficient as possible for its basic dietary needs.”⁵ Defra’s written evidence states that the Government’s definition of food security is “for people to have access at all times to sufficient, safe, sustainable and nutritious food, at affordable prices, so as to help ensure an active and healthy life.”⁶ We are broadly satisfied with this definition, although “fair prices” as opposed to “affordable prices” would encompass the idea that, not only should the consumer be able to afford the food, but those who produced it should be able to make a profit. Professor Robert Watson, Defra’s Chief Scientific Adviser, described the need to make food both affordable to consumers and profitable to farmers as a “twin challenge” that warranted further attention.⁷

7. The subtitle of our inquiry is “the challenges for the UK”. Food and farming are devolved matters and thus Defra’s responsibility for food policy extends only to England. However, we decided that to restrict our inquiry to England would be to create a false distinction. The devolved Administrations and Defra need to act in unison on food policy and provide a coherent strategy for the UK as a whole, not least so that the UK can act as a powerful example in Europe and on the wider world stage. Although our

4 www.fao.org/wfs/begin/docu/cdocu-e.htm

5 www.wto.org/english/thewto_e/minist_e/min99_e/english/about_e/23glos_e.htm

6 Ev 210

7 Q 534

recommendations are aimed principally at Defra, we intend them to be relevant to policymakers in the devolved Administrations, as well.

Food prices

8. The reason for the sudden interest in food on the part of Governments across the world is clear: global food prices have increased substantially in recent years. According to the World Bank, global wheat prices increased by 181% over the three years up to February 2008, and overall global food prices increased by 83% over the same period.⁸ A report by Chatham House, *Rising Food Prices: Drivers and Implications for Development*, published in April 2008, stated that, although high prices were not uncommon in agricultural markets, “the unusual feature of the current situation is that the price spike applies to almost all major food and feed commodities, rather than just a few of them”.⁹ It noted that the price of corn was at its highest level in 11 years, rice and soya their highest level in 34 years, and wheat its highest level ever. All of this followed on from a period between 1974 and 2005 when food prices fell in real terms.

9. Escalating food prices were blamed for violent protests in Egypt, Haiti, the Ivory Coast and Cameroon, and demonstrations in Mauritania, Mozambique, Senegal, Uzbekistan, Yemen, Bolivia and Indonesia.¹⁰ Some countries, including Argentina, imposed export restrictions. Rising food prices also affected people in the UK, albeit less dramatically. A report for the Soil Association by the Centre for Food Policy at City University noted that consumer prices index data published in August 2008 showed food inflation to be running at an annual rate of 13.7%. Prices for oils and fats rose by 29% in the year to July 2008, meat by 16.3%, bread and cereals by 15.9%, vegetables by 11.1% and fruit by 10.7%.¹¹

10. Professor Watson, Defra’s Chief Scientific Adviser, outlined six factors that contributed to the increase in food prices:

- poor harvests, especially in the US and Australia;
- the use of food crops for biofuels, especially maize in the US, where one-third of last year’s crop was used for biofuels;
- rising energy prices, which resulted in high prices for fertilisers and fuel;
- changes in the amount and type of demand (for example, demand from China for more meat);
- export bans; and
- speculation.¹²

8 World Bank press release, “Rising Food Prices Threaten Poverty Reduction”, 9 April 2008.

9 Alex Evans for Chatham House, *Rising Food Prices: Drivers and Implications for Development*, April 2008, p 2

10 “Food price rises threaten global security—UN”, *The Guardian*, 9 April 2008

11 David Barling, Rosalind Sharpe, Tim Lang, *Rethinking Britain’s Food Security: a research report for the Soil Association*, November 2008, p 6

12 Q 534

Chatham House's *Rising Food Prices* concluded that "the jury is still out on whether recent food price rises will be sustained or not."¹³ More than a year later, it is still unclear how the situation will develop in the long term. In May 2009, the BBC noted that there was evidence of falling food prices in international commodity markets, but that prices were still high compared with their pre-2007 levels.¹⁴ The FAO food commodity price indices show that, with the exception of sugar, the prices for all the main commodities it monitors—oils and fats, dairy, cereals, and meat—were lower in May 2009 than in May 2008. The FAO food price indices also show that, overall, food prices have been lower in the first four months of 2009 than they were the previous year. However, they also show that prices are still considerably higher than in 2005 and 2006.¹⁵

11. In late October 2008, Sion Roberts, the Chief Executive of English Farming and Food Partnerships, commented: "Food price inflation is going to fall very fast, but higher and more volatile food prices are here to stay and managing risk within the food chain is going to remain a key priority."¹⁶ Another report by Chatham House, *The Feeding of the Nine Billion: Global Food Security for the 21st Century*, published in January 2009, stated that "the potential impact of long-term resource scarcity trends, notably climate change, energy security, and falling water availability" meant that in the medium and longer term food prices were "poised to rise again"¹⁷ and in sub-Saharan Africa, local food prices have increased even as global commodities prices have fallen.¹⁸ Predicting future trends in food prices is not within the scope of our inquiry. What is clear, however, is that falling prices must not be regarded as a sign that Governments can withdraw their attention from food again. Addressing the consequences of the increase in food prices over 2007 and 2008 is a challenge, but it is by no means the whole challenge. The increases were symptomatic of a much greater underlying problem.

The projections made at the FAO food security conference

12. At the height of the price increases, in June 2008, the FAO held a conference in Rome on "World Food Security: the Challenges of Climate Change and Bioenergy". At the conference, representatives from 181 countries agreed a declaration on world food security. As well as including immediate measures to assist the developing countries that had been most severely affected by high food prices, the declaration pledged the signatories to "embrace food security as a matter of permanent national policy" and set out a number of medium and longer-term measures that were intended to address concerns about future food supplies.¹⁹

13 *Rising Food Prices*, p 4

14 "Food prices vary but crisis remains", BBC News Online, 15 May 2009, <http://news.bbc.co.uk/1/hi/business/8052353.stm>

15 www.fao.org/worldfoodsituation/FoodPricesIndex/en/

16 "Food price inflation predicted to fall dramatically over next two years", *Farmers Weekly Interactive*, 29 October 2008, www.fwi.co.uk

17 Alex Evans, *The Feeding of the Nine Billion: Global Food Security for the 21st Century*, January 2009, p 6

18 "Poor still hit by high food prices, say UN", *Financial Times*, 19 March 2009

19 For a list of the measures and the text of the declaration, please see www.fao.org/foodclimate/hlc-home/en/

13. Two projections that were voiced at the conference attracted particular attention and have become, as Hilary Benn put it, “the accepted figures that everybody repeats”.²⁰ First, the Secretary-General of the United Nations, Ban Ki-moon, announced that food production needed to increase by 50% by 2030 to meet rising demand. Then, the Director-General of the FAO, Jacques Diouf, stated that food production needed to double by 2050 to feed a world population of 9 billion.²¹ These are startling figures and it is easy to see why they have quickly been adopted as the context for debates about the global food system in the decades ahead. We used the figures as a framework when developing the terms of reference for our inquiry. However, as the inquiry progressed, we became more curious about the basis for the projections and the extent to which they were a useful reference for shaping policy.

14. Ban Ki-moon and Jacques Diouf clearly did not pluck the figures out of thin air. The projections seem to have been drawn principally from two reports: the International Food Policy Research Institute’s *Future Scenarios for Agriculture: Plausible Futures to 2030 and Key Trends in Agricultural Growth* (the source for the 50% by 2030 projection) and the FAO’s *World Agriculture: Towards 2030/2050* (the source for the doubling by 2050 projection).²² Both reports were published in 2006. *Future Scenarios for Agriculture* fed into the World Bank’s *World Development Report 2008: Agriculture for Development*.

15. What is immediately apparent from the reports, but easily forgotten when focusing on the sound bites, is the number of assumptions and uncertainties involved in the projections. In *Agriculture for Development*, the World Bank prefaced its discussion of the figures by sounding a cautionary note: “Projections of global future food supply and demand are always subject to wide margins of error”. It commented that the projections made by both the FAO and the International Food Policy Research Institute assumed no major changes in policies and added: “Projections of the impact of climate change and energy prices are especially difficult given current uncertainties”.²³

16. When we asked the National Farmers Union (NFU) and the Country Land and Business Association (CLA) whether they accepted the two projections as valid estimates of the sort of increases in food production that would be needed, they were cautiously supportive. Sir Henry Aubrey-Fletcher, the President of the CLA, said:

I suppose we have not had any information to the contrary. The Government’s own Chief Scientist and Professor Bob Watson, the Chief Scientific Adviser to Defra, are both saying the same thing and the evidence from other sources and what you read in the papers does seem to be fairly unanimous [...].²⁴

17. Natural England was more sceptical about the projections. Echoing the World Bank’s reservations, it commented that the future is inherently uncertain, so the projections are

20 Q 524

21 The text of both these speeches is available on the FAO’s website.

22 These were cited as the principal sources in e-mail correspondence between the Committee and the Department for International Development.

23 The World Bank, *World Development Report 2008: Agriculture and Development*, 2007, p 61

24 Q 299 [Mr Aubrey-Fletcher]

“only of some value”.²⁵ It did acknowledge that “in the long-term global food production is likely to need to increase”, but when pressed on this somewhat vague statement, Andrew Wood, Natural England’s Executive Director for Evidence and Policy, cited a number of reasons why there were “some doubts” about the extent of the increase. He commented: first that population growth projections were themselves only projections, secondly that there was no way of proving whether people in India and China would switch to increasingly western patterns of food consumption, and thirdly that if the substantial number of overweight and obese people in the world followed the World Health Organisation’s healthy eating guidelines, their food consumption would fall.²⁶

18. Andrew Wood’s qualifications are interesting because they indicate that there is more than one way to respond to the projections made at the FAO World Food Security conference. The Soil Association, which described the conclusion that the world needs to double food production by 2050 as “too narrowly focused”, made a similar point about diet: “Globally more than sufficient calories are produced—whilst nearly 1 billion people are malnourished in the South; 2 billion are clinically overweight in the North.”²⁷ In a sense, the link is misleading: there is no simple connection between reducing obesity in the northern hemisphere and addressing the problem of malnourishment in the southern hemisphere, as Lord Peter Melchett, Policy Director of the Soil Association, agreed.²⁸ However, encouraging people to eat a balanced diet has a part to play in ensuring that the world makes the best use of its resources.

19. Population growth is also capable of being influenced. People tend to talk of doubling food production by 2050 to feed a population of 9 billion as if a population of 9 billion were inevitable. However, the UN—the source for the 9 billion figure—makes it clear that this figure reflects assumptions about increased life expectancy and “is contingent on ensuring that fertility continues to decline in developing countries”, which itself is dependent on expanding access to family planning. The UN notes that, if fertility were to remain constant at the levels estimated for 2000 to 2005, the population of the less developed regions of the world would increase by an additional 2.7 billion, taking the world’s population to 11.7 billion by 2050.²⁹ It is therefore important that attention remains focused on limiting population growth, as much as on increasing food production. A population of 9 billion by 2050 is certainly not inevitable: without action, the figure could be much greater; with it, it could even be lower.

20. Andrew Wood’s comments touch on another drawback of the projections: when talking about doubling food production by 2050, it is easy to start thinking in terms of a doubling of demand across the world, whereas, as his remarks about India and China emphasise, what is actually being projected is a large increase in demand for particular commodities, in certain places in the world, and very little increase in demand in other places. The UN’s population projections further underline this point: the population of less developed countries is projected to rise from 5.4 billion in 2007 to 7.9 billion in 2050,

25 Ev 144

26 Q 344

27 Ev 169

28 Q 422

29 United Nations Press Release, “World population will increase by 2.5 billion by 2050”, www.un.org

whereas the population of more developed countries is expected to remain largely constant at 1.2 billion.³⁰ What is required, in other words, is not simply a doubling of production across the world, but an increase in the production of particular commodities to meet demand in particular parts of the world.

21. Defra's written submission took the 2030 and 2050 projections at face value, unlike several other submissions, such as that from the farming organisation FARM, which reminded us of the "inherent dangers" of simply accepting these figures.³¹ However, in oral evidence, Hilary Benn was more sceptical. He described the projections as "a guide to what we are seeking to do," but added "I do not think we should get hung up on the precise figures". He commented that the projections made "certain assumptions" and that "there are other things that you could do to help deal with the problem", although he gave the example of reducing post-harvest losses, rather than influencing population growth or diet.³² Post-harvest losses can be due to poor infrastructure, such as transport systems, or to poor food storage. Reducing food waste is also vital in this context. Defra noted that, in the UK, "consumers throw away an estimated 30% of the food they buy, half of which is edible."³³ In the UK, the Waste and Resources Action Programme (WRAP) has already begun the "Love Food, Hate Waste" campaign, which aims to raise awareness of the need to reduce food waste. The issue is also about reducing waste in the food chain, for example by making as much use of the carcase of an animal as possible—a point that we made in our report on *The English Pig Industry*.³⁴

22. At the World Food Security Conference in Rome, it was announced that there was a need to increase food production by 50% by 2030 and double it by 2050. These figures are based on assumptions about population growth and patterns of consumption. It is important to bear in mind that they are projections rather than targets. They are a useful way of focusing attention on food production. However, they should also be used to draw attention to population growth, diet, and waste at all stage of the food chain, and the need for policy responses in these areas.

23. Even the most sceptical of our witnesses acknowledged that food production would have to increase over the next 40 years and we agree. However, **more work is needed on future patterns of consumption. Doubling production by 2050 may focus the minds of policymakers, but, by itself, it is too broad a projection on which to base a response. We recommend that the Foresight Project on Global Food and Farming Futures, which is due to report in October 2010, provide a clear and accessible breakdown of this projection, encompassing where and at what rate the population increases are likely to take place, and how demand is likely to change. It should indicate the implications of these factors for world production of different food commodities. Defra should determine how it will monitor global food production and demand trends in order further to refine the projections in the future.**

30 United Nations Press Release, "World population will increase by 2.5 billion by 2050", www.un.org

31 Ev 374

32 Qq 524-25

33 Ev 211

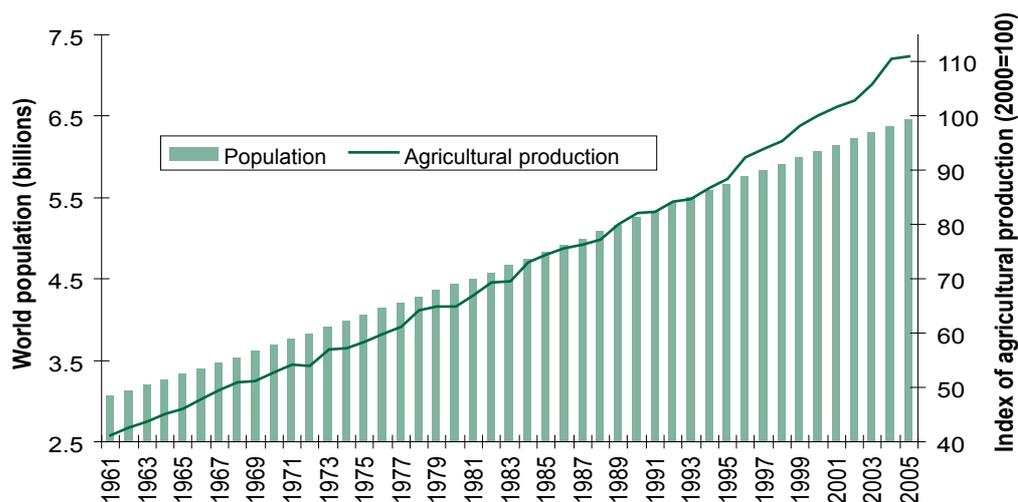
34 Environment, Food and Rural Affairs Committee's First Report of Session 2008-09, *The English Pig Industry*, HC 96

Sustainability

24. Concerns about whether food production will be able to keep pace with population growth are not new. The World Bank commented that, at the time of its previous *World Development Report* on agriculture, in 1982, “a big question [...] was whether agriculture would be able to provide enough food for the world’s growing population”.³⁵ However, from the perspective of 2007, it went on to state that agriculture’s performance since 1982 had been “impressive”: from 1980 to 2004, the GDP of agriculture expanded globally by an average of 2% a year, whereas the world’s population expanded at a rate of 1.6% a year.³⁶ This does not, of course, mean that everyone in the world had enough to eat, but this was because of a lack of access and affordability, not a lack of production.

25. Professor John Beddington, the Government’s Chief Scientific Adviser, commented that global agricultural production had climbed well above the rate of population growth in the past four decades. He stated: “Global production has more than doubled in the past 40 years, despite only an 8% increase in the use of land for agriculture since the 1960s. Dramatic improvements have been achieved in both developed and developing countries.”³⁷ He illustrated his point with the following graph:

Chart 1



26. Since the availability of food has kept pace with the growth in the world’s population over the past 40 years, it seems reasonable to ask what is different this time. Anastassios Haniotis, the Head of Unit for Agricultural Policy Analysis and Perspectives at the Directorate-General for Agriculture and Rural Development, at the European Commission, commented:

Roughly whether we increase by 50% by 2030 or 100% by 2050 it implies an annual rate of growth in production in the range of 1.5 to 1.6%. This is more or less what we

35 *Agriculture for Development*, p 50

36 *Agriculture for Development*, p 50

37 Ev 21

have done in the last 50 years but that does not imply that we have to do it in the same way as happened in the past.³⁸

Growing awareness of the risks posed by climate change and increasingly scarce resources mean that production cannot continue to increase using the same approach as in the past. The CLA commented: “the world faces an unprecedented double challenge of meeting a huge growth in food demand whilst respecting far higher environmental standards than in the 20th Century.”³⁹ A report by the Centre for Food Policy at City University, *Towards a National Sustainable Food Security Policy*, noted that the “production increases of the last half century have been achieved at considerable ecological cost and only with heavy use of energy and oil inputs”.⁴⁰ Such methods of production are not sustainable.

27. Rothamsted Research commented that “a better and more widely accepted definition of what is meant by sustainability when it comes to food production” could be helpful.⁴¹ Dr Wayne Martindale referred to the Brundtland definition of sustainability, which he characterised as “leaving resources to our next generations in a fit state”.⁴² In 1987, the Brundtland Commission, otherwise known as the World Commission on Environment and Development, produced what is still one of the most widely accepted definitions of sustainable development, describing it as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.⁴³ Using the Brundtland definition makes it clear that any method of food production that does have a negative impact on the ability of future generations to secure their own food supplies is merely creating the short-term illusion of security. Genuine food security cannot exist without sustainability.

28. Producing food sustainably involves addressing a number of environmental and resource challenges, which Chatham House summarised as follows:

- the need radically to reduce the greenhouse gas emissions produced by the food system;
- the need to reduce the end-to-end dependency of the food chain on fossil fuels (given climate change and expectations of higher energy costs in the decades ahead), and
- the need to address the depletion of the natural resources and ecosystem services on which food production depends (for example, soil and water).⁴⁴

We will explore these challenges in more detail later, but it is worth noting at this point that climate change means that it will be necessary to address them in a world that is

38 Q 478

39 Ev 119

40 David Barling, Rosalind Sharpe and Tim Lang, *Towards a National Sustainable Food Security Policy*, November 2008, p 8

41 Ev 61

42 Ev 401

43 *Our Common Future: Report of the World Commission on Environment and Development*, March 1987. Available online at www.un-documents.net/ocf-02.htm

44 Ev 44

incrementally changing—in terms of average temperatures and the frequency of extreme weather events. This adds another layer of complexity to what is already a huge task.

29. Some of the submissions equated sustainability with what Leicestershire Food Links described as “a more traditional [...] way of farming”.⁴⁵ The John Innes Centre, however, favoured a range of approaches: “An approach based on greater integration of standard, organic and alternative types of farming should result in more sustainable practices.”⁴⁶ The Soil Association argued strongly for the sustainability of organic farming, but Monty Don, the Soil Association’s President, readily acknowledged that other farming methods might also have something to offer:

Quite frankly, in times of crisis you do what is best and if there are some people doing superb things that are not organic, then let them get on with it. All we can do is to try and inform and encourage people to use organics to its maximum potential; that is key.⁴⁷

We agree that sustainability is not the preserve of any one method of farming.

30. The Soil Association commented that a “healthier, low-carbon diet [...] could be delivered through a wholesale shift to organic farming and in sufficient quantities to feed the UK population according to independent research by the University of Reading”.⁴⁸ The research in question is a report by the Centre for Agricultural Strategy at the University of Reading, entitled *England and Wales under organic agriculture: how much food could be produced?*. This report is described as “a first step at looking at what food we would produce if England and Wales switched to organic farming”.⁴⁹ The scenario it envisages involves chicken, egg and pork production falling to roughly a quarter of current levels, and more wheat and barley being used for human consumption.⁵⁰ There is little discussion of how an all-organic system would respond to a serious pest or disease outbreak. When we put this point to the Soil Association, they told us that an organic system would involve less risk of crop failure because it is “a healthier system”.⁵¹ We do not believe that there should be a wholesale shift to organic farming, not least because, as the Soil Association acknowledged, non-organic techniques also have something to offer when addressing the challenge of securing food supplies sustainably. However, organic farming clearly has a role to play, particularly, as Defra noted, in reducing reliance on inputs and making good use of natural resources.⁵² The UK’s organic expertise could also be useful in securing food supplies in developing countries.

31. Producing sufficient food is only part of the challenge the world faces, the implications of the way in which it is produced are equally important. The only

45 Ev 372

46 Ev 355

47 Q 433

48 Ev 169

49 University of Reading, *England and Wales under organic agriculture: how much food could be produced?*, October 2008, p 2

50 *England and Wales under organic agriculture*, p 3

51 Q 435 ff.

52 Ev 235

acceptable form of food production is that which meets the needs of the present without compromising the ability of future generations to meet their needs. Applying this principle to food production requires a fundamental shift in thinking and an open-minded approach to embracing solutions from across the spectrum of production methods.

2 The challenges for the UK

How should the UK respond?

32. Given the challenges set out in the previous chapter, the first question we explored was how the UK should respond, both to secure its own food supplies and to make its contribution towards improving the security of global supplies. We will discuss three possible responses—described as the head-in-the-sand, the self-sufficient and the sustainable production approaches—and explain which we believe the Government should adopt. This chapter is concerned with broad approaches, rather than the detail of Defra’s policy, which we will cover in chapters 3 and 4.

The head-in-the-sand approach

33. The UK could do little or nothing about its own levels of food production. It could leave other countries to respond to the challenges of increasing food production sustainably, continue to provide agricultural aid for developing countries, and trust in its ability to buy food on a world market. To some, this may seem an irresponsible, even a ridiculous approach—one that is barely worth discussing. However, until very recently, this was essentially the Government’s approach. Hilary Benn described the remark, “Well, we can always buy the food from somewhere,” as a “caricature” of where some had positioned themselves in the past.⁵³ The remark, though, is not so very different from comments made by Defra in 2006 in *Food Security and the UK: An Evidence and Analysis Paper*. This report stated that “food security has become increasingly discussed as a matter of concern in some developed countries, including the UK,”⁵⁴ but concluded: “As a rich country open to trade, the UK is well placed to access sufficient foodstuffs through a well-functioning world market.”⁵⁵

34. An approach that Defra espoused three years ago must at least be worthy of examination. There are certain factors that appear to be in its favour. For a start, the UK is a small country and even a substantial increase in UK production would not make a large contribution to increasing world food supplies. As Chatham House pointed out, “the share of incremental global food demand that can be met from [UK] domestic production is very modest.” It commented: “Even today, with its high relative efficiency, the UK’s cereals sector accounts for less than 1% of world grain production.”⁵⁶

35. Moreover, there are clearly other countries in the world that could make a very significant contribution to increasing world food supplies. Land is a limited commodity. Hilary Benn said that Mark Twain advised people to, “Buy land because they’ve stopped making it”.⁵⁷ However, although they certainly have stopped making it, there is still land available for agricultural cultivation. Anastassios Haniotis, from the European

53 Q 544

54 Defra, *Food Security and the UK: An Evidence and Analysis Paper*, 2006, p 4

55 *Food Security and the UK*, p 32

56 Ev 46

57 Q 523

Commission, commented: “there is area available in many parts of the world that could come back into production.” He cited the examples of Russia, Ukraine and parts of Latin America.⁵⁸ In June 2009, the President of Russia issued a press release committing the country to realising its “enormous agricultural potential [...] to ensure [...] food security for a substantial part of the world population”. The press release stated that “in the situation of the current food crisis, development of 20 million hectares of Russian agricultural land, unused since 1991, could be re-launched.”⁵⁹

36. The Brazilian Government is also explicit about its country’s plans to expand agricultural production. Brazil already makes a significant contribution to the world’s food supplies: its beef represents 31% of global exports, its chicken 44.6%, sugar 58.4%, soy-beans 36%, and maize 13%. However, under plans set out in *Brazilian Agribusiness Forecasts 2008/2009 and 2018/2019*, the Ministry of Agriculture, Livestock and Food Supply (MAPA) forecasts that these market shares will increase—sometimes considerably—over the next ten years. Beef exports are predicted to almost double to represent 60% of global volume, chicken likewise is expected to double to an astonishing 89.7%, sugar is forecast to rise to 74.3%, soy-beans to 49% and maize to 21.4%.⁶⁰ José Garcia Gasques, the General Co-ordinator of Strategic Management at MAPA, was quoted in *Farmers Guardian* as saying that these figures represented “conservative forecasts” of what Brazil could achieve and that they took into account the global recession, protectionism and climate change.⁶¹

37. At first glance, it seems as though the challenge of feeding the world up to 2050 could safely be left in the hands of Brazil and other land-rich countries such as Russia. The reality is more complex. During our visit to Brazil, we were told time and again, by Government Ministers, officials, scientists and representatives of the food and farming industry, that there were vast tracts of land in Brazil that could be used for agricultural production, without encroaching on the Amazon rainforest. One estimate put the figure at 144.8 million hectares. To put this in perspective, the total size of the UK is 24 million hectares.

38. We saw for ourselves the scale on which Brazil is capable of producing food stuffs when we visited Farm Pamplona, an hour’s drive from Brasilia. The size of the enterprise is 17,308 hectares. It is one of 11 farms owned by the same company, SLC Agricola. Together, these farms cover 220,657 hectares—an area larger than Greater London. The farms are highly organised and geared towards maximising production. At least 50 hectares on Farm Pamplona, and on each of the other 10 farms owned by the company, are assigned to research. The farm also makes use of research carried out by Embrapa, the research agency of MAPA. This enables managers to select high-yielding varieties of crops and employ efficient sowing and harvesting techniques. We were told that SLC Agricola has plans to double its size by purchasing more land and expanding its production.

39. Quite apart from its size, Brazil clearly has a number of strengths as an agricultural producer: notably, its science base, to which we will return later. However, there are also

58 Q 478

59 <http://kremlin.ru/eng/sdocs/speeches.shtml>

60 “Brazilian agriculture is set to take on the rest of the world”, *Farmers Guardian*, 13 February 2009

61 As above.

several weaknesses that could prevent it from realising its agricultural potential. The most important of these is its infrastructure. An article in *Agra Europe* commented: “With planned increases in production, the risk of a collapse in the transportation system for agricultural products increases.”⁶² We heard about this risk in more detail when we met the Executive Director of the Brazilian Agribusiness Association, who, while optimistic about his country’s prospects as a large-scale agricultural producer, said that poor railways, waterways and roads were a big problem, as was the capacity of Brazil’s largest port, the Port of Santos. He told us that the depth of the Port of Santos meant that it could not be accessed by larger ships. We were also told that links between the MAPA and the Brazilian Ministry of Transport were poor. The Brazilian Agribusiness Association was clear that there needed to be investment in infrastructure, but said that public-private partnerships had not advanced under the current Government of President Lula.

40. Another point that transpired from the meeting with the Brazilian Agribusiness Association, and meetings with the Banco do Brasil and the Brazilian Development Bank among others, was the extent to which Brazilian agricultural expansion is dependent on foreign investment. This was borne out by our visit to Farm Pamplona. Some 51% of SLC Agricola is privately owned: the other 49% is in the hands of shareholders, and the company was clearly keen to attract foreign investors. The Brazilian Agribusiness Association told us that Brazil does not have the capital to keep expanding its agribusiness and said that many agribusinesses had been sold to international companies such as Cargill and Bunge.

41. It is clear that maximising food production does not depend on agriculture alone but also on infrastructure-transport systems, as well as food storage.

42. Another issue is the impact of the proposed increase in production on the environment. Unless the expansion of agricultural production in Brazil and other land-rich countries is carried out sustainably, it will create problems in the long term even as it appears to solve them in the short term. The MAPA representatives we met in Brazil took great pains to impress on us that sustainability was important to them. They told us that increases in production could be achieved without further deforestation—mainly by expanding into the Cerrado, or Savannah, area. In addition, land for arable crops could be freed up by increasing the productivity of the livestock sector. We were told that agricultural zoning was being used to specify which areas of the country could be used to grow certain crops, with the aim of ensuring that the Amazon biome was protected.

43. Our meeting with the Brazilian Environment Secretary, Egon Krakhecke, was, in some senses, encouraging. Brazil is clearly taking a number of measures to reduce deforestation, including by stimulating sustainable rural activities in the Amazon. However, we remain concerned about enforcement. For example, Egon Krakhecke told us that the Government had recently set up restrictions on access to credit for land-owners who failed to comply with environmental legislation such as Brazil’s Forest Code, which restricts the amount of land that can be legally deforested. In a different conversation, however, we were told that, although there was a list of people who should be denied access to credit on this basis, the effectiveness of the measure was questionable because the list was not always used.

62 “Are the winds changing for Brazilian agriculture”, *Agra Europe*, 22 August 2008

44. In June 2009, President Lula approved a law that will transfer 67.4 million hectares of land in the Amazon from public into private hands. The law was intended to benefit poor farmers, but there are worries that it may ultimately be exploited by large landowners and result in further deforestation.⁶³ Rates of deforestation have slowed overall in recent years. However, deforestation is still taking place, and last summer there was a report that deforestation had increased by 64% over the 12 months to August 2008: the Brazilian National Institute for Space Research reported that 3,145 square miles of rainforest had been destroyed since August 2007.⁶⁴ We believe that the Brazilian Ministry of the Environment has the best intentions, but we are not convinced that it is in a position to ensure that any expansion in food production is carried out sustainably, particularly given that there does not seem to be a close working relationship between it and MAPA.

45. Another concern is that by concentrating production in a few large countries, the risk of a significant disruption to the world's food supplies increases. If Brazilian chicken exports were to account for 89.7% of the global volume by 2018, the consequences if a problem were to occur with their production could be substantial. MAPA's International Relations Secretary, Célio B. Porto, told us that Brazil had made great efforts to eradicate foot and mouth disease in cattle, but he also explained just how difficult this task was: Brazil has 16,000 km of borders, with 10 countries, some of which do not regard the eradication of foot and mouth disease as that important because they do not export beef. He said that the Brazilian Government is using vaccination to try to create buffer zones along the borders, but the challenge of isolating the disease is huge.

46. Finally, climate change is likely to alter the parts of the world that are most conducive to agricultural production. The UK is not a large country, but it has a relatively good climate for food production and this is likely to remain the case as temperatures rise. Professor Crute, the Director of Rothamsted Research, stated that the countries of north-west Europe enjoyed "extremely favoured environmental conditions" that would probably get more favourable with climate change. He spoke of an obligation "to make sure that we do produce food", explaining that, "we are going to become very important globally in food production and we should not ignore that".⁶⁵ Several other witnesses also used the language of "obligation". Professor Tim Lang, of the Centre for Food Policy, spoke of "a moral responsibility to maximise our production, appropriately".⁶⁶ He stated: "I think it is inappropriate land use not to produce food when you have got the climate, soil and capability of so doing."⁶⁷ Melanie Leech, of the Food and Drink Federation, commented: it "behoves everybody to take advantage of their natural position in the globe".⁶⁸ This seems to us common sense. The argument about the UK taking advantage of its natural position in the globe applies also to other parts of Europe. In this context, the EU must recognise the continuing importance of European farmers and the long-term contribution they could make to securing the world's food supplies.

63 "Brazil grants land rights to squatters living in Amazon rainforest", guardian.co.uk, 26 June 2009

64 "Brazil: Deforestation rises sharply as farmers push into the Amazon", *The Guardian*, 1 September 2008, p 17

65 Q 186

66 Oral evidence taken before the Environment, Food and Rural Affairs Committee on 11 December 2008, HC (2008-09) 266-I, p 7

67 *As above*, p 5

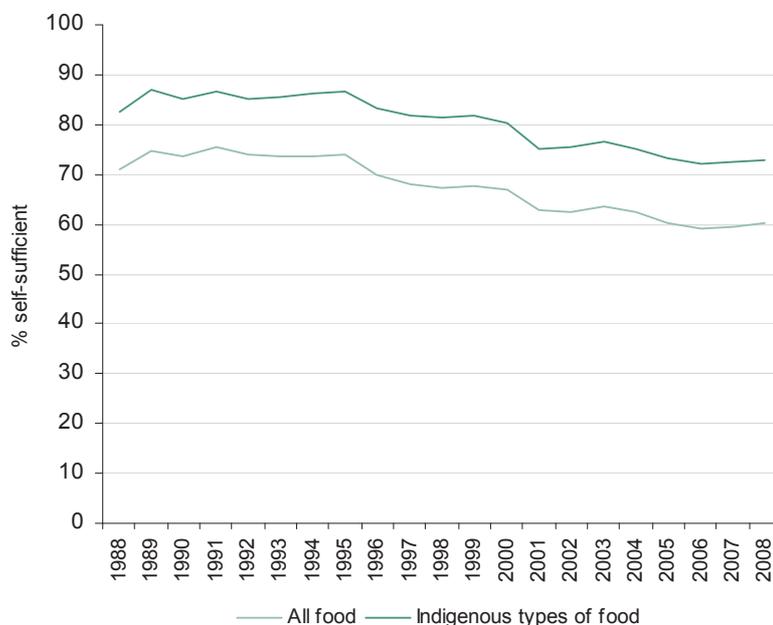
68 Q 252 [Ms Leech]

47. The global aspect of securing food supplies is about recognising which countries ought to be doing what and getting an agreement about how these responsibilities should be met. In relation to climate change, the UK has recognised that, although it produces only a small proportion of global emissions, it has a responsibility to contribute towards their reduction. By acknowledging this, the UK has placed itself at the EU and world top table, where it can influence global policies on climate change. The same approach should apply to securing food supplies. **Doing nothing to contribute to the world's food supplies would be morally unacceptable: at a time when a fundamental shift in thinking is required, the UK should set an example, not bury its head in the sand. Land-rich countries such as Brazil have great potential to boost global food supplies, but neither their ability to realise this potential, nor a well-functioning global market, can be taken for granted. A healthy domestic agriculture is an essential component of a secure food system in the UK.**

The self-sufficient approach

48. The opposite approach is that, instead of relying on potentially vulnerable global markets, the UK could aim to supply all its food needs from its own resources. The countries of the UK have not been self-sufficient—in the strict sense of the term—for more than 200 years.⁶⁹ Over the centuries, people in the UK have become accustomed to food stuffs, such as citrus fruit and bananas, that are not grown here. However, as the following tables make clear, the UK is also far from being self-sufficient in indigenous products: in fact, rates of self-sufficiency have been falling fairly consistently since the mid-1990s.

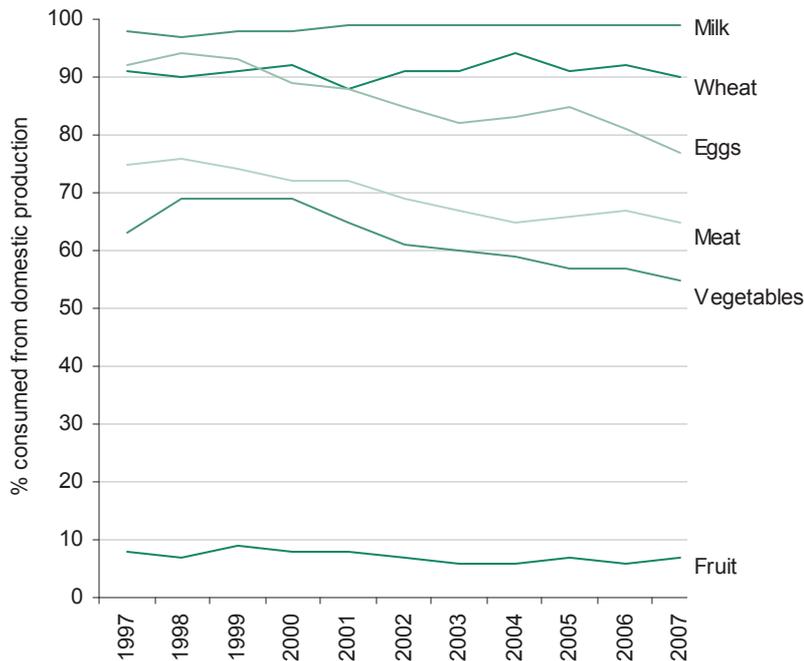
Chart 2: UK self-sufficiency in food (%) for:



DEFRA, *Agriculture in the United Kingdom*

69 The *Oxford English Dictionary* defines self-sufficient as “able to provide enough of a commodity (as food, oil) to supply one's own needs, without obtaining goods from elsewhere”.

Chart 3: Estimate of the percentage consumed from domestic production for various commodities



Source: HC Deb, 6 March 2009, cols 1877W-78W

49. The term “self-sufficient” was used frequently in the submissions we received, but no one argued for total self sufficiency. Friends of the Earth described self-sufficiency as “a desirable policy goal for food security and environmental sustainability”, but it supported “high self-sufficiency” rather than total self-sufficiency—although it did not explicitly rule out this approach.⁷⁰ Others were unequivocal in their dismissal of total self-sufficiency. Monty Don, the President of the Soil Association, commented: “I do not think there is any [...] benefit in trying to be 100% self-sufficient.”⁷¹

50. Setting aside the considerable practical difficulties that would be involved in aiming for total, or near total, self-sufficiency, the principal argument against such a policy is that, while most of the country’s food supply would be under its own control, the consequences if something were to happen to that food supply would be immense. Hillary Benn gave the hypothetical example of what would happen if a disease affected the UK wheat crop. He stated that, in such circumstances, without trading relationships with other countries, the UK would in be trouble.⁷² Andrew Kuyk, Director of Sustainability and Competitiveness at the Food and Drink Federation, made a similar point. He commented that if the UK refocused solely on domestic production and ignored external trade, there could be a “cataclysmic event” such as a major crop failure. He argued that “diversity of supply” was the “key to resilience in those circumstances”.⁷³ This point of view was shared by Defra, which stated that the diversity of the UK’s food supply “helps to spread risks from potential disruptions such as terrorism or floods”. Defra commented that, in 2006, 26 countries, including the UK, accounted for 90% of the UK’s food supplies, up from 22 countries in

70 Ev 441

71 Q 411

72 Q 576

73 Q 252 [Mr Kuyk]

1996, and that, currently, 34 countries each supply the UK with at least 0.5% of its food imports. The Netherlands accounts for the highest share with 13%. Defra commented that “the vast majority of our food (69% in value)” comes from “our stable trading partners in the European Union.”⁷⁴ It should be noted that risk is spread not simply by having trading relationships with a number of different countries, but by ensuring that each commodity comes from a number of different countries.

51. Trading relationships themselves are, as we have already commented, a source of risk. There is no guarantee that even our EU trading relationships will always remain stable. The CLA asked us to consider whether intra-EU trade would continue to operate smoothly in the event of severe shortages of basic food stuffs. It conceded that such shortages were “somewhat unlikely”, but suggested that there might be a need to consider contingency plans for dealing with the breakdown of the single market.⁷⁵ When we asked Anastassios Haniotis of the European Commission what would happen if EU countries did attempt to take protectionist action in a time of severe food shortages, he was adamant that the Commission would ensure that the rules of the single market were upheld.⁷⁶ The CLA’s point was that the Commission may not be able to apply sanctions with sufficient speed. **The Commission should investigate further what means would be at its disposal in the unlikely event of a breakdown of the single market. However, the fact that trading relationships are fragile is an argument in favour of spreading the risk by having relationships with multiple countries, working to build strong relationships, and having contingency plans, not an argument in favour of self-sufficiency.**

52. There is another disadvantage to pursuing a policy of total self-sufficiency: its effect on the global food market. It could be argued that a UK totally self-sufficient in indigenous food stuffs would free up commodities elsewhere in the world, to the benefit of other countries. However, such a policy might be seen to exemplify an “every country for itself” approach—an attitude that is already leading to so-called land-grabbing and would be likely to destabilise the global market in food. **The UK should not aim to be self-sufficient, even in indigenous food stuffs. Total self-sufficiency would make the UK’s food supplies less secure rather than more secure.**

Food colonialism or “land-grabbing”

53. In May 2009, the FAO, the International Fund for Agricultural Development (IFAD), and the International Institute for Environment and Development (IIED) published a report on “land-grabbing”—a phenomenon which involves the large-scale acquisition of land overseas by wealthy investors in order to grow food that is often destined for people in the investor country. *Land grab or development opportunity?* concentrates on sub-Saharan Africa, focusing on the acquisition of land in Ethiopia, Ghana, Mali, Madagascar and Sudan. However, it comments that “international land deals are emerging as a global phenomenon”.⁷⁷ It describes the level of activity in the five countries it studied as

74 Ev 210

75 Ev 119

76 Q 521

77 *Land grab or development opportunity?*, May 2009, p 3

“significant”: it estimates there have been a total of 2,492,684 hectares of approved land allocations since 2004, excluding allocations below 1,000 hectares.⁷⁸

54. While commenting that there could be benefits to host countries, such as improved Government revenues, the report also makes it clear that there are a number of risks, including the possibility that large-scale land acquisitions may result in local people losing access to the resources on which they depend for their food security and the danger that investors may not consider the long-term environmental impacts of production. The authors make what they describe as some tentative recommendations to minimise the risks involved in such transactions, but stress that the report should be regarded “as a first step towards improving understanding of the phenomenon” and that “extending research to other regions is expected to be a key next step.”⁷⁹

55. When we asked Hilary Benn about the large-scale acquisition of land by overseas investors, he acknowledged that the phenomenon could create difficulties, but overall he seemed fairly complacent, describing the trend as “a sign of the times” and commenting that he could not conceive how there could be an international system for regulating such transactions.⁸⁰ We are concerned that Defra is not taking this phenomenon sufficiently seriously. Arrangements of this kind can be between partners of vastly unequal power and offer few guarantees for local people, including shifting cultivators and pastoralists who use land intermittently. An international system of regulation may not be possible, but, as the *Land grab or development opportunity?* report demonstrates, there is a need for further monitoring of the implications of this new trend.

56. We welcome the recent report by the UN Food and Agriculture Organisation, the International Fund for Agricultural Development, and the International Institute for Environment and Development on the large-scale acquisition of farmland in sub-Saharan Africa by overseas investors. It is a first step towards exploring the implications of this global trend. We urge the bodies involved to continue their work on the phenomenon, with the aim of providing an accurate picture of the extent of the trend and of developing a set of international guidelines that include provisions for local producers, property rights, sustainable management and transparent rules. We note the involvement of Dfid in the initial study and urge it to continue to provide input to subsequent studies. Defra should report on the implications of the trend for UK food security.

The sustainable production approach

57. Although none of the submissions argued for total self-sufficiency, several argued that the UK should increase its production of food. Unilever stated that, given the challenges ahead, there should be “a strong focus on the potential to increase domestic production in a sustainable way”.⁸¹ Fruit and vegetables were the focus of most of the submissions that

78 *Land grab or development opportunity?*, p 4. The authors of the report stress that data on land acquisitions is scarce and often of limited reliability, so the figures in the report should be treated with caution.

79 *As above*, p 17

80 Q 552

81 Ev 100

argued for an increase in UK production. Cereals were also mentioned in some submissions, but there was less explicit emphasis on the need for an increase in production.⁸² This can be partly explained by the fact that, in the case of some cereals, domestic production already accounts for a high proportion of consumption. As chart 3 in paragraph 48 shows, in 2007, 90% of the wheat consumed in the UK was produced here. Although the following paragraphs concentrate on fruit and vegetables, because that was the focus of the evidence, we believe that the potential to increase UK production of cereals, for export, should also be explored.

58. East Malling Research, a private research organisation supporting the UK fruit-growing industry, was among those concerned about the level of UK fruit and vegetable production, and specifically about the trade deficit in fruit. It commented that the Government's five-a-day campaign drew people's attention to the health benefits of eating fruit and vegetables, but noted that "the UK's ability to supply itself with fruit, in particular, falls well short of current consumer demand."⁸³ Like others, it noted that only 10% of the fruit consumed in the UK, by value, is grown here.⁸⁴ As well as noting the trade deficit for fruit, the World Wide Fund for Nature (WWF) stated that for some indigenous vegetables "production is declining even while imports are increasing".⁸⁵

59. There are many statistics that we could use to illustrate these points, but, to prevent the report from becoming a compendium of tables, will we focus on the example of apples:

Table 3: supplies of apples in UK ('000 tonnes); figures for 2007 are provisional

Apples	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Home production marketed	187.1	183.7	246.4	208.7	211.8	179.4	143.9	170.3	218.2	240.8	242.8
Imports	446.4	464.1	467.7	473.7	467.8	448.5	476.4	523.8	520.4	537.9	522.1
Exports	18.9	20.0	19.5	18.3	16.9	14.9	18.9	17.7	13.4	23.1	29.6
Total supply	614.6	627.8	694.6	664.2	662.7	612.9	601.4	676.4	725.2	755.6	735.3
HPM as % of total supply	30.4	29.3	35.5	31.4	32.0	29.3	23.9	25.2	30.1	31.9	33.0

Source: <https://statistics.defra.gov.uk/esg/publications/bhs/2008/default.asp>

Table 4: Planted area in the UK for dessert and culinary apples (hectares); figures for 2007 are provisional

97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08
13,473	13,264	12,817	13,014	11,428	9,851	9,144	10,070	9,365	9,030	8,670

Source: adapted from <https://statistics.defra.gov.uk/esg/publications/bhs/2008/default.asp>

82 Evs 275, 294

83 Ev 335 For further examples of this viewpoint, see also Evs 336, 166

84 Ev 335. See also Evs 43, 311

85 Ev 341

It will come as no surprise to some people that the planted area for apples declined by about 35% from 13,473 hectares to 8,670 hectares between 1997 and 2007. Leicestershire Food Links described the “depletion of orchards” as one of the weaknesses of the UK food system.⁸⁶ However, even though the planted area decreased, production of apples in the UK increased in the same period. Despite the increase in UK production, the proportion of UK production as a percentage of total supply did not change significantly: in 1997, it was 30.4%; in 2007, it was 33%. The figure remained broadly the same because, although there was an increase in demand for apples in the UK, this increase was met by imports, as well as by an increase in domestic production. As we have already explained, we believe that food security is enhanced by having a mix of both domestic production and trade. Moreover, some of the demand for apples will be out of the apple-growing season in the UK and will have to be met by imports. However, for the proportion of UK production as a percentage of total apple supply to have remained largely the same at a fairly low 33%, despite increasing interest among consumers in buying UK-grown fruit, seems to us a wasted opportunity. **Defra should commission research to establish the reasons for the relatively low level of domestic fruit and vegetable production. This should include a study of the procurement practices of supermarkets, food manufacturers and the food service industry to establish how these practices impact on the problem. Defra’s new Council of Food Policy Advisers should consider how the barriers to increased domestic fruit and vegetable production could be removed.**

60. Several submissions pointed out that, not only is UK production of fruit and vegetables low as a proportion of current UK consumption, current consumption is itself low compared with what it would be if people followed healthy eating guidelines. Natural England commented that if UK consumers followed World Health Organisation guidelines, which recommend the consumption of a minimum of 400g of fruit and vegetables a day, people would eat 50% more fresh fruit and vegetables than they do at the moment.⁸⁷ Natural England’s estimate was based on a study entitled *Food consumption changes in the UK under compliance with dietary guidelines*, which looked at consumption levels in 2003-04 and compared them with target levels.⁸⁸ The Fresh Produce Consortium came up with a different figure. It stated that the total volume of fruit and vegetables marketed in the UK in 2006 was 8.1 million tonnes, whereas if people had followed the five-a-day guidelines—which are based on the WHO’s guidelines—consumption would be in the region of 8.8 million tonnes.⁸⁹ The National Association of British Market Authorities cited Defra’s Family Food Survey 2007, which estimated that average consumption of fruit and vegetables in the UK was 3.9 portions. However, 3.9 portions may be a generous estimate of actual consumption. The Cabinet Office report, *Food: an analysis of the issues*, noted that although purchases of fruit and vegetables have reached an average of four portions a day, actual consumption “may be much lower than this”.⁹⁰ **Defra should produce its own estimate of the amount by which consumption of fruit and**

86 Ev 371

87 Ev 147

88 M. H. Arnoult, *Food consumption changes in the UK under compliance with dietary guidelines*, June 2006

89 Ev 404

90 Cabinet Office Strategy Unit, *Food: an analysis of the issues*, January 2009, p 36

vegetables would rise if people in the UK followed the Government's five-a-day guidelines.

61. **There is a big difference between aiming to be self-sufficient and aiming to increase production of certain commodities. The UK should aim to increase its production of those fruit and vegetables that are suited to being grown here, particularly where there is evidence of an increase in demand. It should also explore the potential for an increase in cereal production. However, again, we emphasise that it is essential that this increase in production is carried out sustainably.**

Meat and dairy production

62. The WWF urged the Government to support an increase in demand for UK fruit and vegetables, but it also wanted a decrease in meat and dairy consumption. Compassion in World Farming pointed to health reasons for reducing consumption of these commodities, but it also cited two main issues with the sustainability of intensive livestock farming. The first was the “wasteful” use of resources such as land, water and fossil fuel energy. It commented that several kilograms of cereals needed to be fed to animals to produce one kilogram of meat and stated: “People could be fed much more efficiently if those cereals were used for direct human consumption.”⁹¹ It commented that “it takes up to 2.6 kg of feed to produce 1kg of chicken meat, 6.5 kg of feed to produce 1kg of pig meat and 7kg of feed to produce 1 kg of beef”.⁹² The amount of feed needed to produce 1kg of edible meat—excluding the parts of the animal that are not eaten such as bone—is even higher. The second issue was that “the livestock sector is a major producer of greenhouse gas emissions”.⁹³ A 2006 report by the FAO estimated that, globally, livestock production is responsible for 18% of greenhouse gas emissions, contributing a larger share than emissions from transport.⁹⁴ The figure of 18% includes land-use changes, such as deforestation, driven by the need to expand pastures and arable land for feed crops. Professor Lang told us that the “strong evidence”, on the grounds of climate change alone, was that “we need to reduce meat and dairy consumption”. He added: “That therefore implies that we have to reduce production.”⁹⁵

63. The issue of reducing UK meat and dairy production is, as Professor Lang acknowledged “contentious”. It is also far from straightforward. Professor Lang asked: “If British dairy production went down or meat production went down would the British consumer demand it and merely get it from elsewhere?”⁹⁶ If consumers want meat and dairy products, someone in the world will produce them. Unless the issue of consumption is addressed, a reduction in UK production would simply export the problems associated with intensive livestock farming to another part of the globe.

91 Ev 280

92 Ev 281

93 Ev 280

94 FAO, *Livestock's long shadow: environmental issues and options*, 2006, p xxi

95 Q 12

96 As above

64. Moreover, it is important to distinguish between different types of meat, which have different environmental impacts, and between intensive production and other methods of livestock production. Compassion in World Farming argued that attempting to feed the growing population by increasing intensive livestock farming was “not a realistic strategy”, but commented that a “more judicious approach” would be “to re-orient the world’s animal production away from industrial farming and towards lower-input, more extensive systems.”⁹⁷ Of course, lower-input livestock systems still produce greenhouse gas emissions—in some cases, they may even produce more greenhouse gas emissions. An article in *The Guardian* reported that battery-reared chicken was the least greenhouse gas-intensive meat. Tara Garnett, from the Food Climate Research Network, was quoted as saying:

If you keep an animal in a very small space, don't let it expend any energy on exercising, feed it up really quickly and kill it within 40 days, it is going to be energy efficient. However, from an animal welfare point of view it is certainly not something I would endorse.⁹⁸

The quote draws attention to another issue that makes this a particularly complex debate: the need to consider animal welfare.

65. Peter Kendall, the President of the NFU, commented that it was “an over-simplified analysis to say that meat is bad and grain is good.”⁹⁹ Fertilisers, rather than livestock production, are the largest single source of emissions from agriculture. According to *The Stern Review on the Economics of Climate Change*, fertilisers account for 38% of agricultural emissions.¹⁰⁰ Thus arable farmers also have a large part to play in reducing greenhouse gas emissions. In addition, livestock production can have environmental benefits. Natural England stated: “fewer numbers of livestock in the dairy and meat sectors may reduce greenhouse gas emissions but could have negative impacts on landscape character and biodiversity.”¹⁰¹ A study funded by the Research Councils’ Rural Economy and Land Use programme found that a fall in livestock production could lead to the abandonment of some upland areas.¹⁰² This would have consequences for biodiversity. **UK consumers buying meat and dairy products should be encouraged to consider the environmental, as well as the health, impacts of their choices. To enable consumers to make informed decisions, Defra needs to do more work on what are the most sustainable methods of livestock production, and the balance to be struck between animal welfare, biodiversity, greenhouse gas emissions, and the need to conserve inputs such as water.**

Fish

66. The Marine Conservation Society stated: “Globally, fisheries supply over 2.6 billion people with at least 20% of their average protein intake.” However, it also drew attention to

97 Ev 280

98 “Eat your greens”, *The Guardian*, 7 June 2007, p 18

99 Q 308

100 Nicholas Stern, *Stern Review on the Economics of Climate Change*, October 2006, annex 7g

101 Ev 147

102 “Meeting 5-a-day could hit landscapes hard”, *Farmers Weekly*, 22 May 2009, p 16

the poor condition of many fish stocks. It commented: “Around the British Isles only eight out of 47 fish stocks are known to be in a healthy state, and thus the UK faces a serious challenge to secure food supplies sustainably from the marine environment.”¹⁰³ It stated that in the EU as a whole, 88% of stocks were overfished.¹⁰⁴ It is to be hoped that major reform of the Common Fisheries Policy (CFP) will make EU fisheries more sustainable. However, this will be a lengthy process—the consultation on the CFP reform green paper has just begun—and its results are by no means guaranteed.

67. The National Federation of Fishermen’s Organisations (NFFO) commented that, although in the longer term it was expected that UK fish stocks would recover, there was no certainty that they would reach previous levels, due to changes in the marine environment and to climate change.¹⁰⁵ It stated that, although healthy eating guidelines recommended the consumption of two portions of fish a week, UK citizens were currently only eating one portion of fish a week on average. If the guidelines were to be followed, the supply of fish would need to double. The NFFO noted that the ability of the global market to meet increased demand in the UK was “by no means guaranteed”, because the Pacific, which had provided much of the increased catch in the past, was starting to be over-exploited and because aquaculture would be unlikely to be able to continue its rapid expansion. The Marine Conservation Society pointed out that two of the top five seafood species we eat in the UK are farmed-salmon and warm water prawn, both of which are carnivorous and rely on wild capture fisheries to provide their food. Current food conversion ratios mean that their production results in a net loss of ocean biomass.¹⁰⁶ The NFFO added that domestic requirements in emerging economies were likely to reduce the amount, and type, of fish on the international market. It commented: “The need is to encourage the consumption of fish and shellfish, that, at the present time, consumers are unwilling to try.”¹⁰⁷

68. The marine environment is an important source of food. However, the current state of many fish stocks is a serious cause for concern. Defra, the Department of Health and the Food Standard Agency should consider the wisdom of continuing to advise consumers to eat at least two portions of fish a week at a time when the ability of the marine environment to meet this demand is questionable. The fishing industry and the Government have a duty to encourage consumers to try sustainable, less well-known types of fish and shellfish. Defra and the devolved Administrations should produce a study evaluating the potential of sustainable aquaculture off the shores of the UK.

The environmental impact of increased production

69. We have said that the UK should aim to increase its production of certain commodities, but in a sustainable way. During our inquiry, we encountered widespread awareness of the environmental and resource challenges that need to be considered when increasing production. However, when it came to the detail of the impact of increased

103 Ev 291

104 Ev 291

105 Ev 113

106 Ev 293

107 Ev 113

production, there was much less certainty. Natural England told us that it had not done any work on the consequences for biodiversity of a push for increased yields and the cultivation of more land for arable production. Andrew Wood from Natural England said that he dearly wished he had a computer model to enable him to do this work. When pressed about the consequences of a push for increased yields, he replied: “I am not—and I do not believe anybody else is—in a position to tell you that.”¹⁰⁸

70. An increase in production is inevitably going to have some environmental impacts. The NFU acknowledged as much when it stated: “we do not accept the view that any increase in production need come at an unacceptable environmental cost.”¹⁰⁹ We, too, do not accept the view that any increase in production need come at an unacceptable environmental cost. However, until there is greater knowledge of what the environmental costs could be, it is impossible to distinguish the acceptable from the unacceptable. **Defra should produce a study setting out the volume of particular commodities that the UK would be capable of producing under different scenarios and the impact that this production would have on the environment. This study into “The UK’s Agricultural Potential” should include work on the most sustainable methods of both arable and livestock production.**

Local and home production

71. So far, we have discussed the potential to increase production in a sustainable way at a national level. Several submissions argued for the importance of local food networks and home production—either in gardens or on allotments. Both local and home production have increased in popularity in recent years: a survey by the National Society of Allotment and Leisure Gardeners estimated that 100,000 people are on the waiting list for an allotment in Britain.¹¹⁰ Both types of production have benefits for the security of food supplies. The President of the Soil Association, Monty Don, stated: “If you can devolve production and consumption so that they are as close together as possible, and the obvious example of that are farmers’ markets or farm gate sales, that is a healthy, very flexible way of supply and demand.”¹¹¹ The supply and demand relationship is even closer in the case of home production. Garden Organic, an organisation that supports organic gardening, emphasised the benefits of home food production, stating that it “can contribute towards ensuring food security by providing access to affordable fruit and vegetables for people”.¹¹² Local food networks and home production also have the advantage of reducing emissions from transport—a point made by Friends of the Earth.¹¹³ One aspect of the interest in local produce that could be explored further is the potential to make more use of traditional sources of food which have declined in popularity in the second half of the twentieth century, such as rabbits. An article in the *Daily Mirror* reported that sales of rabbit had

108 Qq 351-52

109 Ev 123

110 “Allotment waiting lists reach up to 40 years”, *Daily Telegraph*, 2 June 2009, p 14

111 Q 412

112 Ev 352

113 Ev 446

soared in one area of the UK, partly because rabbit was seen as a cheaper meat, but also because of the initiative of a local farmer.¹¹⁴

72. There is another, even stronger, argument in favour of local and home food production. Garden Organic commented: “Active involvement in food production, at whatever scale, is vital in terms of reconnecting people with the food they eat.” Monty Don expressed a similar view, stating that the “process of growing a pot of chives on a windowsill is actually a huge leap in connecting people to the food that they eat”.¹¹⁵ We have already seen that increasing production sustainably—on a national and global level—will have to involve consumers changing their behaviour. Waitrose argued that a “sea change in consumer behaviour” was needed to guarantee the sustainability of UK producers.¹¹⁶ Consumers will need to think more about the impacts of the way in which their food is produced, and the Government will have to encourage them to do so. This is a formidable task, but it will be rendered less formidable if consumers are engaged with the concept of food production in the first place.

73. Schools have a role to play in this context. Lord Melchett, the Soil Association’s Policy Director, described the work of the Food for Life Partnership, which is led by the Soil Association and operates in a network of schools across England. The schools are encouraged to source their food locally and pupils grow vegetables that can be used for school meals. Pupils learn about food “as part of a whole range of lessons in their curriculum” and make regular visits to farms that supply their school with food.¹¹⁷

74. We welcome the increasing enthusiasm among consumers for buying food that is local to a particular area of the UK, and also for growing their own food. In terms of overall production, these trends are a small contribution to a huge challenge, but they are a way of reconnecting people with food production and have an important part to play in encouraging the sort of changes in consumer behaviour that will be necessary for a sustainable system of food production. The role of local and home production, and of educating children about food, should be incorporated in Defra’s vision and strategy for food. When it has been established that there is an unmet demand for allotments in a local authority area, the Government should require the local authority to publish, within three years, a plan setting out how it proposes to meet the demand.

114 *Daily Mirror*, 25 May 2009, p 27

115 Q 413

116 Ev 436

117 Q 415

3 Defra's vision for food

The role of Defra

75. A number of the submissions, particularly from the retailing and manufacturing sectors, made it clear that it was the role of Defra to articulate the UK's approach to securing food supplies in the long term. Waitrose stated that the challenges for the Government and for Defra began with "the need to provide better strategic clarity." It commented: "While the tone of the government's rhetoric has certainly become more focused on the challenge of food production in the last year [...] it is yet to translate into crystal clear leadership in key areas."¹¹⁸ Other food retailers also called for greater leadership from Defra. They focused in particular on Defra's co-ordinating role within and beyond Government. Sainsbury's stated: "DEFRA needs to show greater leadership on food and centralise policy within Government."¹¹⁹ The Co-operative Group, which in addition to operating food stores is the largest commercial farmer in the UK, urged Defra to "adopt a leadership role in closer working with both the Food Standards Agency, the Department for Energy and Climate Change, and external organisations such as trade bodies, consumer organisations and NGOs."¹²⁰ Representing the manufacturing sector, the Food and Drink Federation commented that Defra should provide "strategic leadership and clear prioritization of sometimes competing policy priorities".¹²¹

76. The Country Land and Business Association (CLA) expressed a slightly different point of view. It commented that there was "still a gross under-estimation in Government about the scope and role of policy [...] to address this area." However, it also stated that "all the major policy levers affecting food security in this country are decided at EU level".¹²² It commented:

We refer to the Common Agricultural Policy, the EU Common External Tariff (i.e. trade policy) and the fact that nearly all environmental policy affecting land use is based on EU directives. In addition the, admirably named, budget heading 2 of the EU Budget, entitled the 'Protection and Management of Natural Resources', provides the principal public financial support for the policies which shape our food and environmental security.¹²³

We discuss the Common Agricultural Policy in chapter 4, but the CLA's comments raise the question of whether the UK should have its own policy on securing food supplies at all, or whether it should simply contribute to an EU strategy.

77. There are signs of the EU's increasing interest in the security of food supplies. In January 2009, the European Parliament adopted a resolution on *The Common Agricultural*

118 Ev 436

119 Ev 428

120 Ev 451

121 Ev 99

122 Ev 119

123 As above.

Policy and Global Food Security, which described “global food security” as “a question of the utmost urgency for the European Union” and called for “immediate and continual action to ensure food security for EU citizens and at global level”.¹²⁴ In May 2009, Franz Fischler, the former EU Agriculture Commissioner, declared that the EU must increase its food production, because even a big improvement in agriculture in developing countries would not be enough to feed the future world population.¹²⁵ However, the growing interest in the security of food supplies certainly does not mean that everyone in Europe is agreed on a way forward. Anastassios Haniotis, from the European Commission, told us: “We [the European Union] have a very diversified mix of agricultural products and we do not have any issues of food security in terms of lack of food; we do not have it today and we do not expect to have it in the future.”¹²⁶ It was clear from the rest of his evidence that the Commission had been examining the issue of the security of food supplies very carefully, but his remark suggests that the Commission and the European Parliament may have rather different perspectives on the urgency of the situation and the extent to which food security affects Europe directly.

78. While agreeing that some aspects of food policy were decided at an EU level, Anastassios Haniotis saw a role for member states in developing their own food policies:

How exactly the food sector in each Member State evolves and develops is mainly an issue of national policies or mixed competence, but when it comes to food safety and when it comes to trade we do have the framework of a common policy.¹²⁷

As we have already discussed, the majority of the UK’s imports come from EU countries and the Common Agricultural Policy and EU directives influence the shape of the UK food system. **Defra’s approach to the security of food supplies must take place in the context of the European Union. However, we believe that there is still scope for Defra to develop its own food policy and that the clearer this policy and the stronger Defra’s leadership, the more chance the UK has of shaping the direction of any emerging EU policy on this issue.**

79. A recent example of the UK’s failure to take European policy in the direction it wanted is the new EU legislation on the use of pesticides. The new rules introduce hazard-based, rather than risk-based, criteria for assessing the safety of pesticides. According to an impact assessment by the UK Pesticide Safety Directorate, up to 23% of all sprays could be banned.¹²⁸ The European Commission stated that the new criteria might lead to the withdrawal of “a limited number of active substances”, but “would not impose serious restrictions on food production in Europe”.¹²⁹ Professor Beddington, the Government’s Chief Scientific Adviser, commented that banning or reducing the use of pesticides because they are hazards, rather than doing a proper risk assessment, was not an evidence-based policy and was an abrogation of scientific responsibility. He also said that he had found it

124 European Parliament resolution, *The Common Agricultural Policy and Global Food Security*, December 2008, para 1

125 “Fischler urges EU to raise food output”, *Agra Europe*, 20 March 2009

126 Q 475

127 Q 486

128 “MEPs vote to ban key pesticides”, *Farm Brief*, 15 January 2009

129 Ev 208

difficult to engage in a discussion of the subject with other member states: “When the pesticide regulation [...] was starting to be discussed, Defra were obviously engaged, but there was no equivalent that I could talk to in member countries to say, ‘This looks very strange.’”¹³⁰ **It is beyond the scope of this inquiry to assess the impact of the new EU pesticides legislation on the security of food supplies. However, we note with concern that the Government’s Chief Scientific Adviser does not believe that it is an evidence-based policy. Defra should press for the EU to agree that future changes of this nature must not be approved by the Council of Ministers or the European Parliament until a full evidence-based evaluation of the proposals has been undertaken.**

Defra’s progress so far

80. It would be easy to assume that Defra has not done a very good job of providing clarity and leadership on food policy so far. This is a fair conclusion up to a point. Defra’s 2006 report, *Food Security and the UK: An Evidence and Analysis Paper*, which we discussed in chapter 2, was followed in July 2008 by a “discussion paper” entitled *Ensuring the UK’s Food Security in a Changing World*. The world had already changed quite a lot between 2006 and 2008, and Defra’s discussion paper is different in tone from its earlier report. Published at the height of the rise in food prices, the paper is less dismissive of the need to consider UK production than the 2006 report. However, it gives little sense of an overall change in approach to securing food supplies. Defra comments that *Ensuring the UK’s Food Security* is a consultation document and “so it does not have all the answers”.¹³¹ We accept this, but before long Defra will have to start supplying at least some of the answers.

81. At the same time as Defra published *Ensuring the UK’s Food Security*, the Cabinet Office Strategy Unit published *Food Matters: Towards a Strategy for the 21st Century*. In September 2007, the Prime Minister, Gordon Brown, commissioned the Strategy Unit to examine the Government’s approach to food policy. *Food Matters* summarised the project’s conclusions. It ended with an action plan, which set out which Departments were responsible for putting its recommendations into practice and the expected timescale for delivery. Among other responsibilities, Defra is given the lead for delivering a vision and strategy for food, with a target completion date of October 2009.

82. Since July 2008, there have been several opportunities to get some sense of what might be in Defra’s vision and strategy for food. One of these was Hilary Benn’s speech at the Oxford farming conference, in January 2009. He commented:

The best way for the UK to ensure its food security in the 21st century will be through strong, productive and sustainable British agriculture, and trading freely with other nations. And just so there is no doubt about this at all, let me say the following. I want British agriculture to produce as much food as possible. No ifs. No buts. And the only requirements should be, first, that consumers want what is produced and, second, that the way our food is grown both sustains our environment and safeguards our landscape.¹³²

130 Q 80

131 Defra, *Ensuring the UK’s Food Security in a Changing World*, July 2008, p 1

132 <http://www.defra.gov.uk/corporate/ministers/speeches/default.asp>

The emphasis of this statement is subtly but significantly different from a similar statement in Defra's July 2008 discussion paper:

One of the most important contributions the UK can make to global, and our own, food security is having a thriving and productive agriculture sector in the UK, operating in a global market and responding to what consumers want.¹³³

Hilary Benn's comments, with their focus on British agriculture producing as much food as possible, and on sustainability, seem to be moving closer to the approach to securing food supplies that we advocated in chapter 2. However, Professor Lang commented that, although Hilary Benn's speech was to be welcomed to some extent, "it was merely a speech; it was not co-ordinated policy driven by Defra to encourage the big corporate powerhouses, the supermarkets, the buyers to take the long-term investment to encourage farmers and growers to plan".¹³⁴

83. The Cabinet Office Strategy Unit's *Food Matters* report set out what it considered should be the Government's future strategic policy objectives for food: "to secure: fair prices, choice, access to food and food security through open and competitive markets; continuous improvement in the safety of food; a further transition to healthier diets; and a more environmentally sustainable food chain".¹³⁵ Domestic production is not mentioned at all in these policy objectives. If Defra is going to adopt as policy the approach outlined in the quote from Hilary Benn's Oxford farming conference speech, as we believe it should, it must consider modifying these strategic policy objectives to reflect the importance of UK food production.

84. Defra's task in providing a vision and strategy for food is complicated by the fact that it needs to act fast, but also to offer a long-term vision that reaches beyond the short-term political cycle. Governments, of all political persuasions, want to be re-elected. The interval between general elections is a maximum of five years. Securing food supplies is not about implementing a policy that will last for five years: it is about providing clear direction for the next 40 or 50 years, and some of the decisions that have to be taken may not be popular in the short term. As Sir Henry Aubrey-Fletcher, the President of the CLA, put it: "there are no votes in long-term work on food and environmental security".¹³⁶ When we put this point to Hilary Benn, he replied: "The more that we can build a consensus, frankly, about what needs to be done, the better chance the ebb and flow of the political cycle will not get in the way of carrying on with it afterwards".¹³⁷ We agree that there needs to be cross-party consensus on the approach to securing food supplies. Climate change policy provides an example of what can be achieved in this context. We were pleased to hear Hilary Benn's assurance that Defra was working with the devolved Administrations to achieve a "shared view of what a sustainable and secure food system is going to look like".¹³⁸

133 *Ensuring the UK's Food Security in a Changing World*, p 28

134 Q 9

135 *Food Matters*, p iii

136 Q 301

137 Q 534

138 Q 535

85. The vision and strategy for food, for which Defra was assigned responsibility in the Cabinet Office's *Food Matters* report, must provide a long-term framework for the UK food and farming industries. It should commit the UK to increasing production of those commodities which are best suited to being produced here, provided that this can be done in a sustainable way. Defra must recognise that calling for more domestic food production is one thing, but it cannot order that this be done. It must, however, lay out clearly what role it has in helping the UK food and farming industries to achieve this objective. The vision and strategy cannot be expected to supply all the answers, but it must supply clear direction and indicate what further work is needed and the deadline for its completion. Cross-party consensus on the vision and strategy is essential.

Assessing the risks

86. Melanie Leech, the President of the Food and Drink Federation, commented:

We are very good as an industry and as a food chain at managing known risk and short-term interruptions in supply as they occur. That is because we have invested a lot in being able to do that. I guess that what keeps a lot of my members awake at night and is much harder to plan for is the unknown risk. For some things we just do not know what the scenario will be.¹³⁹

Chatham House stated that one of the roles Defra could play to help secure a thriving UK food system would be to “provide a coherent risk management framework through which the short, medium and long term risks to food security can be monitored and managed”.¹⁴⁰ Hilary Benn told us that Defra is already undertaking “a very detailed piece of work looking at all of the potential threats to food security here in the UK, understanding their nature and what we can do about them”.¹⁴¹ He made it clear that this work covered all aspects of the food supply chain and all sorts of risk, including climate change, as well as short-term disruptions to the logistics of the supply chain, such as problems with fuel supply or the closure of ports.¹⁴² We were told that the results of this work were likely to be published “around the same time” as the vision and strategy for food—in autumn 2009.¹⁴³ **We welcome the fact that Defra is undertaking a comprehensive assessment of the risks to the security of the UK's food supplies. This work should be used as the basis for monitoring and managing risks, and should be regularly updated. Together with the vision and strategy for food, it should inform food policy decisions across all departments. It should also be used as a basis for contingency planning. The European Commission should undertake its own assessment of the risks to the security of food supplies in the EU.**

139 Q 250

140 Ev 45

141 Q 530

142 Q 531

143 Q 530

The structure for delivering food policy

87. The past year has seen the creation of several new groups for developing and delivering food policy. In July 2008, the Cabinet Office Strategy Unit's Food Matters report announced the creation of a Food Strategy Task Force to bring together senior officials from Defra, the then Department for Business, Enterprise and Regulatory Reform, the Treasury, the Department of Health, the Department for International Development, the Department for Children, Schools and Families, and the Food Standards Agency. The Task Force is intended to oversee and co-ordinate work on food issues across Government.¹⁴⁴ The British Retail Consortium (BRC) commented that, although the Task Force was still in its infancy, the BRC had “yet to see any positive outcomes” from it.¹⁴⁵

88. The BRC also mentioned the Cabinet Sub-Committee on Food. The Sub-Committee, which was established in autumn 2008, is chaired by Hilary Benn and is composed of the Secretaries of State from all the main departments whose work touches on food policy, including Communities and Local Government; Transport; and Children, Schools and Families. The Secretaries of State for Northern Ireland, Scotland, and Wales are also members. The Sub-Committee's terms of reference are: “To consider issues relating to food and to report as necessary to the Committee on Domestic Affairs”.¹⁴⁶

89. The BRC said of the Task Force and the Sub-Committee: “We feel these two groups should be capable of improving the co-ordination and prioritisation of food policy but they would benefit from input from the sector to identify problems and suggest how the Government could lend practical support.”¹⁴⁷ When we asked Lucy Neville-Rolfe, Executive Director at Tesco, to what extent Tesco—the world's third largest food retailer—felt involved in the new groups the Government had set up to consider food policy, she repeated several times that it was “early days”.¹⁴⁸ This response does not suggest that the food sector feels particularly engaged so far. **We believe that both the Food Strategy Task Force and the Cabinet Sub-Committee on Food could benefit from input from the food sector. They should set out how they intend to involve members of the sector in their deliberations.**

90. There is little publicly available information about the work of either the Task Force or the Cabinet Sub-Committee. In the case of the Sub-Committee this not surprising. Aside from the membership and terms of reference, information about Cabinet Committees is not routinely published and papers relating to Cabinet Committees are often classified as restricted.¹⁴⁹ However, the lack of information makes it difficult to assess the effectiveness of these groups.

91. In October 2008, the Government announced that it was establishing a Council of Food Policy Advisers, to exist for two years in the first instance, and to provide advice

144 *Food Matters*, p 112

145 Ev 379

146 <http://www.cabinetoffice.gov.uk/secretariats/committees/daf.aspx>

147 Ev 379

148 Q 235

149 Ev 251

directly to Hilary Benn. The Council has 16 members and so far has met every month throughout 2009. Its priorities are: to identify what a healthy sustainable diet is and how accessible and affordable it is, and to establish how to communicate the benefits of a healthy diet that has a low environmental impact.

92. Information about the work of the Council of Food Policy Advisers is freely available. The Council has a page on Defra’s website, with comprehensive details of its monthly discussions. Input from the food sector is not a problem in the same way either, because several of the Council’s members are directly involved in the industry. However, this creates difficulties of its own. Sainsbury’s expressed some concerns about the Council of Food Policy Advisers, commenting:

[G]iven that one of our main competitors is on the Council, we will have to evaluate how we interact with the group. DEFRA therefore needs to work out how it can encourage stakeholder participation in overall strategic policy, while recognising the competitive nature of the sector.¹⁵⁰

When we asked Defra about its engagement with stakeholders more generally, it told us: “Officials are currently conducting a review of relationships Defra has with its food sector stakeholders and the channels through which we engage. We will revise our approach in the light of this review.”¹⁵¹ **Defra should use its review of its relationships with the food sector to consider how it can encourage the wider food sector to interact with the Council of Food Policy Advisers.**

93. **We extend a cautious welcome to the new groups working on food policy. The composition of the Food Strategy Task Force and the Cabinet Sub-Committee on Food means that they have the potential to improve co-ordination across Government. However, the Task Force and the Sub-Committee must be used as a way of facilitating action, rather than a substitute for it. To this end, as much information as possible about the groups’ decisions and the work resulting from them should be published on the internet. The Government should make use of modern, IT-based solutions as a way of engaging with consumers and the food and farming industries. The Council of Food Policy Advisers is already setting a good example. The Task Force should aim to publish more information about its work and the Sub-Committee should consider whether it can disclose any, even very basic, information—if not about its work, then at least about any work set in train as a result of its deliberations.**

94. **Defra’s vision for the UK food and farming industries is still being formulated. We are encouraged by the signs that Defra has begun to recognise the importance of UK production, as well as trade, in securing food supplies. It is essential that it develops and articulates this vision. Clear leadership from Defra is crucial to the security of the UK’s food supplies because it will encourage the food and farming industries, and consumers, to respond in a co-ordinated way to the challenges posed by a growing global population, climate change, and increasingly scarce resources.**

150 Ev 431

151 Ev 238

4 Acting on the vision

Targets for production

95. We have explained that we believe that the UK should aim to produce more food, more sustainably and we have explored Defra’s responsibility for articulating this vision. In this chapter, we focus on how Defra should go about realising the vision and the challenges it will face as it does so. It could be argued that one way to increase the production of certain commodities would be for Defra to set targets. Defra could announce that it wanted the UK’s self sufficiency in apples to rise from the current 33% to 50%. Hilary Benn was sceptical about the target-setting approach:

To be honest, I do not know for the life of me how you would set a target for potato production in the UK, and what the policy would be if you did not meet the target I do not quite understand either.¹⁵²

Both these points are convincing arguments against production targets. It is certainly difficult to think of a logical rationale for setting the level of the targets. The idea that UK production should increase in line with the projections of global demand made at the FAO conference—increasing by 50% by 2030 and doubling by 2050—is not credible. Chatham House commented: “There is no economic or environmental rationale for government to set targets to raise UK output of particular food products (whether expressed in calories, kilos or dollars) in step with changes in global food demand.”¹⁵³ Nor is it clear what action the Government could take if the targets were not met, or how setting targets would in itself achieve an increase in production without a guaranteed buyer for the commodities. In theory, the Government could buy the surplus commodities and use them as food stocks, but this would be viable only for non-perishable commodities.

96. There are serious problems with targets, but there are also problems with leaving food production entirely to the market. Hilary Benn commented:

[I]f we were not as a world to make progress in producing more food for a growing population, one would expect that to be reflected in the price, and that would then have a consequence of bringing forward more production.¹⁵⁴

If demand increases and prices rise, the food and farming industries will certainly attempt to supply that demand. However, unless they have the capacity to respond to market signals they may not be able produce more food sufficiently quickly. When we asked Peter Kendall for the NFU’s definition of food security he replied: “It is not about setting targets for what we should produce, it is about having the tools and the instruments that allow us to meet our potential going forward.”¹⁵⁵

152 Q 536

153 Ev 46

154 Q 545 [Hilary Benn]

155 Q 330

97. Targets are a crude and, in most cases, impractical way of increasing food production. We see no point in Defra adopting production targets for particular commodities. Instead, Defra should concentrate on helping to build capacity within the food and farming industries so that they are well placed to respond to market signals. However, if the global or national situation with regard to food were to worsen significantly, and the market did fail to deliver supplies of certain food stuffs, the possibility that the Government may need to consider production targets, and Government-held stocks of particular commodities, should not be ruled out altogether.

The Common Agricultural Policy

98. In 1957, the Treaty of Rome set out five objectives for the Common Agricultural Policy:

- to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour;
- thus to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture;
- to stabilise markets;
- to assure the availability of supplies;
- to ensure that supplies reach consumers at reasonable prices.

99. Although these are nominally still the objectives of the CAP, in practice the policy has changed a great deal since its inception. There were reforms during the 1980s and 1990s and particularly far-reaching reforms in 2003, when the single payment scheme was introduced. This scheme broke the link between direct payments and production, although some production payments were retained. The next chance for substantial reform will be in 2013, when the budget for the CAP can be revised.

100. In December 2005, Defra and the Treasury published *A Vision for the Common Agricultural Policy*, which set out the Government's determination to eliminate direct payments to farmers altogether and to concentrate support on rural development and environmental protection. We drew attention to some of the weaknesses of this document in our report, *The UK Government's "Vision for the Common Agricultural Policy"*, which emphasised the lack of analysis that underpinned the Government's proposals. *A Vision for the Common Agricultural Policy* discussed the impact of the elimination of direct payments on food security. It stated that food security was "normally associated with developing countries where low production, unaffordable imports and distributional issues mean that food supplies are uncertain or even inadequate". It did note that "developed countries that can easily afford imports are also concerned about food security" and that concerns had been expressed that "reducing agricultural domestic support levels will result in a decrease in both domestic production and production capacity, and hence a further reliance on imports". However, it concluded that the impact of the proposed removal of direct payments on domestic production "may not be that significant" and that, in any event,

“although food security is often considered to be synonymous with self-sufficiency, domestic production is neither a necessary nor sufficient condition for food security”.¹⁵⁶

101. The 2008 Health Check gave member states an interim opportunity to make limited reforms to the CAP before the changes to the budget in 2013. In May 2008, a Defra press release stated:

The Health Check is an important step towards the Government’s longer term vision for the CAP, published in 2005, which calls for the end of all direct farm payments by 2015 to 2020, leaving the CAP targeted at the protection of the environment.¹⁵⁷

The Health Check negotiations took place at the height of the concern about food prices. A report in *The Daily Telegraph* underlines just how differently some member states reacted: “Britain argues that high food prices make subsidies for growing food even less necessary, while France is using precisely the same issue to argue the inverse—that the food crisis makes farm supports more vital than ever.”¹⁵⁸

102. In the event, the Health Check, which was agreed in November 2008, resulted in a further reduction in payments linked directly to production—a process known as decoupling—and shifted more money from direct payments to the rural development budget. In January 2009, the European Parliament’s resolution on *The Common Agricultural Policy and Global Food Security* stated that the CAP “should remain the cornerstone of EU food-security policy now and beyond 2013” but commented that the European Parliament believed strongly that “the CAP should be further adapted to meet food-security concerns”. The European Parliament stated that it was disappointed that the European Commission had not fully faced up to the challenge in its Health Check proposals. It also said that it was “opposed to the dismantling of market management measures and cuts in farmers’ support payments.”¹⁵⁹

103. Our witnesses did not share the French Government’s view that there should be a return to direct payments for production. Peter Kendall, the President of the NFU, said that there was a collective commitment to decoupling because “it stops us having false production”. He explained: “If I have to plant an acre of wheat to get my support, it means I carry on doing it regardless of what the market signal is.”¹⁶⁰ However, there was strong support for the retention of some form of direct payment to farmers. For Peter Kendall, it was partly about retaining capacity. He stated that decoupled payments enabled farmers to stand back from the market when the signals were not there, but retain the ability to respond quickly when they were: “I can probably crop the best half of my farm in those difficult years and when the price signals get better I have got the resources in place to go and farm the whole of the land.”¹⁶¹ Anastassios Haniotis of the European Commission agreed that retaining the capacity to produce was important: “what you have to guarantee

156 Defra and the Treasury, *A Vision for the Common Agricultural Policy*, December 2005, p. 47

157 <http://www.defra.gov.uk/news/media.htm>

158 “Battle looms over CAP Health Check”, *Daily Telegraph*, 20 May 2008

159 *The Common Agricultural Policy and Global Food Security*, paras 19-20

160 Q 329

161 Q 328 [Mr Kendall]

is the ability of land to be available for production [...] and that is why we consider that a certain level of income support should remain”.¹⁶² This is not an argument that holds much sway if one believes, as Defra argued in *A Vision for the Common Agricultural Policy*, that domestic production is not a necessary condition for food security. However, we believe that it is a necessary condition and, more to the point, Defra has recently placed increasing emphasis on the importance of retaining a domestic supply base. Defra should consider whether its stance on the elimination of all direct payments and its new position on the contribution made to food security by domestic production are reconcilable.

104. It was also argued that subsidies were a way of protecting producers from the higher environmental and welfare standards that the European Union imposed. Peter Kendall commented: “While [...] I can have my market distorted by different welfare and different environmental schemes, I need some sort of protection.”¹⁶³ Professor Allan Buckwell, Policy Director at the CLA, made a similar point, but approached the argument from a slightly different perspective. He stated that removing public support “is not an intelligent thing to do [...] until you have agreed how you are going to pay for the environmental services you want when you have got this more market-oriented agriculture”.¹⁶⁴ Anastassios Haniotis’s comments back up this point. He cited the findings of a study that examined different scenarios for European agriculture in 2020, one of which involved “the complete abolition of any type of public support for agriculture, from subsidies to tariffs”. He commented:

The results do not indicate a lower overall level of production; in fact in most sectors production would slightly increase, but what they indicate is more intensive production in some environmentally sensitive and vulnerable regions and land abandonment in what you can call least favoured areas or least competitive regions.¹⁶⁵

105. Direct payments result in the provision of environmental services because producers are required to meet certain requirements—known as cross-compliance conditions—in order to receive the payments. Willem Jan Laan, Director of Global External Affairs at Unilever, drew attention to a number of weaknesses in the cross-compliance system that needed to be addressed. He cited a report by the European Court of Auditors that concluded that the conditions should be simplified and clarified, and that Member States should be better at implementing them.¹⁶⁶ However, Professor Lang drew attention to another problem: the scope and nature of the cross-compliance conditions. He commented: “What we are not doing is linking environmental gains into food production. We are seeing the decoupled CAP as paying for environmental goods instead of paying for food to deliver those environmental goods.”¹⁶⁷ He wanted the CAP to evolve to become a Common Sustainable Food Policy.

162 Q 479

163 Q 328 [Mr Kendall]

164 Q 326

165 Q 474

166 Q 264. The report to which Mr Laan referred is available at:
<http://eca.europa.eu/portal/pls/portal/docs/1/2246310.PDF>

167 Q 38

106. We do not consider that the interests of food security would be served by a return to direct production subsidies under the CAP, although, again, if the global situation with regard to food supplies were to worsen significantly, the possibility of some form of direct production subsidy should not be excluded altogether. The CAP is a way of rewarding farmers for the provision of environmental services. However, the focus of the post-2013 CAP should be on sustainable food production, rather than land management by itself. Europe has a responsibility to contribute to global food supplies and the EU must ensure that European countries are in a position to respond to increased demand. We are disappointed that the Lisbon Treaty did not address the out-of-date nature of European agricultural obligations and reflect the increasing importance of sustainability. The principles of the new CAP should be reflected in future amendments of EU treaties.

Research and development

107. Professor Beddington, the Government's Chief Scientific Adviser, commented: "Science and technology has contributed greatly in the past to enhancing food security in the face of substantial increases in demand, and there is enormous potential for it to do so in the future."¹⁶⁸ As an example of the contribution science could make to securing food supplies, Professor Beddington cited a study into yields for wheat in the UK. He compared the current average yield of 7.74 tonnes per hectare with the theoretical yield potential of 19.2 tonnes per hectare and commented that although the yield that could be attained would realistically be much less, there were still "substantial gains to be made". He stated that by 2025 and 2050, the realistic yield potentials could be 11.4 tonnes per hectare and 13 tonnes per hectare respectively.¹⁶⁹ Science has a part to play not only in raising production and productivity, but in ensuring that it is possible to do so sustainably. Professor Beddington described matching nutrient supply and demand—to maximise crop production whilst minimising leaching to the environment—as "a key area where science can contribute". He stated that it has been estimated that, as a result of work by Rothamsted Research, surplus nitrogen applied to wheat crops was now less than a third of what it was 20 years ago.¹⁷⁰ Andrew Wood of Natural England commented that, at its best, the precision targeting of fertilisers meant that farmers could use less fertiliser and use it "in appropriate places so run-off is less and impacts are less."¹⁷¹

108. UK science was seen as important not only because of the role it could play in securing the UK's food supplies, but because of its potential to contribute to the security of food supplies in other parts of the world. Andrew Jarvis of Chatham House was one of several witnesses to emphasise the importance of "creating solutions" that could be used in "the wider world".¹⁷² Northern Foods drew attention to the benefits even simple solutions could bring:

168 Ev 20

169 Ev 22

170 Ev 23

171 Q 354

172 Q 101. See also Q 186 and Q 384

India is the leading producer of fruit and vegetables yet 40% of produce currently grown fails to reach the consumer because of a lack of preservation and distribution infrastructure. UK expertise can be employed far beyond national boundaries to help develop local solutions to global problems.¹⁷³

109. The relationship between Embrapa—the research agency of the Brazilian Ministry of Agriculture, Livestock and Food Supply—and Rothamsted Research in Harpenden in the UK is an example of positive international collaboration on food and farming research. It is also a sign of the high regard in which the UK’s research is held. Embrapa is developing a series of laboratories, which are known as Labexes, in other countries as a way of placing scientists at international centres of excellence so that they can monitor scientific advances, while building up links with other researchers. It recently set up a Labex at Rothamsted. This kind of relationship has the potential to make a significant contribution to global food security by facilitating the sharing of best practice and the latest discoveries.

110. There was some good news about the current state of food and farming research in the UK, although the positive comments were usually qualified in some way. The John Innes Centre commented:

The UK has a strong science base in both Universities and Research Institutes however research and development is urgently needed to improve our ability to exploit the full genetic potential of crops, and to develop R&D for improving the resilience of crop production to global climate change, while maintaining adequate production with reduced impact on the environment and reduced inputs.¹⁷⁴

Rothamsted Research stated:

In 1970, the then Agricultural Research Council supported a comprehensive network of over 20 sector-relevant research institutes which underpinned the agricultural industry. Today BBSRC has only four remaining institutes focused on agricultural and food science; these remaining institutions are however demonstrably internationally excellent in their respective spheres of operation.¹⁷⁵

111. The four remaining institutes mentioned above are Rothamsted Research and North Wyke Research; the Institute for Animal Health; the Institute of Food Research; and the John Innes Centre.¹⁷⁶ We have recently visited all four and have seen the strengths of UK research into food and farming for ourselves: we encountered dedicated, enthusiastic researchers, who were engaged in a range of valuable projects, such as the work the John Innes Centre is about to undertake to analyse plant, animal and microbial genomes, Rothamsted’s soil analysis project, and the Institute of Food Research’s work to minimise waste in the food chain. However, many of the scientists we spoke to had serious concerns about some aspects of UK food and farming research. Similar concerns were voiced repeatedly in the submissions we received and during the oral evidence sessions. They fell under three main headings: the size of the food and farming research budget; what the

173 Ev 288

174 Ev 354

175 Ev 58

176 Ev 396

budget is spent on; and what happens to the research once it has been carried out. We explore these concerns in more detail below.

112. UK scientific research is crucial to the security of food supplies. Without adequately structured, funded and focused research, the challenge of producing more food and producing it sustainably will not be met. Concentrating on developing a strong research base in the UK could also have a beneficial impact on global food security. The Government should encourage UK research institutes and universities to build more links with research centres that are working on food and farming worldwide, particularly in developing countries.

The research budget

113. Until very recently, central funding for research was channelled through the Department for Innovation, Universities and Skills (DIUS) in the form of the science budget. However, in June 2009, DIUS was merged with the Department for Business, Enterprise and Regulatory Reform to create a new Department for Business, Innovation and Skills, which will now be responsible for the science budget. Over 85% of the science budget goes to the seven Research Councils, which direct and fund research across the UK university sector and in research institutes. The Research Council most relevant to food and farming is the Biotechnology and Biological Sciences Research Council (BBSRC). The remaining 15% of the science budget is directed to the National Academies, capital funding and various other programmes. Defra also commissions its own research.

114. One of the main concerns was the decline in the budget for public-sector research into food and farming since the mid-1980s. Defra stated that it provided £68 million a year for food and farming research, including £39 million for animal health and welfare. It commented that the BBSRC provided £185 million and the Agriculture and Horticulture Development Board £20 million, and that industry and NGO contributions to LINK research—a subject to which we return—amounted to £6 million.¹⁷⁷ The NFU stated that, between 1986 and 1998, there had been a 45% real-terms cut in publicly funded agricultural science in the UK. It commented: “There is normally a 20 year lag between initial research and application, so the results of those cuts are now appearing.” It gave the example of European cereal annual yield improvements, which “were in the order of 4% in 1980s, 2% in the 1990s, and less than 1% currently”.¹⁷⁸ On Defra research in particular, Rothamsted Research told us that its funding from Defra had more than halved from £7.1 million in 2002-03 to £3.2 million in 2008-09.¹⁷⁹ There are some signs that the decline in spending that began during the 1980s is being reversed: Professor Beddington sent us a table that showed that the BBSRC’s spending on food research rose from £129 million in 2003-04 to £189 million in 2008-09. However, because BBSRC’s overall research budget went up, the proportion of spending on food research remained the same, at roughly 50%.¹⁸⁰

177 Ev 213

178 Ev 124

179 Ev 57

180 Ev 41

115. Despite the fact that the BBSRC is spending more money on food research now than it was five years ago, Professor Douglas Kell, the Chief Executive of the BBSRC, recently called for investment in agricultural sciences to increase by £100 million a year to improve the security of food supplies.¹⁸¹ In evidence to us, Professor Beddington also called for increased spending on “appropriate agricultural research”. He agreed that there had been a “significant decline” in agricultural research and added: “if you take out the animal welfare and animal health agenda, that decline is even greater”. He commented that this was “not the ideal time to be talking about major new investment”, but said that the matter was “sufficiently important” to warrant seeking an increase in spending.¹⁸² On Defra in particular, he commented that the decline in Defra’s research budget for food was unfortunate and should be reversed.¹⁸³

116. The public sector is not the only source of funding for food and farming research. The private sector also funds its own research. As part of the inquiry, we visited Syngenta’s Jealott’s Hill research centre, which is described as “the largest dedicated agricultural research centre in Europe”.¹⁸⁴ We were impressed by what we saw and heard, which included details of Syngenta’s work on a new fungicide. However, Anastassios Haniotis of the European Commission drew attention to the difference between public and private sector research:

Part of the problem is that the focus of private research is different than the focus of public research because the private research will take place exactly where the sector involved with the provision of inputs in agriculture sees more immediate possibility to get some profits. This is why they are in business. Public research tends to cover areas where the potential to reach a level where you make a new product profitable is much longer term [...].¹⁸⁵

We certainly do not believe that the entire food and farming research effort should be left to the public sector. However, we agree that there is a difference in focus between private and public sector research, and the former cannot be regarded as a replacement for the latter.

117. There are several new groups for food and farming research that could be used to make the case for increased public-sector investment. On 14 January 2009, Defra announced the creation of the Food and Environment Research Agency, which brings together Defra’s Central Science Laboratory, Plant Health Division, Plant Health and Seeds Inspectorate, and the Plant Variety Rights Office and Seeds Division as one agency. There is also the recently established Food Research Sub-Group of the Food Strategy Task Force, which brings together public sector funders of food-related research, including the Research Councils and the devolved Administrations, and which is chaired by Professor Beddington. The aims of the group are to take forward a cross-Government research strategy for food; to promote the co-ordination and coherence of food and agricultural

181 BBC news online, “Science cash ‘to beat food riots’”, 27 April 2009, <http://news.bbc.co.uk/1/hi/sci/tech/8020589.stm>

182 Q 57

183 Q 60

184 Ev 423

185 Q 501

research programmes and funding across departments and the wider public sector; to provide a forum where cross-government food research can be addressed, and to facilitate engagement with stakeholders. Allied to the Food Research Sub-Group, there is the Food Research Partnership, which brings together academics and senior representatives from the public sector, non-governmental organisations and industry, and aims to provide a forum for cross-sector dialogue.¹⁸⁶ These new groups are, in one sense, a welcome sign of the increased importance being attached to food and farming research, however it is essential that they produce results.

118. More money needs to be spent on public-sector food and farming research in the UK. The long-term nature of returns from research means that this money needs to be committed without delay. We urge Defra, the Government’s Chief Scientific Adviser, and the BBSRC to continue to make the case for increased investment in food and farming research, using new structures such as the Food Research Sub-Group to convey their arguments in a co-ordinated and coherent way.

The focus of the research

119. There was concern that the existing food and farming budget was not being spent on the “right” projects, which in this context means projects that will enhance the security of the UK’s and the world’s food supplies. There were two slightly different, although related, arguments. The first was concerned with the balance between basic and applied research. According to *The Frascati Manual: Proposed Standard Practice for Surveys on Research and Experimental Development*, which is published by the Organisation for Economic Co-operation and Development, basic and applied research are defined as follows:

Basic Research: Basic Research is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.

Applied Research: Applied Research is also original investigation in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective.¹⁸⁷

The submission from the Tenant Farmers Association was one of many that commented on the Government’s withdrawal from applied research and the importance of such research to addressing the UK’s future food needs.¹⁸⁸ When we asked Professor Beddington whether the public sector had got the right balance between “blue skies” research and practical research, he replied: “My instinct is that the balance is wrong, but it needs clearly to be examined and debated.”¹⁸⁹ He commented that it was the sort of matter that the Food Research Sub-Group could explore. Dr Donal Murphy-Bokern commented that there was a need to restore parity of esteem for applied research. He stated: “In the UK, a researcher who addresses questions of practical significance to wider society is usually regarded as less

¹⁸⁶ Further details about both these groups can be found at Ev 233

¹⁸⁷ Ev 41

¹⁸⁸ Ev 298. For similar points see Evs 388, 406, 420, 430.

¹⁸⁹ Q 73

able or less worthy of peer recognition than one who addresses research questions defined by him/herself or by scientific peers.”¹⁹⁰

120. The second argument was concerned specifically with Defra’s research priorities. Bill Clark of Rothamsted Research commented: “in the last five, ten years, Defra’s policies have not been about production and production-orientated research just was not done. As a result of that, we have lost the expertise.”¹⁹¹ This is another area where Hilary Benn’s statement about British agriculture producing as much food as possible needs to filter through into action. If Defra really does want UK agriculture to produce as much food as possible, it must ensure that the research it commissions reflects this. Dr Murphy-Bokern, who used to work at Defra and was involved in the development and management of its agricultural research programme between 1999 and 2007, drew our attention to the effect of changes that Defra had made to the management of its research in recent years. He explained that the task of setting research priorities had been increasingly handed over to policy teams within Defra and commented: “The direct coupling of research programmes with individual policies means that the flap of a butterfly’s wing in policy development or even just in the way policy is communicated by ministers can cause a storm in research prioritisation.”¹⁹² This is worrying given the long-term nature of the challenges involved in securing food supplies. **The focus of public sector food and farming research should be on increasing production sustainably and on realising benefits to the consumer and to the environment across the whole of the food chain. Defra should develop a long-term strategic research agenda, overseen by its Chief Scientific Adviser, rather than allowing its research priorities to be determined wholly or largely by policy teams. Such an approach must reflect both the potential of UK agriculture, and the threats it faces from pests, diseases and climate change.**

Research into genetically modified organisms

121. One area of research that elicited widely different views was genetic modification. On the one hand, Professor Beddington commented: “Proponents of GM who claim it is the only answer, I believe, are incorrect, but it may well be part of an answer to a number of very difficult problems”.¹⁹³ He emphasised that it was not a matter of thinking that GM technology was either “good or bad”, but a question of whether GM technology could solve the problem. He added: “If it can solve the problem, we need to be thinking about it.”¹⁹⁴ He agreed that one of the reasons for uncertainty about GM technology was that there was “some distrust of the large corporations that were involved in it”. This point was also made by Peter Kendall, the President of the NFU, who stated that if the Government was more involved in the GM debate “there might be less cynicism and less ability to say this is all about the private sector chasing short-term greed at the expense of the wider environment”.¹⁹⁵

190 Ev 473

191 Q 155

192 Ev 472

193 Q 71

194 Q 69

195 Q 339

122. At the other end of the spectrum from the views expressed about the potential benefits of GM technology, were the views of Anthony Jackson, who commented:

It is still amazing that after a quarter of a century of failure some people still seem to need to peddle the nonsense that GM crops can play any part in solving any of the problems that we have concerning food and farming.¹⁹⁶

The Soil Association also expressed strong opposition to GM technology, citing as reasons the technology's "inherent uncertainty" and "inherent risk".¹⁹⁷ When we asked Defra its views on GM technology, Hilary Benn commented that the Government was responsible for addressing two questions: "one, is food produced by GM safe to eat, and I know of no evidence that it is not, and, secondly, is it safe to 'grow', in other words what is the environmental impact of it?" He added that "in order to be able to answer the second question you need to be able to do trials" and said that it was "a source of real frustration to me and to others that there are some who do not want to allow us even to find the answer to the question".¹⁹⁸

123. We agree that there are risks and uncertainties involved in GM technology, but this seems like an argument for further research, rather than an argument for dismissing GM technology out of hand. **It is not within the scope of this report to offer a detailed assessment of the role of GM technology in securing food supplies up to 2050 and beyond. However, we believe that the potential of GM technology in the context of sustainable food production should be explored further. Defra has a role to play not only in commissioning some of the research, but in gaining public trust through the provision of comprehensible information, based on evidence. It should make an effort to "negotiate a ceasefire" on the destruction of GM crop trials so that more facts can be established.**

Translational services and research

124. One of the strongest concerns voiced during our visits to the research institutes was about the lack of services to translate the results of research into practice. Disquiet on this subject was also expressed during our oral evidence session with Rothamsted Research and Warwick HRI. Bill Clark of Rothamsted Research told the Committee that there was "world-class science going on in research centres in the UK which has impacts all around the world," but that it was "world-class science on the shelf" because of the lack of translational services designed to make practical use of it.¹⁹⁹ Professor David Pink of Warwick HRI commented: "You can carry out research but if you have not got those translational skills [...] there is a blockage in the pipeline".²⁰⁰ The NFU commented: "Whilst the UK farming industry benefits from a plethora of private sector consultants, it has lacked a single delivery vehicle for applied technology since the privatisation of ADAS

196 Ev 290

197 Q 454

198 Q 567 [Hilary Benn]

199 Q 143 [Mr Clark]

200 Q 142 [Mr Pink]

(Agricultural Development and Advisory Service) in the 1990s.”²⁰¹ Our visit to Brazil illustrated the importance of translational services. Embrapa, the Brazilian food and farming research agency, has a close relationship with both large and small-scale farmers, enabling them to benefit from its work. At Farm Pamplona, we were told that 50% of the seed varieties the farm purchases have been developed by Embrapa. If the farm has a specific problem, it asks Embrapa to work on a solution.

125. Hilary Benn commented: “we need to think creatively about how we can take the product of the research because in the end it will be whether it is applied on the ground [...] that will make the difference”.²⁰² Defra told us that one of the ways it provides translational services is through LINK projects. LINK funding falls under five headings: food (advanced manufacturing technologies and quality); horticulture; renewable materials; sustainable arable; and sustainable livestock production. It commented: “These programmes have been very successful in supporting projects that solve practical problems for these sectors.”²⁰³ Under standard LINK contracts, the Government provides 50% of the total project costs. The other 50% must be matched by industry. During the visit to the John Innes Centre, the Committee was told that it was hard for small companies to provide the level of funding that was needed to be involved in LINK projects. Professor Beddington praised the LINK programme, but commented:

Government should not be putting money in to solely benefit a large corporation which can actually match those funds. Getting a model where, in fact, you get a buy-in from smaller enterprises has got to be an aspiration for us.²⁰⁴

Defra told us: “Across Government, the Technology Strategy Board (TSB) is now responsible for collaborative R&D in support of innovation.” It commented that discussions were in progress with the TSB “on setting up, with other funders and industry interests, a sustainable agri-food chain ‘Innovation Platform’ to address future needs for innovation and translational research or technology transfer”.²⁰⁵ It is important that the new Innovation Platform considers how to involve even very small enterprises in its projects.

126. In addition to LINK, Defra mentioned several other translational services that it funds, including the Farming Futures communications project. Defra explained that Farming Futures uses fact sheets, case studies and workshops to provide advice to farmers on how to deal with the impact of climate change and reduce greenhouse gas emissions.²⁰⁶ This, and the other services Defra mentions, seem commendable, but the level of anxiety we encountered among the scientific community about the translation of research into practice suggests that, by themselves, Defra’s existing services are not sufficient. **It is essential that, once research has been carried out, its benefits can be realised by people working in the food and farming sectors. The extent to which this was identified as a**

201 Ev 124

202 Q 566 [Hilary Benn]

203 Ev 237

204 Q 65

205 Ev 327

206 As above.

failing in the present system is a serious cause for concern. In conjunction with the BBSRC, Defra should set out what more it intends to do to address this failing. There is a case for the reinstatement of a public-sector provider of advice on best practice, similar to the old ADAS system, to co-ordinate and build on existing translational services. It should act as an agricultural equivalent of Business Link.

Skills

127. Several submissions expressed concern about the erosion—or even disappearance—of particular skills connected with food. These concerns centred on farming and applied research. Rothamsted Research commented: “[T]he average age of farmers is in the late 50s, and that of researchers and advisers with expertise in production agriculture is similar. This resource of skills and knowledge will be lost unless appropriate policies and funding for succession are rapidly introduced.”²⁰⁷ It referred to “a crisis in succession in areas of applied research such as agronomy, soil science, weed science and plant pathology, with a complete absence of expertise in some areas.”²⁰⁸ Warwick HRI stated:

There are major weaknesses in the UK food supply chain associated with human resources. It is our view that there is likely to be a shortage of knowledge and expertise in the medium term in relation to skills associated with crop production and land management (the average age of UK farmers is estimated to be well over 50) and also in crop research and development (particularly in more applied areas such as soil science and agronomy).

It commented that recruitment of young career scientists was a “significant challenge” because plant and crop sciences were not attractive to students in comparison with other areas, such as biomedical sciences.²⁰⁹ It stated that the lack of students wanting to study crop and animal production had resulted in the closure of many of the UK’s agricultural colleges, with those that remained tending to specialise in non-food areas such as equine studies.²¹⁰

128. The John Innes Centre, which commented that there was “a serious lack of national expertise in some key skills”, stated:

Defra has a role in funding training at the masters and doctoral levels, to supply staff with advanced training in these areas to UK companies, to academic research and to research at the interface between the public and private sectors, such as pre-breeding and public-good plant breeding.²¹¹

It described the withdrawal of the studentship scheme run by the former Ministry of Agriculture, Fisheries and Food (MAFF) as “regrettable” and added: “It was anticipated that the gap in training of personnel in agricultural sciences would be met by Research

207 Ev 59

208 Ev 60

209 Evs 63-64

210 Ev 65

211 Ev 353

Council studentship but this expectation has largely not been met.”²¹² The University of Reading also praised the MAFF studentship scheme and called for Defra to resume it. The university commented: “Limited funding does remain, but is a fraction of that available previously.”²¹³ Professor Pink of Warwick HRI commented that, following the end of the MAFF studentship scheme, PhD studentships were now largely funded by the Research Councils and “have tended to move to more pure science types of PhDs”.²¹⁴

129. Defra is already aware of the need to tackle potential skills gaps in farming and applied agricultural research. On farming, it gave the example of its support for Fresh Start, an industry-led initiative that provides training and mentoring for new farmers. It also mentioned the Agri-Skills Forum, which was formed to establish a “skills agenda”. Defra seems to be playing a supporting role in these initiatives, with the lead coming from the farming industry, but, given that the industry is best placed to assess its own needs, this may be no bad thing.

130. On this aspect of agricultural research, Defra commented:

We have some concerns that expertise in agricultural sciences, and in specific technical areas (for example, soil science, weed science, “whole organism” biology, agricultural engineering), are not being replaced; universities are no longer teaching relevant courses, and long-term career prospects are limited.²¹⁵

However, its initial submission did not explain what action it planned to take as a result of its concerns. When we asked for further information about what Defra was doing to address the potential skills gap in specific areas of agricultural research, it referred us to an independent report it commissioned into the external scientific capabilities on which it draws to support its work. Defra commented: “The report is not a statement of Defra policy or intent, but we expect it to influence future planning and strategic evidence management.”²¹⁶ It also told us that, following the publication of the Royal Agricultural Society of England’s (RASE) report, *The Current Status of Soil and Water Management in England*, Defra, the Environment Agency and Natural England had agreed that they would co-fund a “gap analysis” of research needs in these areas.²¹⁷ **We emphasise the urgency of addressing the potential gaps in food and farming skills. We are particularly concerned about the applied sciences. We believe that there is already sufficient evidence for Defra to reintroduce a studentship scheme based on the scheme formerly run by MAFF, with the aim of encouraging more young people to acquire the skills that will help the UK and the world to produce more food, more sustainably. We recommend that Defra reintroduce such a scheme.**

212 Ev 356

213 Ev 316

214 Q 180 [Professor Pink]

215 Ev 213

216 Ev 237

217 Ev 238

The food chain

131. The British Retail Consortium commented: “Although the operation of the supply chain in the UK is largely a private sector issue, the Government can have a significant influence and impact on its operation.”²¹⁸ However, it added that, in order to play a role, “Defra needs to improve its understanding of how the UK supply chain operates, particularly beyond the farmgate.”²¹⁹ This point was also made in several other submissions. Sainsbury’s stated that, at times, Defra displayed “a fundamental lack of understanding about how UK supply chain operations work”.²²⁰ Melanie Leech, the President of the FDF, said that the FDF had “a very good level of dialogue with Defra”, but added: “My perception is that knowledge and understanding of the industry is diminished in Defra compared with the past.”²²¹ She also commented:

We see Defra officials every week and within my team every day, but what does it lead to? [...] The question is whether it makes any difference in terms of getting greater consistency across government and a better approach to regulation [...].²²²

Defra should set out how it plans to address the perceived weaknesses in its understanding of the food supply chain and what measures it intends to take to ensure that dialogue with the food industry leads to action. As a first step, it should arrange for more of its officials to undertake work placements in different sectors of the food and farming industries so that they can experience the problems, challenges and possibilities at first hand.

132. The BRC described the UK food system as “extremely robust”.²²³ It gave three reasons for this view, one of which was the strength of the food chain. It commented: “[R]etailers have improved the robustness of their chains through investment and working closely with their suppliers. [...] The supermarkets have long term relationships with the majority of their suppliers, which means they have grown their businesses together forming a strong partnership.”²²⁴ The NFU had a rather different view: it described one of the challenges faced by UK agriculture as “poor food chain relations”. It commented: “The best conditions for investment to increase production are long-term relations in the supply chain and relatively stable prices. Many sectors suffer from weak contractual relations, short-term attitudes, and price unpredictability leading to a lack of confidence and under-investment.”²²⁵

133. One of the main issues is price. The NFU cited the Competition Commission’s investigation into the grocery market and stated that, in the face of constant pressure from retailers and processors, farmers were finding it increasingly difficult to maintain

218 Ev 379

219 *As above.*

220 Ev 431

221 Q 246 [Ms Leech]

222 *As above.*

223 Ev 377

224 *As above.*

225 Ev 124

profitability “thereby reducing room to invest in greater efficiency and/or environmental improvements.”²²⁶ Lucy Neville-Rolfe, Executive Director at Tesco, stated that “a lot of people in this country need cheap food and therefore you have to work with the industry to try to ensure the food is available at a price that people can afford.”²²⁷ However, Monty Don, the President of the Soil Association, had a different approach. He commented: “If people cannot afford food why are we not subsidising their food in the same way as we subsidise their prescriptions or their housing? Why do governments not see healthy good food as a necessary part of a healthy good society rather than as a luxury?”²²⁸ **Food must be affordable to the consumer, but its prices must also make it worthwhile to produce in the first place. An agricultural system must be profitable to be healthy. Defra should initiate work to establish whether the different agricultural sectors are currently sufficiently profitable to enable them to invest, and therefore improve productivity in the long term.**

134. Defra saw its own role in supply chain relationships as, primarily, the provision of advice in the event of particular difficulties. It commented:

[W]e consider that it is for the supply chain to determine the optimal relationships that best add value. It is not for the Government to dictate what those relationships need to be unless there’s a demonstrable market failure or a public good that can only be delivered by intervening in the market.²²⁹

The Pig Meat Supply Chain Task Force, which Defra established in February 2009, following recommendations made in our report on *The English Pig Industry*, is an example of the kind of initiative that Defra can use to intervene in the supply chain. Defra commented that Pig Meat Supply Chain Task Force is intended “to identify not just how value and resilience can be added along the chain, but also how social goods (animal welfare) and citizen interests (the provision of information about pigmeat products) can be delivered too.”²³⁰ **Strong relationships in the food chain are an important element of securing food supplies over the long term. Defra should consider applying the principle of the Pig Meat Supply Chain Task Force to other sectors where necessary.**

135. The collapse of Dairy Farmers of Britain in June 2009 drew attention to another role for Defra. The milk co-operative had 1,800 members and accounted for 10% of UK milk production. The joint receivers, PricewaterhouseCoopers, were quoted in the *Financial Times* as saying that the co-operative “lost money in the liquids business because their efficiency wasn’t great and they were having trouble getting money from their customers, the retailers”. The same report stated: “Rival dairy companies declined to comment publicly on the group’s problems but claimed they were specific to Dairy Farmers and did not reflect broader industry problems.”²³¹ Members of the co-operative lost their savings and their payment for the milk they had supplied the previous month. The impact of the

226 Ev 124

227 Q 200

228 Q 428 [Mr Don]

229 Ev 238

230 *As above.*

231 “Dairy Farmers milk co-op goes sour”, *Financial Times*, 4 June 2009, p 20

collapse of Dairy Farmers of Britain on the UK's supplies of milk is not yet fully clear, but the collapse is a reminder of the extent to which long-term objectives for securing food supplies are dependent on a secure critical infrastructure. **Defra should monitor the supply chain infrastructure in the short-term to ensure that potentially damaging trends are identified and addressed before they affect the UK's abilities to secure its food supplies in the long term.**

5 Conclusion

136. Defra stands on the brink of an unparalleled opportunity to shape the UK's food and farming industries in a way that will contribute to the long-term security of domestic and global food supplies. It must not shy away from the task ahead of it. What is needed above all is clear leadership to enable people to invest and plan for the future. Following the loss of most of its climate change responsibilities to the Department for Energy and Climate Change, Defra now has a chance to refocus its attention and energies on food at a time when the importance of a new approach to food production is becoming increasingly apparent. This does not mean that Defra should neglect its environmental responsibilities: we want the UK to produce more food, but it must do so sustainably and in response to consumer demand. The advantage of a Department that oversees both the environment and food is that it is well placed to champion sustainable, increased production.

137. As well as providing clear leadership, Defra must tackle the existing weaknesses in the UK food system that will otherwise prevent it from achieving its long-term objective of securing food supplies. The most significant of these weaknesses relate to research and development, and the connected issue of skills. However, there is also an urgent need to engage more imaginatively with consumers, to encourage them to think about the consequences of the way in which their food is produced and what they eat, to enable them to make informed choices. Engaging with the next generation of consumers is particularly important. These are cross-departmental issues, and Defra will need to become a champion for food within Government. **We are broadly satisfied that Defra is beginning to move in the right direction. However, there is a great deal still to do. The scale and importance of the challenge is such that we recommend that Defra publish a supplement to its Departmental Annual Report, detailing what it is doing to ensure the long-term security of the UK's food supplies, both through trade and domestic production.**

138. **Securing food supplies is a vast subject and there are many aspects that we have not been able to cover in this report. We regard this as the first in a series of food-related inquiries to be undertaken by this Committee. It is likely that our subsequent work will focus on some of the solutions to the challenges we have outlined. We would welcome feedback and suggestions for future work. We propose to hold a public discussion to enable people to respond to the report and to the Government's reply, and to shape the direction of future inquiries on this subject.**

Conclusions and recommendations

The projections made at the FAO food security conference

1. At the World Food Security Conference in Rome, it was announced that there was a need to increase food production by 50% by 2030 and double it by 2050. These figures are based on assumptions about population growth and patterns of consumption. It is important to bear in mind that they are projections rather than targets. They are a useful way of focusing attention on food production. However, they should also be used to draw attention to population growth, diet, and waste at all stage of the food chain, and the need for policy responses in these areas. (Paragraph 22)
2. More work is needed on future patterns of consumption. Doubling production by 2050 may focus the minds of policymakers, but, by itself, it is too broad a projection on which to base a response. We recommend that the Foresight Project on Global Food and Farming Futures, which is due to report in October 2010, provide a clear and accessible breakdown of this projection, encompassing where and at what rate the population increases are likely to take place, and how demand is likely to change. It should indicate the implications of these factors for world production of different food commodities. Defra should determine how it will monitor global food production and demand trends in order further to refine the projections in the future. (Paragraph 23)

Sustainability

3. Producing sufficient food is only part of the challenge the world faces, the implications of the way in which it is produced are equally important. The only acceptable form of food production is that which meets the needs of the present without compromising the ability of future generations to meet their needs. Applying this principle to food production requires a fundamental shift in thinking and an open-minded approach to embracing solutions from across the spectrum of production methods. (Paragraph 31)

The head-in-the-sand approach

4. It is clear that maximising food production does not depend on agriculture alone but also on infrastructure-transport systems, as well as food storage. (Paragraph 41)
5. Doing nothing to contribute to the world's food supplies would be morally unacceptable: at a time when a fundamental shift in thinking is required, the UK should set an example, not bury its head in the sand. Land-rich countries such as Brazil have great potential to boost global food supplies, but neither their ability to realise this potential, nor a well-functioning global market, can be taken for granted. A healthy domestic agriculture is an essential component of a secure food system in the UK. (Paragraph 47)

The self-sufficient approach

6. The Commission should investigate further what means would be at its disposal in the unlikely event of a breakdown of the single market. However, the fact that trading relationships are fragile is an argument in favour of spreading the risk by having relationships with multiple countries, working to build strong relationships, and having contingency plans, not an argument in favour of self-sufficiency. (Paragraph 51)
7. The UK should not aim to be self-sufficient, even in indigenous food stuffs. Total self-sufficiency would make the UK's food supplies less secure rather than more secure. (Paragraph 52)

Food colonialism or "land-grabbing"

8. We welcome the recent report by the UN Food and Agriculture Organisation, the International Fund for Agricultural Development, and the International Institute for Environment and Development on the large-scale acquisition of farmland in sub-Saharan Africa by overseas investors. It is a first step towards exploring the implications of this global trend. We urge the bodies involved to continue their work on the phenomenon, with the aim of providing an accurate picture of the extent of the trend and of developing a set of international guidelines that include provisions for local producers, property rights, sustainable management and transparent rules. We note the involvement of Dfid in the initial study and urge it to continue to provide input to subsequent studies. Defra should report on the implications of the trend for UK food security. (Paragraph 56)

The sustainable production approach

9. Defra should commission research to establish the reasons for the relatively low level of domestic fruit and vegetable production. This should include a study of the procurement practices of supermarkets, food manufacturers and the food service industry to establish how these practices impact on the problem. Defra's new Council of Food Policy Advisers should consider how the barriers to increased domestic fruit and vegetable production could be removed. (Paragraph 59)
10. Defra should produce its own estimate of the amount by which consumption of fruit and vegetables would rise if people in the UK followed the Government's five-a-day guidelines. (Paragraph 60)
11. There is a big difference between aiming to be self-sufficient and aiming to increase production of certain commodities. The UK should aim to increase its production of those fruit and vegetables that are suited to being grown here, particularly where there is evidence of an increase in demand. It should also explore the potential for an increase in cereal production. However, again, we emphasise that it is essential that this increase in production is carried out sustainably. (Paragraph 61)

Meat and dairy production

12. UK consumers buying meat and dairy products should be encouraged to consider the environmental, as well as the health, impacts of their choices. To enable consumers to make informed decisions, Defra needs to do more work on what are the most sustainable methods of livestock production, and the balance to be struck between animal welfare, biodiversity, greenhouse gas emissions, and the need to conserve inputs such as water. (Paragraph 65)

Fish

13. The marine environment is an important source of food. However, the current state of many fish stocks is a serious cause for concern. Defra, the Department of Health and the Food Standard Agency should consider the wisdom of continuing to advise consumers to eat at least two portions of fish a week at a time when the ability of the marine environment to meet this demand is questionable. The fishing industry and the Government have a duty to encourage consumers to try sustainable, less well-known types of fish and shellfish. Defra and the devolved Administrations should produce a study evaluating the potential of sustainable aquaculture off the shores of the UK. (Paragraph 68)

The environmental impact of increased population

14. Defra should produce a study setting out the volume of particular commodities that the UK would be capable of producing under different scenarios and the impact that this production would have on the environment. This study into “The UK’s Agricultural Potential” should include work on the most sustainable methods of both arable and livestock production. (Paragraph 70)

Local and home production

15. We welcome the increasing enthusiasm among consumers for buying food that is local to a particular area of the UK, and also for growing their own food. In terms of overall production, these trends are a small contribution to a huge challenge, but they are a way of reconnecting people with food production and have an important part to play in encouraging the sort of changes in consumer behaviour that will be necessary for a sustainable system of food production. The role of local and home production, and of educating children about food, should be incorporated in Defra’s vision and strategy for food. When it has been established that there is an unmet demand for allotments in a local authority area, the Government should require the local authority to publish, within three years, a plan setting out how it proposes to meet the demand. (Paragraph 74)

The role of Defra

16. Defra’s approach to the security of food supplies must take place in the context of the European Union. However, we believe that there is still scope for Defra to develop its own food policy and that the clearer this policy and the stronger Defra’s leadership,

the more chance the UK has of shaping the direction of any emerging EU policy on this issue. (Paragraph 78)

17. It is beyond the scope of this inquiry to assess the impact of the new EU pesticides legislation on the security of food supplies. However, we note with concern that the Government's Chief Scientific Adviser does not believe that it is an evidence-based policy. Defra should press for the EU to agree that future changes of this nature must not be approved by the Council of Ministers or the European Parliament until a full evidence-based evaluation of the proposals has been undertaken. (Paragraph 79)

Defra's progress so far

18. The vision and strategy for food, for which Defra was assigned responsibility in the Cabinet Office's *Food Matters* report, must provide a long-term framework for the UK food and farming industries. It should commit the UK to increasing production of those commodities which are best suited to being produced here, provided that this can be done in a sustainable way. Defra must recognise that calling for more domestic food production is one thing, but it cannot order that this be done. It must, however, lay out clearly what role it has in helping the UK food and farming industries to achieve this objective. The vision and strategy cannot be expected to supply all the answers, but it must supply clear direction and indicate what further work is needed and the deadline for its completion. Cross-party consensus on the vision and strategy is essential. (Paragraph 85)

Assessing the risks

19. We welcome the fact that Defra is undertaking a comprehensive assessment of the risks to the security of the UK's food supplies. This work should be used as the basis for monitoring and managing risks, and should be regularly updated. Together with the vision and strategy for food, it should inform food policy decisions across all departments. It should also be used as a basis for contingency planning. The European Commission should undertake its own assessment of the risks to the security of food supplies in the EU. (Paragraph 86)

The structure for delivering food policy

20. We believe that both the Food Strategy Task Force and the Cabinet Sub-Committee on Food could benefit from input from the food sector. They should set out how they intend to involve members of the sector in their deliberations. (Paragraph 89)
21. Defra should use its review of its relationships with the food sector to consider how it can encourage the wider food sector to interact with the Council of Food Policy Advisers. (Paragraph 92)
22. We extend a cautious welcome to the new groups working on food policy. The composition of the Food Strategy Task Force and the Cabinet Sub-Committee on Food means that they have the potential to improve co-ordination across Government. However, the Task Force and the Sub-Committee must be used as a way of facilitating action, rather than a substitute for it. To this end, as much

information as possible about the groups' decisions and the work resulting from them should be published on the internet. The Government should make use of modern, IT-based solutions as a way of engaging with consumers and the food and farming industries. The Council of Food Policy Advisers is already setting a good example. The Task Force should aim to publish more information about its work and the Sub-Committee should consider whether it can disclose any, even very basic, information—if not about its work, then at least about any work set in train as a result of its deliberations. (Paragraph 93)

23. Defra's vision for the UK food and farming industries is still being formulated. We are encouraged by the signs that Defra has begun to recognise the importance of UK production, as well as trade, in securing food supplies. It is essential that it develops and articulates this vision. Clear leadership from Defra is crucial to the security of the UK's food supplies because it will encourage the food and farming industries, and consumers, to respond in a co-ordinated way to the challenges posed by a growing global population, climate change, and increasingly scarce resources. (Paragraph 94)

Targets for production

24. Targets are a crude and, in most cases, impractical way of increasing food production. We see no point in Defra adopting production targets for particular commodities. Instead, Defra should concentrate on helping to build capacity within the food and farming industries so that they are well placed to respond to market signals. However, if the global or national situation with regard to food were to worsen significantly, and the market did fail to deliver supplies of certain food stuffs, the possibility that the Government may need to consider production targets, and Government-held stocks of particular commodities, should not be ruled out altogether. (Paragraph 97)

The Common Agricultural Policy

25. We do not consider that the interests of food security would be served by a return to direct production subsidies under the CAP, although, again, if the global situation with regard to food supplies were to worsen significantly, the possibility of some form of direct production subsidy should not be excluded altogether. The CAP is a way of rewarding farmers for the provision of environmental services. However, the focus of the post-2013 CAP should be on sustainable food production, rather than land management by itself. Europe has a responsibility to contribute to global food supplies and the EU must ensure that European countries are in a position to respond to increased demand. We are disappointed that the Lisbon Treaty did not address the out-of-date nature of European agricultural obligations and reflect the increasing importance of sustainability. The principles of the new CAP should be reflected in future amendments of EU treaties. (Paragraph 106)

Research and development

26. UK scientific research is crucial to the security of food supplies. Without adequately structured, funded and focused research, the challenge of producing more food and

producing it sustainably will not be met. Concentrating on developing a strong research base in the UK could also have a beneficial impact on global food security. The Government should encourage UK research institutes and universities to build more links with research centres that are working on food and farming worldwide, particularly in developing countries. (Paragraph 112)

The research budget

27. More money needs to be spent on public-sector food and farming research in the UK. The long-term nature of returns from research means that this money needs to be committed without delay. We urge Defra, the Government's Chief Scientific Adviser, and the BBSRC to continue to make the case for increased investment in food and farming research, using new structures such as the Food Research Sub-Group to convey their arguments in a co-ordinated and coherent way. (Paragraph 118)

The focus of the research

28. The focus of public sector food and farming research should be on increasing production sustainably and on realising benefits to the consumer and to the environment across the whole of the food chain. Defra should develop a long-term strategic research agenda, overseen by its Chief Scientific Adviser, rather than allowing its research priorities to be determined wholly or largely by policy teams. Such an approach must reflect both the potential of UK agriculture, and the threats it faces from pests, diseases and climate change. (Paragraph 120)
29. It is not within the scope of this report to offer a detailed assessment of the role of GM technology in securing food supplies up to 2050 and beyond. However, we believe that the potential of GM technology in the context of sustainable food production should be explored further. Defra has a role to play not only in commissioning some of the research, but in gaining public trust through the provision of comprehensible information, based on evidence. It should make an effort to "negotiate a ceasefire" on the destruction of GM crop trials so that more facts can be established. (Paragraph 123)

Translational services and research

30. It is essential that, once research has been carried out, its benefits can be realised by people working in the food and farming sectors. The extent to which this was identified as a failing in the present system is a serious cause for concern. In conjunction with the BBSRC, Defra should set out what more it intends to do to address this failing. There is a case for the reinstatement of a public-sector provider of advice on best practice, similar to the old ADAS system, to co-ordinate and build on existing translational services. It should act as an agricultural equivalent of Business Link. (Paragraph 126)

Skills

31. We emphasise the urgency of addressing the potential gaps in food and farming skills. We are particularly concerned about the applied sciences. We believe that there is already sufficient evidence for Defra to reintroduce a studentship scheme based on the scheme formerly run by MAFF, with the aim of encouraging more young people to acquire the skills that will help the UK and the world to produce more food, more sustainably. We recommend that Defra reintroduce such a scheme. (Paragraph 130)

The food chain

32. Defra should set out how it plans to address the perceived weaknesses in its understanding of the food supply chain and what measures it intends to take to ensure that dialogue with the food industry leads to action. As a first step, it should arrange for more of its officials to undertake work placements in different sectors of the food and farming industries so that they can experience the problems, challenges and possibilities at first hand. (Paragraph 131)
33. Food must be affordable to the consumer, but its prices must also make it worthwhile to produce in the first place. An agricultural system must be profitable to be healthy. Defra should initiate work to establish whether the different agricultural sectors are currently sufficiently profitable to enable them to invest, and therefore improve productivity in the long term. (Paragraph 133)
34. Strong relationships in the food chain are an important element of securing food supplies over the long term. Defra should consider applying the principle of the Pig Meat Supply Chain Task Force to other sectors where necessary. (Paragraph 134)
35. Defra should monitor the supply chain infrastructure in the short-term to ensure that potentially damaging trends are identified and addressed before they affect the UK's abilities to secure its food supplies in the long term. (Paragraph 135)

Conclusion

36. We are broadly satisfied that Defra is beginning to move in the right direction. However, there is a great deal still to do. The scale and importance of the challenge is such that we recommend that Defra publish a supplement to its Departmental Annual Report, detailing what it is doing to ensure the long-term security of the UK's food supplies, both through trade and domestic production. (Paragraph 137)
37. Securing food supplies is a vast subject and there are many aspects that we have not been able to cover in this report. We regard this as the first in a series of food-related inquiries to be undertaken by this Committee. It is likely that our subsequent work will focus on some of the solutions to the challenges we have outlined. We would welcome feedback and suggestions for future work. We propose to hold a public discussion to enable people to respond to the report and to the Government's reply, and to shape the direction of future inquiries on this subject. (Paragraph 138)

Appendix 1

Terms of reference

- How robust is the current UK food system? What are its main strengths and weaknesses?
- How well placed is the UK to make the most of its opportunities in responding to the challenge of increasing global food production by 50% by 2030 and doubling it by 2050, while ensuring that such production is sustainable?
- In particular, what are the challenges the UK faces in relation to the following aspects of the supply side of the food system:
 - soil quality
 - water availability
 - the marine environment
 - the science base
 - the provision of training
 - trade barriers
 - the way in which land is farmed and managed
- What trends are likely to emerge on the demand side of the food system in the UK, in terms of consumer taste and habits, and what will be their main effect? What use could be made of local food networks?
- What role should Defra play both in ensuring that the strengths of the UK food system are maintained and in addressing the weaknesses that have been identified? What leadership and assistance should Defra provide to the food industry?
- How well does Defra engage with other relevant departments across Government, and with European and international bodies, on food policy and the regulatory framework for the food supply chain? Is there a coherent cross-Government food strategy?
- What criteria should Defra use to monitor how well the UK is doing in responding to the challenge of doubling global food production by 2050 while ensuring that such production is sustainable?

Formal Minutes

Monday 13 July 2009

Members present:

Mr Michael Jack, in the Chair

David Lepper
Mr Dan Rogerson

David Taylor

Draft Report (Securing food supplies up to 2050: the challenges faced by the UK), proposed by the Chairman, brought up and read.

Ordered, That the draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 138 read and agreed to.

Summary agreed to.

Resolved, That the Report be the Fourth Report of the Committee to the House.

Ordered, That the Chairman do make the Report to the House.

Ordered, That embargoed copies of the Report be made available, in accordance with the provisions of Standing Order No.134.

Written evidence was ordered to be reported to the House for printing with the Report.

[Adjourned till Wednesday 15 July at 2.30 p.m.]

Witnesses

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Professor Tim Lang , Professor of Food Policy, City University, Mr Chris Brown , Head of Sustainable and Ethical Sourcing, ASDA, Mr Peter Kendall , President of the National Farmers' Union and Ms Jenny Linford , food writer and member of the Guild of Food Writers, Mr Jan McCourt , Owner of Northfield Farm, Ms Hannah Devlin , Research Fortnight, Ms Annette Pinner , Vegetarian Society, Mr Johann Tasker , Farmers Weekly and Ms Clare Oxborrow , Friends of the Earth	Ev 1
Wednesday 28 January 2009	
Professor Tim Lang , Professor of Food Policy, City University	Ev 12
Professor John Beddington , Government Chief Scientific Adviser	Ev 26
Wednesday 4 February 2009	
Mr Andrew Jarvis and Ms Kate Bailey , Chatham House food supply project	Ev 47
Professor Ian Crute , Director and Mr Bill Clark , Rothamsted Research; Professor David Pink and Professor Brian Thomas , Warwick HRI	Ev 66
Wednesday 25 February 2009	
Ms Lucy Neville-Rolfe , Executive Director, Tesco	Ev 81
Ms Melanie Leech , Director General and Mr Andrew Kuyk , Director of Sustainability and Competitiveness, The Food and Drink Federation, Mr Willem-Jan Laan , Director, Global External Affairs, Unilever	Ev 101
Wednesday 4 March 2009	
Mr Barrie Deas , Chief Executive, National Federation of Fishermen's Organisations	Ev 114
Mr Henry Aubrey-Fletcher , President and Professor Allan Buckwell , Policy Director, Country Land and Business Association; Mr Peter Kendall , President and Mr Tom Hind , Head of Economics and International Affairs, National Farmers' Union	Ev 126
Wednesday 18 March 2009	
Mr Andrew Wood , Executive director, Evidence and Policy, Natural England	Ev 149
Monday 30 March 2009	
Mr Monty Don , President, Mr Robin Maynard , Campaigns Director and Mr Peter Melchett , Policy Director, The Soil Association	Ev 173
Wednesday 1 April 2009	
Mr Anastassios Hanitotis , Head of Unit, Agricultural Policy Analysis and Perspectives, Directorate-General for Agriculture and Rural Development, European Commission	Ev 194
Thursday 7 May 2009	
Rt Hon Hilary Benn MP , Secretary of State for Environment, Food and Rural Affairs, Professor Bob Watson , Chief Scientific Advisor, Ms Susanna May , Deputy Director, Food Security and Prices Project, Department for Environment, Food and Rural Affairs	Ev 216

List of written evidence

Agricultural Biotechnology Council	Ev 369
Agricultural Industries Confederation	Ev 341
Association of Convenience Stores	Ev 348
Association of Public Analysts	Ev 455
Professor John Beddington, Government's Chief Scientific Advisor	Evs 20, 38, 41
Biodynamic Agricultural Association	Ev 300
Biotechnology and Biological Sciences Research Council	Ev 394
British Association for Shooting and Conservation	Ev 286
British Pig Executive and English Beef and Lamb Executive	Ev 324
British Retail Consortium	Ev 376
British Veterinary Association	Ev 311
Richard Bruce	Ev 294
Campaign to Protect Rural England	Ev 410
Chatham House	Evs 43, 55
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Country, Land and Business Association	Ev 118
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The Fresh Produce Consortium	Ev 403
Friends of the Earth	Ev 441
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