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Environmental Audit
Committee

Sustainable Food

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The Environmental Audit Committee

The Environmental Audit Committee is appointed by the House of Commons to consider to what extent the policies and programmes of government departments and non-departmental public bodies contribute to environmental protection and sustainable development; to audit their performance against such targets as may be set for them by Her Majesty's Ministers; and to report thereon to the House.

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The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the internet at www.parliament.uk/eacom. A list of Reports of the Committee in the present Parliament is at the back of this volume.

The Reports of the Committee, the formal minutes relating to that report, oral evidence taken and some or all written evidence are available in a printed volume.

Additional written evidence may be published on the internet only.

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Summary

The world needs to feed a growing global population in a less damaging and more sustainable way. That applies in a UK context as well as globally. The Government's approach appears to be focussed on the concept of 'sustainable intensification'. Intensifying production risks damaging the environment and society. The Government needs to make sure this does not happen.

The Government does not yet have a strategy that unifies policy areas that impact on food production, supply and demand in a way that drives the system as a whole towards greater sustainability. The Government's Green Food Project could provide part of the answer, but is not covering all aspects of sustainability and risks delivering a food policy which focuses too much on increasing yields at the expense of delivering a more fair and a more equitable food system. It could be used, nevertheless, as a foundation for the joined-up cross-departmental food strategy which is required to deliver a food system in the UK that is sustainable and takes account of people's health and the needs of their communities, as well as the environment. In particular, that food strategy must:

- Provide producers (including local and small producers) with fair access to markets, and customers with access to healthy and less environmentally impacting foods (including local food networks);
- Provide consumers with the knowledge and information they need to make informed choices about food that is better for their health and the environment and reduces waste; and
- Deliver research in the priority areas which we have identified, to improve and develop existing agricultural, food processing and distribution practices with fewer environmental impacts.

1 The Sustainable Food Problem

1. It is becoming increasingly difficult to feed the global population. In January 2011, the Government's Foresight programme reported on *The Future of Food and Farming: Challenges and choices for global sustainability*. It concluded that the global food system would experience unprecedented pressures over the next 40 years.¹ On the demand side, it reported that the global population would increase from nearly seven billion today to eight billion by 2030, and probably to over nine billion by 2050. Many people are likely to be wealthier, creating demand for a more varied, high-quality diet requiring additional resources to produce. On the supply side, competition for land, water and energy will intensify, while the effects of climate change will become increasingly apparent. The need to reduce greenhouse gas emissions and adapt to a changing climate will be imperative. The report warned that without changes in farming practice, the global food system would continue to degrade the environment and compromise the world's capacity to produce food in the future, as well as contributing to climate change and diminishing biodiversity.

2. The Foresight report set out how the global food system was failing in two ways. First, it was using resources much faster than they were being replenished. Much agricultural activity had degraded land, and agriculture currently consumed 70% of total global water withdrawals from rivers and aquifers, many of which were over-exploited.² Second, the food system was failing to end hunger — there were still nearly a billion hungry people and another one billion people suffering from 'hidden hunger' or malnutrition.³ In recent years progress on hunger had stalled and there was now little chance that we could meet the Millennium Development Goals hunger targets.

3. The impacts of food production in the UK environment are well understood. The last Government's *Food 2030* strategy, published in January 2010, noted that:⁴

- Soil erosion in England was estimated to cost agriculture £45 million a year, and might incur further costs by reducing water quality and increasing flood risk when that soil entered our rivers.
- Although agriculture used only 1% of our water resources, this masked significant seasonal and regional differences. And the food system overall was a major water user, taking 10% of all industrial abstractions and another 10% of total industrial water taken from the public supply.
- Over 60% of nitrates, up to 40% of phosphorus and the majority of silt in UK waterways was due to agriculture.

The challenge of reducing these environmental impacts of food production must be undertaken in the context of a changing climate. Agriculture will have to adapt to increasingly variable and unpredictable growing conditions including increased incidence

1 Government Office for Science, Foresight, *The Future of Food and Farming*, 2011, p 9.

2 *Ibid.*

3 *Ibid.*

4 Defra, *Food 2030*, 2010.

of floods and droughts, increased temperatures, and different patterns in the occurrence of weeds, pests, and diseases.⁵ In addition, agriculture will have to reduce emissions as part of efforts to mitigate climate change. This might require farmers and other food producers to re-acquire lost skills, from traditional agronomy and husbandry, and to understand the environmental impact of agricultural and fisheries production on the wider market economy.⁶

4. The greenhouse gas footprint of the UK food chain was 160mtCO₂e in 2006, an estimated 22% of emissions from UK economic activity.⁷ Primary food production in the UK accounts for a third of the overall UK food chain's carbon footprint.⁸ Collectively, the industries which process, manufacture, distribute and sell food account for a further third. Consumers are responsible for the remaining third, including embedded emissions in imported products.⁹ WWF has calculated that total food related emissions (including the impacts of land use changes and emissions embedded in imported goods) makes up 20% of the UK's greenhouse gas footprint from consumed goods and services.¹⁰ The Committee on Climate Change published its third progress report on meeting the UK Carbon Budgets in June 2011. This reported that agricultural emissions fell by around 1% in 2009 and that this was broadly consistent with the rate of emission reductions required over the next decade.¹¹ However, they also concluded that new policies would be required to maintain this reduction.¹² Latest statistics suggest that the downward trend has not been maintained, and that emissions from agriculture may now be increasing.¹³ The Foresight *Future of Food and Farming* report found that the domestic sector impacts on the environment from food consumption were larger than manufacturing and retail sector impacts combined, and that waste — whether of water, energy or food itself — remained the largest single issue across the whole supply chain.¹⁴ The Food and Drink Federation have argued that the biggest environmental impacts occur in the home (how food is stored, prepared, and cooked and waste disposed of) and on the farm.¹⁵

5. Agriculture will have an increasingly important role to play in supplying renewable energy. The Committee on Climate Change concluded that it would be difficult to meet the overall 2050 emissions target unless bioenergy (including energy from crops, forestry and agricultural residues, and waste) accounted for around 10% of total UK primary energy (compared to the current 2%).¹⁶ They believed this was possible. However, they recognised that it might involve trade-offs against other desirable environmental and social objectives,

5 Government Office for Science, Foresight, *The Future of Food and Farming*, 2011.

6 *Ibid.*

7 Ev 106

8 Defra, *Food 2030*, 2010.

9 Ev 106

10 WWF, *How Low Can We Go? 2009*.

11 Committee on Climate Change, *Meeting carbon budgets—3rd Progress Report to Parliament*, 2011.

12 *Ibid.*

13 DECC, 2010, *UK Greenhouse Gas Emission*, February 2012.

14 Government Office for Science, Foresight, *The Future of Food and Farming*, 2011.

15 Ev 122

16 Committee on Climate Change, *Bioenergy Review*, 2011.

including food production and biodiversity.¹⁷ The Foresight report noted that while some forms of bioenergy could play an important role in the mitigation of climate change, they might lead to a reduction in land available for agriculture.¹⁸ Increased bioenergy production contributed to a global food price spike in 2007–08.¹⁹

6. In addition to the environmental challenge, we also face a health challenge. The Department of Health's *Healthy Lives, Healthy People: A call to action on obesity in England*, published in October 2011, noted that England has one of the highest rates of obesity in Europe, with more than 60% of adults and a third of 10 and 11 year olds overweight or obese.²⁰ In 2007, the Government-commissioned Foresight report, *Tackling Obesities*, predicted that if no action was taken, 60% of men, 50% of women and 25% of children would be obese by 2050.²¹ Food 2030 calculated that poor diet accounted for a third of all cases of cancer, and a further third of cases of cardiovascular disease. The doubling of obesity over the previous 25 years had increased the risk of developing type II diabetes, cardiovascular disease and some types of cancer. Obesity imposes a significant burden on the NHS — the direct costs of obesity are £4.2 billion a year and are forecast to more than double by 2050 if we carry on as we are.²² Diet-related chronic disease costs the NHS £7 billion a year, including direct treatment costs, state benefits and loss of earnings. On the other hand, the health benefits of meeting nutritional guidelines would be worth almost £20 billion a year, and prevent 70,000 premature deaths a year.²³

7. The Foresight *Future of Food and Farming* report concluded that this was a unique time in history — for the first time we can now foresee a possible end to population growth so that decisions made now and over the next few decades will disproportionately influence the future. Urgent action was needed now to provide food security for future generations, and addressing climate change and achieving sustainability in the global food system needed to be recognised as dual imperatives. The world today faced one of the greatest challenges of the 21st century: how to feed 9 billion people in 2050, in the face of climate change, water shortages, burgeoning demand for energy and the growing competition for the use of natural resources.²⁴

What is sustainable food?

8. Producing and consuming the wrong type of food can make it unsustainable. We cannot indefinitely continue to produce and consume in the way that we currently do, because of the health and environmental impacts. There are also wider, social impacts of the food system that can be unsustainable. The Government's 'vision' for sustainable development,

17 Committee on Climate Change, *Bioenergy Review*, 2011.

18 Government Office for Science, Foresight, *The Future of Food and Farming*, 2011.

19 *Ibid.*

20 Department of Health, *Healthy Lives, Healthy People: a call to action on obesity in England*, 2011.

21 Government Office for Science, Foresight, *Tackling Obesities: Future Choices*, 2007.

22 Defra, *Food 2030*, 2010.

23 *Ibid.*

24 Government Office for Science, Foresight, *The Future of Food and Farming*, 2011.

published in Defra's February 2011 *Mainstreaming Sustainable Development*, built on the principles underpinning the 2005 Sustainable Development Strategy, for defining sustainable development in the context of Government policy.²⁵ As such, this recognised that the three 'pillars' of sustainable development—the economy, society and the environment—are interconnected. To incorporate these into food policy means that we need to consider environmental and social consequences, as well as the economics of matching supply and demand.

9. In March 2011, the Sustainable Development Commission reported on UK food policy, in *Looking back, Looking Forward: Sustainability and UK food policy*.²⁶ It used research from over the previous decade to describe what a sustainable food system must cover and set out the following core elements:

- addressing environmental impacts such as greenhouse gases and climate change, biodiversity, water use, land use and other infrastructure on which food depends;
- contributing to human health not just by preventing food-borne diseases associated with poor safety but also non-communicable diseases due to under, as well as over, consumption;
- delivering good quality food, fit to meet consumer and cultural aspirations;
- embodying social values such as fairness and animal welfare;
- providing decently rewarded employment across the supply chain, with skills and training; and
- improving the above through good governance.

Our inquiry

10. Against that background we undertook this inquiry into sustainable food within the UK. Our aim was to examine how the food system in the UK needs to be changed to make it more sustainable, not specifically to address the wider global food crisis, but recognising that action at home must be taken in the context of the global system. This report provides an overview of policy areas where change is required. It also provides examples of specific policies across a number of departments that should be adjusted to improve the food system.

11. We received submissions from 51 organisations and individuals and we took oral evidence between May and December 2011, from the authors of the Foresight report, academics, environmental groups and other NGOs, representatives of local food networks, those involved in food health issues, farmers, retailers and supermarkets, and Rt Hon James Paice MP, Minister of State for Agriculture and Food at Defra. We would like to thank all those who contributed evidence.

25 Defra, *Mainstreaming Sustainable Development*, 2011.

26 Sustainable Development Commission, *Looking back, Looking Forward: Sustainability and UK Food Policy*, 2011.

12. Since this inquiry was launched the Government's policy on food has moved forward. In November 2011, Defra launched the 'Green Food Project' which aims to report in June 2012 on how food production can be increased while at the same time the environment can be enhanced.²⁷ That initiative is being driven by a Steering Group including senior representatives from the farming, food, service industry and environmental sectors. Other policies that could potentially influence the food system, including the *Portas High Street Review*, the transfer of public health functions to local authorities under the Health and Social Care Act and new powers for communities under the Localism Act are being developed in other departments.²⁸

13. In Part 2 we examine the knowledge base required to deliver a sustainable food system; in Part 3 measures to provide producers and customers with greater access to sustainable food; in Part 4 ways to encourage more sustainable behaviour; and in Part 5 we consider how these areas should be co-ordinated under the Green Food Project and in a subsequent food strategy.

27 www.defra.gov.uk/food-farm/food/environment/

28 Mary Portas, *The Portas review: an independent review into the future of our high streets*, 2011.

2 Improving Knowledge

14. The Foresight report noted that “recent scientific and technological advances offer significant new opportunities to address major environmental challenges such as climate change, water scarcity and soil degradation”.²⁹ However, it also found that “there needs to be a reversal of the low priority accorded to research on agriculture, fisheries and the food system in most countries” and that “the contribution of funders to research from the public, private and third sector needs better coordination”. It concluded that investment in food production research needed to focus on raising yields in conjunction with improving sustainability and maintaining ecosystem services and that this shift must recognise that special measures will often be needed to incentivise research that produces a ‘public good’.³⁰ In a similar vein the RSPB told us that agricultural R&D investment had declined in recent decades, alongside a shift from public to private sector investment, so that there was less funding for research investigating areas of potential “public good” beyond immediate economic potential.

15. A number of organisations, including the National Farmers Union and the Food and Drink Federation, called for greater investment in research and skills to assist sustainable production methods.³¹ There were also concerns about whether the current research structure would be able to deliver these benefits and pass them on to producers. Andrew Kuyk of the FDF told us:

I think we are very much in an area here of market failure, particularly when we are talking about these broader systems approaches, because no individual farm business or no individual food manufacturer will be able to make a business case for a return on their particular investment in that if you are looking at these wider benefits.³²

The Sustainable Development Commission came to the same conclusion in its final report, noting that:

Participants in our research identified under-investment by both the public and private sectors in research into sustainable agriculture, with an overemphasis on chemical agriculture and biotechnology.³³

16. Research is crucial to developing more sustainable production methods, and to ensuring that the potential impacts of new systems are fully assessed. Professor Crute from the *Agriculture and Horticulture Development Board* identified a significant challenge in re-establishing the level of basic science needed to deliver new agricultural production techniques:

There is a big issue, and that is that we have had this 20 years of erosion [of] ... public money for agricultural research. ... If you look around our universities and our

29 Government Office for Science, Foresight, *The Future of Food and Farming*, 2011.

30 *Ibid.*

31 Ev 122, Ev 161

32 Q 62

33 Sustainable Development Commission, *Looking back, Looking Forward: Sustainability and UK Food Policy*, 2011.

institutes, there are only three Russell Group universities that give a degree in agriculture now. So we would have to build back the capability and bring a new generation of people forward who are motivated not just to do good science ... but motivated to produce end-points, outcomes, that will address these questions. ... [It] is going to require a 10-year project to build back the capacity to train those people.³⁴

The Campaign to Protect Rural England identified a polarisation between training in agricultural skills and in traditional land management skills, where once these would have been one and the same. They emphasised that the provision of agricultural training programmes that included both production and environmental land management skills would be vital to deliver sustainable farming in the UK.³⁵

17. The evidence we received pointed to a number of areas of research where attention needs to be focused, which we consider below:

Quantification of the environmental impacts of producing food

18. Food production practices can have adverse, unsustainable, impacts on ecosystems for example through over-abstracting water or reducing biodiversity (paragraph 3). Food production also benefits from ecosystem services, for example Friends of the Earth estimated that insects provide a service worth £1.8 billion in pollinating crops.³⁶ The land used to produce food affects greenhouse gas management (particularly storage of carbon dioxide and methane) and water collection and filtration.³⁷ The potential for land to support different activities also changes over time as a result of changes in technology and climate, as well as the use of irrigation and fertilisation. Understanding and quantifying the cost of such damage and such benefits could help put food production on a more sustainable footing. Natural resource accounting systems could provide some indication of relative costs and benefits of impacts to the environment and provide a measure for assessing the impacts of food production. But, at present, the costs of many of the externalities of land use are simply not reflected in the price of the resulting food. The NFU, RSPB, WWF and others highlighted areas which require more dedicated research to enable us to account more fully for the environmental damage that particular agriculture activities can produce.³⁸

19. In our inquiry on embedding sustainable development across Government we noted that understanding and accounting for the cost to the environment of policy decisions in the long term is the best way to embed sustainable development principles in policy making.³⁹ In our report on the green economy we have examined Defra's work on this, building on the results of the *National Ecosystem Assessment* and described in the *Natural Environment White Paper*. In that inquiry, we have examined how that work on natural

34 Q 303

35 Ev w54

36 Friends of the Earth, Press release, *UK faces annual bill of £1.8 billion without bees*, April 2012.

37 Government Office for Science, Foresight, *The Future of Food and Farming*, 2011.

38 Ev 104, Ev 149, Ev 161

39 Environmental Audit Committee, First Report of Session 2010–12, *Embedding sustainable development across Government, after the Secretary of State's announcement on the future of the Sustainable Development Commission*, HC 504.

capital accounting will need to be dovetailed with similar international initiatives in the light of the Rio+20 Earth Summit.

Developing low carbon agriculture

20. In 2006 WWF estimated that the carbon footprint of the UK food chain was 22% of emissions associated with all UK economic activity, with food production, distribution and sale accounting for two-thirds of that footprint (paragraph 4). As noted above, land plays an essential role in greenhouse gas management. The Agriculture and Horticulture Development Board commissioned a study by Cranfield University of the carbon footprint of commercial beef and sheep farms in the UK. Across both sectors, it showed a positive link between environmental performance and economic performance. This was most pronounced in the sheep sector where every 1kg reduction in greenhouse gas per 1kg of meat generated a 28p saving.⁴⁰ That research showed that there can be an economic incentive for farmers to reduce greenhouse gas emissions, but more evidence is required if better practice is to be encouraged more widely across other agricultural and food sectors. The need for a more robust evidence base is recognised by the Committee on Climate Change who have called for a more comprehensive overview of emissions from current and changing farming practice.⁴¹

Life-cycle analysis of foods

21. The Food and Drink Federation calculated that, for most foods, the biggest impacts on sustainability arise either on the farm (method of production, and use of water and fossil fuel based inputs) or in the home (how food is stored, prepared and cooked, and how waste is disposed of). There may be geographical and seasonal variations in impacts for the same product, as well as changes in impacts through land-use change.⁴² Andrew Kyuk of the FDF believed that the key to addressing this was a better understanding of how and where such impacts arise, and their relative importance, through better life-cycle analysis:

I think in the past people have worked very much within their own silos, whether they are looking at plant breeding, pesticides, whatever it is. But, because of the way different things interact, I think there is scope for much more to be done in looking across different fields and combining knowledge. I think, for what in terms of national budgets would be a relatively small amount of money, the potential benefits of investing in that research are quite enormous.⁴³

Soil science

22. RSPB, NFU and the Campaign for Real Farming identified a major problem of soil degradation and soil loss.⁴⁴ Foresight noted that soil sciences, neglected in recent years, offered the prospect for a better understanding of constraints on crop production and

40 Ev 138

41 Committee on Climate Change, *Meeting carbon budgets—3rd Progress Report to Parliament, 2011*.

42 Ev 122

43 Q 61

44 Qq 48, 61

better management of soils to preserve their ecosystem functions, improve and stabilise output, reduce pollutant run-off and cut greenhouse gas emissions.⁴⁵

Developing new production techniques

23. There has been a significant, long-term decline in wildlife in the UK countryside. Defra's Sustainable Development Indicators show that the farmland bird population index fell by 47% between 1970 and 2008.⁴⁶ A 2009 report from the International Assessment of Agricultural Knowledge, Science & Technology for Development, supported by 400 scientists and 60 countries and directed by the Defra's Chief Scientific Adviser, concluded that agricultural knowledge, science and technology directed towards agro-ecological sciences was needed to help protect the environment while increasing food productivity. Evidence from the Rural Economies and Land Use Programme suggested that other practices, such as small scale freshwater fish farming, might provide a sustainable alternative to traditional forms of meat production.⁴⁷

Biotechnology

24. Globally, many food supply problems derive from still-worsening climate change. In addition, oil prices are expected to increase significantly in the long-term, with consequences for agricultural production and also for availability of fertilisers. Biotechnology is developing crops that are more drought tolerant or need less fertiliser, but it cannot in itself solve these problems. Genetic Modification technology companies continue work in this field but, as Professor Crute of the Agriculture and Horticulture Development Board told us, conventional crop breeding could be equally important.⁴⁸ We received some evidence arguing that GM crops could have a role in sustainable food systems, but also other evidence that food shortage problems could be addressed through other means, for example by tackling the 30% of all food grown worldwide that is lost or wasted before and after it reaches the consumer.⁴⁹ There are also social pillar aspects of the sustainability of food systems (paragraph 8), as Dr Wallace of Gene Watch told us:

One of the big problems with the [GM] industry is the extent to which it can undermine some of the social and economic systems that are in place at the moment. I have already mentioned the added cost to conventional and organic farmers if a neighbouring farmer started to grow GM commercially. [...] Finally, GM as part of a highly industrialised system can contribute to this feeling that most farmers and most members of the public are concerned about, about people losing touch with where their food has come from and how their food is being grown.⁵⁰

45 Government Office for Science, Foresight, *The Future of Food and Farming*, 2011.

46 <http://webarchive.nationalarchives.gov.uk/20110223093550/defra.gov.uk/sustainable/government/progress/national/22.htm>

47 Ev 103

48 Ev 296

49 Ev 143, and Government Office for Science, Foresight, *The Future of Food and Farming*, 2011.

50 Q 277

25. We asked the Minister to outline the Government's position on GM crops. He told us that provided regulatory requirements for food safety and environmental impact are met, this was essentially a matter of consumer choice:

We believe that genetic modification certainly does have a role to play. We do not believe it is the answer to everybody's challenges and it is the sole way of resolving the sustainability problem, but we equally don't believe you should reject the technology out of hand. Clearly we need to make sure that any individual advance of technology is properly tested for human food safety and environmental impact, but if a particular development passes those, then it becomes much more an issue for the marketplace and for consumer choice, and quite clearly we have been through a long period when consumers don't want to know. Some people are suggesting that is beginning to change, but we deem it a matter for consumer choice once Government has properly fulfilled its regulatory role to ensure that whatever is released for commercial use has passed the necessary stringent tests.⁵¹

Government action

26. Across the agricultural research priorities described above, there has been a clear degradation over recent decades. The approach of successive governments has been to exert less and less influence in directing where and how this research is done. The Agriculture and Food Minister described a minimal role for Government in co-ordinating research to deliver more sustainable production practices:

I don't believe Government has all the answers, but I am sure that if Government took upon itself the responsibility of deciding where all the research should be spent, we would get it wrong. I think it is very important that Government works closely with the industry, with the ancillary sectors and the research institutes to identify what we need to do. I think the Technology Strategy Board brought in by the previous Government is proving to be very successful. I think it was a significant step forward, and the sustainable agriculture platform that we sponsor within that we have opened up for project bids and we are now on the second tranche of bids to be considered. That board then considers and brings together all the knowledge and the expertise, way beyond what Government on its own can have, in order to assess those projects. I think that is the best way to do it, by working in partnership with the industry, with the Agricultural and Horticultural Development Board, with whom I see an increasing role in particularly the applied end of research and in knowledge transfer, but also with the research institutes and others in deciding where to go.⁵²

27. If more sustainable methods of production are to be delivered this downward trend must be reversed. **We do not currently have the basic science base to deliver more sustainable food production practices. Relying on markets to identify and to direct where this research is needed, and on sufficient scale, is likely to fail. The Government must be prepared to intervene with universities, colleges and the Research Councils to develop incentives for them to train more agricultural and food scientists. It must also**

51 Q 333

52 Q 311

take a more active role in directing the Technology Strategy Board and the Agriculture and Horticulture Development Board to focus research on sustainable food production. In developing the Green Food Project, and a subsequent food strategy (paragraph 62), the Government must explicitly recognise the need for more research into:

- the interactions between the impacts of food production practices and the environment, so that these can be better managed to increase production in a sustainable way (paragraph 18);
- the impacts of agriculture on climate change, to provide a basis for encouraging farmers to adopt more sustainable practices and behaviours (paragraph 20);
- the life-cycle impacts of food, to give producers, suppliers and customers the information they need to be able to make decisions which would have less impact on the sustainability of food (paragraph 21);
- soil science (paragraph 22); and
- the benefits of new farming practices, such as those in fresh water fish farming (paragraph 23).

28. We have not seen compelling evidence to suggest that the benefits of using GM technology in the UK have increased in recent years. Nor is there evidence to suggest that consumers in the UK are ready to accept GM technology. As our predecessor Committee recommended in 2004, **unless and until there is both clear public and political acceptance of GM, it is proven to be both beneficial to the environment and to producers, and evidence that demand for these products is based on understanding by consumers and transparent product labelling, the Government should not license its commercial use in the UK nor promote its use overseas. The Government must ensure that the public and Parliament is well informed on this issue. It should establish an independent body to research, evaluate and report on the potential impacts on the environment of GM crops, and their impacts on farming and on the global food system. An initial focus of such research should be on the scope for, and risks of, the co-existence of GM crops with conventional and organic farming regimes.**

3 Improving Accessibility

Access for communities

29. A range of innovative local food initiatives are playing an important role in providing people with better access to more healthy and sustainable food. Local food networks (or webs) link farmers, growers, community-supported agriculture, processors and suppliers with local food shops and other local food providers such as farmers' markets, food-box schemes and food cooperatives. The Campaign to Protect Rural England has published location reports showing the scale and impact of local food networks in six towns and cities.⁵³ CPRE argued for policy-making at local and national level to ensure that local and regional food networks can coexist with national-scale retailers which operate with largely national and international supply chains. They argued that:⁵⁴

- Smaller outlets, and particularly butchers, greengrocers and village stores, were vital for smaller producers to bring their produce to market either directly or through the wholesale system.
- A local system ensured that there was diversity of supply, a wider range of choice of produce, good nutritional quality (as fresh produce was delivered through shorter supply chains) and provided a 'seed-bed' for new small and medium sized food businesses to innovate and develop their product ranges.
- Supermarket expansion threatened the viability of smaller independent stores on the high street and in villages. When such shops disappeared, the choice of where to shop and access for those who do not use a car was diminished.

Their research showed that local food webs could give better access to fresh food, support local businesses, and add diversity and character to towns and rural areas. Local food webs played a role in connecting people, through shops and markets, to their wider community and to the surrounding countryside. Smaller retailers interviewed for the CPRE research stocked 50% or more local produce, whereas most supermarkets typically stocked only 1-2% local food. CPRE concluded that, without these smaller outlets, many local producers would struggle to survive.⁵⁵

30. Sustain noted that a number of localities were already taking steps towards developing sustainable food systems, including London.⁵⁶ Others were implementing elements of existing schemes, such as 'Fairtrade Towns' and 'Sustainable Fish Cities'. Sandwell Primary Care Trust argued that, in a global context, producing more fresh food in and around urban areas would help improve resilience against the effects of climate change, increasing global demand for food and diminishing natural resources such as water and fossil fuel resources. And in a local context, they were supporting communities to bring this about,

53 <http://www.cpre.org.uk/magazine/out-and-about/item/2633-mapping-local-food-webs>

54 Ev w54

55 *Ibid.*

56 Ev 129

for example through working with allotment users and community agriculture schemes.⁵⁷ Sustain argued that the localism agenda could help to bolster such initiatives, and the planning system could also give local communities more power to make their food system more sustainable. However, they also noted that localism was being proposed at the same time as cuts in local government funding, and that the dominant role of large food and agriculture companies would mean that local authorities and other local actors would be too small and under-funded to compete.⁵⁸

31. CPRE believed that it was important to involve increasing numbers of people in food growing, not only so that they could produce their own food, but also so that they could understand the environmental issues surrounding food production. Transfer of knowledge in this way contributed to creating a more informed body of consumers which could in turn help to increase people's commitment to buying more sustainable produce from established food retail outlets. Research could examine how low-input systems for growing food locally and sustainably might be used by community groups. Some of this work has been done in specific locations, but more is required to help deliver best practice across the UK. As Clare Devereux of Food Matters told us, evidence on the scope for this is now needed nationally, which reflects the difficult economic situation that many communities now find themselves in.⁵⁹

32. Food Matters wanted to see greater acknowledgement by Government and local authorities of the value of food in our culture and society, and in particular the role that it can play in delivering a range of desirable public policy targets: for example increasing social inclusion, improving educational attainment, reducing food waste, delivering skills and training, improving physical and mental health and creating local employment opportunities.⁶⁰ There was a lack of baseline data and evidence on what works to underpin the creation of a sustainable food system. More research was required in a local setting in order to understand what action on healthy diets and climate change would give the best return on any investment of time, money and effort. Food Matters saw such information gathering as a Government responsibility.⁶¹

33. Some local authorities and local health authorities have developed food strategies to improve access to sustainable food and the benefits that come from this in their areas. Some strategies cover the whole food system; others focus on specific themes such as health or the environment. The Food Vision website, published by the Local Government Group and the Chartered Institute for Environmental Health, holds a list of examples of food strategies around the country.⁶² This pulls together research and good practice by individuals, groups and organisations, and takes into account the implications of food systems on the local economy, community and environment. Such strategies can:

57 *Ibid.*

58 *Ibid.*

59 Q 200

60 Ev 125

61 Ev 129

62 [Http://www.foodvision.cieh.org/](http://www.foodvision.cieh.org/)

- Improve understanding and awareness about healthy eating, by working with traditional education partners (such as schools) and also a broad range of community and statutory partners;
- Reduce barriers to healthy eating in terms of accessibility, affordability and availability;
- Reduce nutrition-related health inequalities by targeting help on the most vulnerable groups.

34. Planning policy often fails to recognise the importance of sustainable production and consumption of food. Sustain and the Local Action on Food network saw a need to incorporate food in policy guidance for local authorities in the same way as provided for other essential services, such as water, waste, energy and housing. They called for food policy guidance from Government for planning authorities.⁶³ CPRE identified areas where local authorities could assist developing local food networks:

- Creating specific retail and planning policies to encourage diverse local food businesses;
- Revising local authority procurement policy to source more local food;
- Supporting and extending existing local markets, including farmers markets;
- Providing land for allotments.

35. Access to land for food growing is vital for a sustainable local food system. Food Matters had wanted the ‘community right to buy’ aspect of the Localism Act to include explicitly a right for a community to buy land for sustainable food production. They argued that food growing within cities had indirect social and health benefits in terms of access to open space, physical activity and education of children.⁶⁴ Brighton and Hove Food Partnership saw the value of land in the south east of England is a barrier to the creation of viable small scale food production such as horticulture or small mixed agricultural operations.⁶⁵ They argued that local authority plans should support small scale food production and related infrastructure (abattoirs, distribution hubs etc). They welcomed opportunities for more power for local communities through the Localism Act but were concerned that, particularly in an urban setting, the interests of development (housing and industry) could outweigh the need to maintain or create new land for food production. They urged local authorities to ensure that their local plans included opportunities for sustainable local food production.⁶⁶ Angela Blair of Sandwell Primary Care Trust described how they monitor and seek to influence planning applications:

We look at the planning applications every week. We see where new hot food takeaways are coming up, any opportunities, new housing developments and so on. We then use health impact assessments, screening checklists for opportunities, and within that there is one on food access, there are things about agriculture production

63 Ev 129

64 Ev 125

65 *Ibid.*

66 Ev w54

processing, community voluntary sector enterprise. We look at how to integrate the preventive health services within the food policy work and we work with trading standards, environmental health, food safety, planning, housing, transport on accessibility planning.⁶⁷

36. Sustain believed that the levers in the planning system on what we eat, how we eat it and our long-term physical and mental well-being, could be used more effectively. However, food has not been specifically included in most planning policy (unlike other essentials of human existence such as water, air, transport, and housing). The new National Planning Policy Framework now includes “promot(ing) the health and well-being of the community” as a key objective. Sustain argued that this could be important in delivering more sustainable food to more people, particularly with regards to food shopping and food growing.⁶⁸ The new Framework provides a set of core land-use planning principles to underpin both plan-making and development decision-taking, including to:⁶⁹

[...] encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions (such as for wildlife, recreation, flood risk mitigation, carbon storage, or food production).

37. The National Planning Policy Framework potentially provides local authorities with more powers to provide communities with better access to local food and to be able to grow their own food. However, the NPPF lacks the detail that could assist planning authorities in drawing up local plans to provide for this. The Government should make clear in the subsequent guidance it provides for local authorities that for Local Plans to be consistent with the NPPF they should take account of communities’ access to sustainable food and ensure that they are provided with alternatives to unhealthy food options. There should also be provisions in Local Plans to ensure that communities are provided with open spaces to grow their own produce, including for example options for communities or co-operatives to buy land for these purposes. To help develop such guidance, the Government should also identify best practice from leading local authorities in this field and quantify the benefits of developing local food strategies.

Access for producers

38. Local food networks provide a less conventional but growing route for producers to supply food. One example is community retail or cooperative projects that buy food in bulk direct from suppliers, enabling their members to benefit by getting good food at a more affordable price and providing producers with access to local markets. More supermarkets are developing and updating their sustainability strategies which are providing benefits for local producers and are selecting more sustainable produce⁷⁰ but there are still a number of barriers to further improvement, as we discuss below.

67 Q 166

68 Sustain, *The NPPF Consultation*, 2011.

69 Communities and Local Government, *National Planning Policy Framework*, March 2012.

70 For example, Sainsbury’s 20 by 20 Sustainability Plan: <http://www.j-sainsbury.co.uk/responsibility/20-by-20-commitments/>

Fair prices for producers

39. Some producers told us that there was a failure in some parts of the food supply chain to pass financial returns fairly to primary food producers, leaving some sectors economically unsustainable. This could have long-term ramifications for the continued ability of suppliers to source produce from UK farmers and also for the well-being of local communities.⁷¹ Ultimately such a state of affairs exports our production base, to countries where food may be produced to lower environmental, health and welfare standards, increasing rather than alleviating the ‘unsustainability’ of the food system.

40. The Competition Commission reported in 2008 that UK grocery retailers were in many respects delivering a good deal for consumers but recommended the establishment of a Groceries Supply Code of Practice (GSCOP) and an ombudsman to oversee its application.⁷² The NFU believed that where markets were failing to provide fair returns to farmers, and thereby making farming unsustainable, the Groceries Code Adjudicator should intervene for the benefit of consumers and for food security.⁷³ The Food Ethics Council welcomed the creation of the Adjudicator, though were concerned about its effectiveness:

We do have some concerns about whether it is going to be as effective as many of those in the supply chain would like it to be. We do need to ensure that they can conduct effective inquiries themselves and that they do have some sanctions that if the Codes are not being kept to that they can levy fines, for example. We don’t want it to be a toothless watchdog.⁷⁴

41. The Government published a Draft Groceries Code Adjudicator Bill in May 2011, to establish the ombudsman. The Environment, Food and Rural Affairs Committee took evidence from food producers, who told them that a ‘climate of fear’ would deter producers from making complaints. The Food and Drink Federation told that Committee that the low number of complaints demonstrated that “the GSCOP will only work fully if there is a proactive Adjudicator in place to police it”.⁷⁵ The NFU made a similar point and explained that complainants would only come forward if an Adjudicator could guarantee their anonymity.⁷⁶ The Committee wanted legislation to be amended to provide for third parties to be able to make complaints to the Adjudicator on behalf of suppliers. They also recommended that reserved provisions to provide the Adjudicator with a power to levy fines against retailers be brought in immediately.⁷⁷ In response, the Government stated that:

71 Ev 161

72 Competitive Commission, *Groceries Investigation*, 2008.

73 Ev 161

74 Ev 164

75 Written evidence taken by the Environmental Food and Rural Affairs Committee for its inquiry into the Draft Groceries Code Adjudicator Bill, GCA 04 [Food and Drink Federation], HC (2010–12) 1199-i.

76 Written evidence taken by the Environmental food and Rural Affairs Committee for its inquiry into the Draft Groceries Code Adjudicator Bill, GCA 07 [National Farmers’ Union], HC (2010–12) 1199-i.

77 Letter from Miss Anne McIntosh MP, Chair of the EFRA Select Committee to Mr Adrian Bailey MP, Chair of the BIS Select Committee on 22 June 2011.

Our position remains that it is more appropriate for complaints to be lodged directly or indirectly by suppliers, but we are open to considering further arguments on extending the range of those who can trigger an investigation. [...]

The draft Bill provides the Adjudicator with the power to name and shame retailers that are in breach of the code, and we believe that, in a highly competitive market, retailers will not risk reputational damage from unacceptable behaviour towards suppliers.⁷⁸

42. Food systems are more likely to be sustainable if food reflects value or cost of the environmental impacts of producing it; an area we identified as needing more research (paragraph 18). In the absence of such mechanisms food prices have been relatively low particularly when supplied through supermarkets which are able to bring economies of scale to bear. The Groceries Code Adjudicator's role in delivering fairer prices to producers will be vital in helping all food producers to achieve a fair price for their produce and with the means to invest in less impacting methods of production. The Groceries Code Adjudicator should be established so that it is able to begin investigations following representations from third parties, and it must have the power to fine retailers for breach of the Code.

Sustainable buying

43. 'Choice editing' involves retailers limiting the range of products they make available to customers. Supermarkets, for example, might be able restrict the sale of produce with high environmental impact, for example, by reducing the numbers of some out-of-season and imported goods. The Food Ethics Council has argued that retailers pursuing choice editing strategies are likely to be at a competitive disadvantage.⁷⁹ With the exception of a minority of businesses that position themselves specifically as leaders in the 'ethical' market, businesses that raise the prices of their products or reduce choice risk losing customers to their competitors. They concluded that, in the absence of regulatory intervention by Government, only a coordinated effort by the major businesses across a sector could get past this obstacle.⁸⁰ By co-operating and adopting similar choice editing strategies, supermarkets would be able to reduce the risks of pursuing such strategies. However, such collaboration would potentially contravene competition law and expose those involved to challenge by the Office of Fair Trading or by the European Commission. And any regulatory regime with similar aims could also be construed as interference with EU Single Market rules. This barrier would also apply to public procurement through Government Buying Standards (paragraph 45). The Food and Drink Federation's preferred approach was therefore for industry to continue its efforts to make its products as healthy and sustainable as possible, while offering consumers appropriate choices.⁸¹ When we raised this issue with the Minister, he regarded this as primarily an issue for industry to judge:

78 HC Deb, 23 Jan 2012, c49.

79 Ev 164

80 *Ibid.*

81 Ev 122

I recognise that the supermarkets are extremely nervous about competition law. ... We do have periodic meetings with the senior chief executives of the supermarkets, but it is on a very clear agenda that makes sure that ... we can't talk about price or anything that could be construed as collusion. I can see the argument that they would be very nervous of it, yes. You would need to ask a lawyer whether in reality there is something in competition law that says they should not work together on sustainability. I don't know. That would be for a lawyer to judge, but I am very conscious of their sensitivity over anything like that.⁸²

44. In March 2012, the Government announced proposals to create a new Competition and Markets Authority that would bring the Competition Commission and the OFT's competition functions into a single organisation.⁸³ **The Government should amend the Office of Fair Trading's remit to take account of sustainable development while protecting competition, and task the OFT and the Competition & Markets Authority to investigate and clarify the scope for supermarkets to cooperate in developing shared sustainability good practice.**

Public sector buying

45. The public sector provides an appropriate means to increase access to sustainable food for both producers and customers. In June 2011 Government Buying Standards for food and catering services were introduced, and came into force for all new catering contracts from September 2011, to ensure that Government buys more sustainable food and gives small and local producers fair access to public contracts worth up to £2 billion a year.⁸⁴ The Standards cover Government departments and their agencies and non-departmental public bodies, including the armed services and prisons, but not the NHS or schools.⁸⁵

46. Friends of the Earth found the Standards for public sector food purchasing weak and argued that the potential that public food procurement has to transform our food system has not been realised.⁸⁶ This was particularly evident for the standards on meat and dairy. Jeanette Longfield of Sustain welcomed the Standards, particularly for fish, but thought some parts of them were "a bit feeble". She complained for example that:

The egg standards are rubbish. They have not included 'Red Tractor' even as a basic minimum, which is unspeakably ridiculous. They have not set high enough aspirational standards for organic and [Linking Environment And Farming] certified. Fair trade is pathetic; that should be much higher than it is.

She put these weaknesses down to lobbying from the large food distributors. The NFU argued that the Standards did not recognise that UK farmers and growers work to higher legislative standards, with higher consequential costs, than apply to imports.

82 Q 362

83 BIS, *A Competition Regime for Growth: A Consultation on Options for Reform, Government Response*, March 2012.

84 Ev 154

85 HC Deb, 16 June 2011, c78WS.

86 Friends of the Earth, *Sustainable Livestock Bill and symposium: one year progress report*, March 2012.

47. A number of local public bodies have already demonstrated the benefits of sourcing more sustainable food and that results can be achieved with minimal costs. The Cornwall Food Programme was developed to address the food supply needs of the NHS in Cornwall.⁸⁷ It works in partnership with local producers, suppliers and distributors to encourage them to tender for NHS and other public sector contracts and to purchase and process a significant proportion of Cornish produce for use in patient, visitor and staff meals. It reports increased satisfaction with the quality and taste of the meals, and with 41% of the budget spent on Cornish produce there has been a 67% cut in annual ‘food miles’ travelled by delivery vehicles. A new farm shop at the Royal Cornwall Hospital enables patients, staff and visitors to buy fresh, local and organic produce and there are plans to develop a home-delivery food-box scheme using NHS courier services. This has all been achieved within the constraints of an existing food budget of £2.50 per patient per day.⁸⁸

48. According to research by Sustain, over £53 million of Government money had been spent in the last ten years on voluntary initiatives to improve the sustainability of public sector food, with no demonstrable benefit for health or the environment. They, and others, including the SDC, called for standards to be mandatory across the entire public sector.⁸⁹ The Minister explained, however, that the Government did not want to force local bodies to adopt the Government standards:

We don’t want to make it mandatory [...] We take the view that the localism agenda means exactly that and that, we therefore have to leave it up to local discretion. But we would strongly urge, and hope everybody else would urge, local bodies to follow the Government buying standards.⁹⁰

49. The Government Buying Standards for food should be extended to cover the wider public sector, to ensure healthy and sustainable food is made accessible to more people and to help establish new markets for producers. Though it is proven that the Standards can be adopted for minimal cost, voluntary measures to promote them have not achieved the necessary improvements across the sector. The Standards must be extended to require local authorities to adopt them across schools and hospitals. It should also continue to raise the Standards further, to reflect existing best practices in particular for eggs, dairy and meat. Effective public food procurement standards could also allow Government to lead by example, and make any new food strategy (paragraph 68) more credible.

87 <http://www.cornwallfoodprogramme.co.uk/>

88 Soil Association, *A fresh approach to hospital food: The Cornwall Food Programme*, 2007.

89 Sustain, *A decade of hospital food failure*, 2009.

90 Q 370

4 Improving Behaviour

50. There is a clear need for people to eat food that impacts less on the environment, both in the UK and beyond. At the same time there is a need for more people to eat healthier diets. In 2007 the Food Standards Agencies' *Low Income Diet and Nutrition Survey* found that general nutrition levels in the UK were poor, particularly for people on low incomes.⁹¹ The 2010 Marmot Review, *Fair Society, Healthy Lives*, illustrated a continuing inequality divide.⁹² The Department of Health's *Healthy Lives, Healthy People* noted that more than 60% of adults and a third of 10 and 11 year olds are overweight or obese.⁹³ WWF and the Rowett Institute recently published the *Livewell* report, which formulated a 'sustainable diet'. They calculated the costs of the 'livewell' diet and a standard basket of food, based on the Government's own statistics, and found the Livewell basket was cheaper.⁹⁴ They found, nevertheless, that people were eating too much processed food and meat and not enough plant-based products and carbohydrates. They concluded that this needed to be addressed urgently, no matter how much this felt like "nanny stateism".

51. In many cases, reducing environmental impacts and getting people to eat more healthily can be achieved in tandem. The Food Ethics Council argued that a shift away from a diet rich in animal products, particularly meat, and towards a diet with more cereals and vegetables, would be beneficial for both health and the environment. An overall reduction in food consumption and a reduction in food waste could play a major part in achieving a reduction in greenhouse gas emissions from the food chain.⁹⁵ They saw Government having a major part to play in supporting changes in food production and marketing, including pricing and promotion strategies, so that consumers are encouraged to select foods which are associated with lower emissions, which benefit their health and which are affordable. This was particularly important given some confusing messages on diet that consumers still face:

The government needs to continue to promote and communicate the messages on healthy eating to consumers, as many are confused by conflicting messages, e.g. on the benefits of low carbohydrate, high protein diets which are widely used for promoting weight loss but are often confused with messages about general healthy eating which involves lower consumption of meat and higher consumption of fruit, vegetables and starchy carbohydrates.⁹⁶

The Foresight project saw a need for campaigns to change individual behaviour involving public education, advertising, targeted programmes in schools and workplaces, and the provision of better labelling to enable the public to make more informed decisions.⁹⁷

91 Food Standards Agency, *Low Income Diet and Nutrition Survey*, 2007.

92 The Marmot Review, *Fair Society, Healthy Lives*, 2010.

93 Department of Health, *Healthy Lives, Healthy People*, 2011.

94 WWF *Livewell*, 2011.

95 Ev 164

96 *Ibid.*

97 The Government Office for Science, Foresight, *The Future of Food and Farming*, 2011.

Labelling

52. Many of our witnesses argued that food labelling needed to be utilised as a tool to encourage consumers to make sustainable choices.⁹⁸ Opinions varied about how this should be done, in the light of the risks of confusing consumers with complicated schemes. For example, the Rural Economies and Land Use programme noted that ‘water footprint’ did not currently lend itself to a simple labelling scheme. Which? told us that few people were aware of the debates taking place around the future of the food system or understand the actions needed to reduce the impact of what they eat.⁹⁹ Research suggested, however, that many people would be motivated to make more sustainable, lower impact food choices if these were made easy for them. Seven out of ten people interviewed by Which? would have paid more attention to the environmental impact of the foods they bought if labels were clearer.¹⁰⁰ **The Government has a vital role to play in advising consumers on the environmental and health benefits of eating well, by ensuring that they have clear and easily-understood information. The sustainability of food, however, is a multifaceted concept, as we have described in this report, covering a range of health, animal welfare, environmental, climate-change, resource-efficiency and ethical dimensions. As a result there is a wide range of different food label claims — recyclable packaging, food miles, organic, local, carbon footprint, fair trade, lower fat, low salt, etc. Recognising the multi-faceted nature of sustainable food, the Government should examine the scope for simple and consistent labelling on the sustainability of food products, perhaps through a weighting system to produce an overall score.**

Education

53. The Sustainable Development Commission recommended that schools be encouraged to put further emphasis on practical food experience, including cooking skills and food growing, and to help develop future ‘food citizenship’ skills to understand how marketing affects food choices. Food Matters and the Brighton and Hove Food Partnership believed that a sustainable food system required skills and knowledge at all points in the food chain.¹⁰¹ People needed skills for managing local food networks (paragraph 39) and individual skills for preparing more sustainable food, including knowledge about cooking and healthy eating as well as information on how food is produced. BHFP’s efforts were focussed on ensuring that there were local outlets for local producers to supply, and that there was an infrastructure to facilitate this, and this capacity-building for partnership working in local food systems required expertise and local knowledge.

54. In March 2012, the Defra supported, *Food Growing in Schools Taskforce* report,¹⁰² found that the most effective food growing schools achieve significant learning, skills, health and wellbeing outcomes for children and young people. Food growing in schools had a positive impact on the schools, local communities, organisations and businesses involved. It concluded that more support was needed for school staff to undertake food

98 Ev 103, Ev 122, Ev 129

99 Ev w73

100 *Ibid.*

101 Ev 125

102 *Food Growing in Schools Taskforce, Report*, March 2012.

growing activities with children including more resources for food growing. It found that more could be done to involve communities in food growing activities in schools, and that their involvement could deliver wider benefits for the children and their communities. The taskforce concluded that learning to grow food at school equipped children with an understanding of wider environmental skills that would be useful in delivering a 'greener' economy. It noted, however, that on the curriculum food growing is viewed in isolation from other subjects and is seen only as a "nice to do" activity.

55. In 2008 the Government announced that every pupil would receive at least 24 hours of cookery classes during the first three years of secondary school.¹⁰³ In January 2011 the Secretary of State for Education announced a review of the National Curriculum in England which is expected to be implemented in 2014.¹⁰⁴ A number of organisations, including the British Medical Association and Sustain are campaigning for the Government to retain the cookery requirement in the National Curriculum. They argued that without basic cooking skills, people have to rely more on processed food which can be less healthy and higher in saturated fat, salt and sugar than alternatives.¹⁰⁵

56. Sustain argued that young people's appreciation of what is healthy and good to eat is being undermined by online advertising.¹⁰⁶ In 2011 the Advertising Standard Authority's remit was extended to include online advertising, including company websites and social networking platforms. Sustain said that unlike television regulations, the non-broadcast code did not distinguish between healthy and unhealthy food. It existed to ensure that advertising was 'legal, decent, honest and truthful', rather than to protect and promote health. Research by the Children's Food Campaign and the British Heart Foundation found that over 75% of websites that showed products high in fat, salt or sugar had links to social networking sites that were designed to "appeal to children through the use of language intended for, spoken by or directed to children". **We welcome the findings of the Food Growing in Schools Taskforce. Good food education and skills, such as cooking and gardening, should be part of the curriculum in all schools. The current review of the national curriculum provides an opportunity for the Government to promote that. The Government should consider stricter advertising limits, to extend the protection for children from junk food marketing on children's television to all media viewed by children, including the internet.**

Food waste

57. The requirement for increasing yields, and the risks that come from 'intensification', may be eased to some degree by reducing food waste. Colin Tudge, from the Campaign for Real Farming, told us that feeding an increasing global population could be achieved by eliminating waste, and that the risks associated with intensification were not worth delivering it.¹⁰⁷ The World already produces enough food for 14 billion people, twice the

103 Department for Children, Schools and Families, Press Notice, Compulsory cooking lessons for all young people, 2008.

104 Department for Education, review of the National Curriculum, 2011.

105 Ev 129

106 Heart Foundation and Children's Food Campaign, *The 21st C. Gingerbread house: how companies are marketing junk food to children online*, 2011.

107 Qq 88–92

present population.¹⁰⁸ The Foresight report calculated that as much as 30% of all food grown worldwide might be lost or wasted before and after it reaches the consumer. Addressing waste across the entire food chain would be critical in any strategy to feed eight billion people sustainably and equitably by 2030, and nine billion by 2050. Foresight saw halving the total amount of food waste by 2050 as a realistic target.¹⁰⁹ WWF believed that making the food chain more efficient through waste reduction measures would reduce pressure on resources required for food production, reduce greenhouse gas emissions and contribute to other policy agendas such as cutting the need for further space set aside for landfill, which in turn would further reduce greenhouse gas emissions.¹¹⁰

58. In a UK context, WRAP estimated that 30% of household food purchases were thrown away, much of which was edible. WRAP and WWF calculated that 3% of the UK's carbon footprint could be avoided and 6% of the UK's water footprint could be saved by tackling household waste.¹¹¹ The Government has taken some measures to reduce waste and has asked manufacturers to scrap sell-by dates, which are meant for stock control purposes rather than food safety. It has produced guidance stipulating that a single 'best before' date is displayed on products, to help stop customers unnecessarily discarding produce too soon. It has also published a new Anaerobic Digestion Strategy and action plan to increase energy generated from food waste.¹¹² The Government's £250 million Weekly Collection Support Scheme can now be used for separated food waste collections.¹¹³

59. WWF saw some scope, however, for further action across the supply chain to reduce waste:

I think it is crazy that non-animal food waste from things like schools and prisons is not fed to livestock. That came in after obviously the BSE crisis. I would encourage the Government and the Committee to look at that aspect, but also other aspects in terms of working with the food retail sector through the Courtauld Agreement that set key targets in terms of reducing food waste.

60. The private member's Food Waste Bill, debated in the House in March 2012,¹¹⁴ aimed to require large food retailers and manufacturers to reduce food waste and donate surplus food to charities for redistribution and, when food is unfit for human consumption, to make it available for livestock feed. One way of reducing food waste from food outlets is through sustainability 'audits' of restaurants and the introduction of 'doggy-boxes' that the Sustainable Restaurant Association¹¹⁵ have developed. Although the Bill will not progress with the end of the Parliamentary Session imminent, it has received much support.

108 International Assessment of Agricultural Knowledge, Science and Technology for Development, *Agriculture at a Crossroads*, 2009.

109 Government Office for Science, Foresight, *The Future of Food and Farming*, 2011.

110 Ev 104

111 Ev w 62

112 Defra, *Anaerobic Digestion Strategy and Action Plan*, 2011, and Defra, *Guidance on the application of date labels to food*, 2011.

113 Communities and Local Government, Press Notice, *£250 million fund to herald return of better weekly collections*, February 2012.

114 HC Deb, 14 March 2012, c261.

115 We had an informal briefing from the SRA when we met 2012 'Climate Week' finalists. (see www.thesra.org)

61. We welcome that the Government will now enable local authorities to use the £250 million Weekly Collection Support Scheme to initiate food waste collections. Without such collections, there is a risk to the use of food waste in anaerobic digestion, as well as for packaging recycling rates. The Government must ensure that there is sufficient funding available for all councils to be able to make sufficiently regular and separated food collections, to help develop a healthy anaerobic digestion sector.

62. The Government should also undertake new research to consider the opportunities and risks in using food waste to feed livestock.

5 Food Strategy

‘Sustainable intensification’

63. The Foresight *Future of Food and Farming* report concluded that to feed a growing global population, the same amount of land will have to produce more food — ‘sustainable intensification’. It identified a number of tools available to achieve this. Conventional plant breeding, improved agricultural practices and biotechnology could be used to increase yields from the same area of land while using the same inputs, such as fertilizer and water. The Foresight study notes a potential for increased yields of 6%–30% on the same amount of land, using these techniques. Professor Godfray, from the Government’s Foresight project, described the concept to us:

We give a definition in the [Foresight] report and it clearly means producing more food from the same amount of land. Whereas in the past, simply increasing yield in terms of crops or the amount of meat produced in terms of livestock has been the be-all and end-all, we are now talking about the sustainable intensification agenda trying to optimise a far more complex set of objective functions, in particular, a marked increase in resource efficiency, so that means using less water, less nitrogen, less other inputs so that one is eating into natural capital to a lesser degree. Secondly, it means producing more but reducing the footprint of food production on the environment.¹¹⁶

64. The Government’s solution to food sustainability in the UK is also ‘sustainable intensification’, as presented by the Foresight report. It told us that “there are strong environmental grounds for limiting any significant expansion of agricultural land in the future”.¹¹⁷ The need to produce more from less is highlighted by the Government in the ‘Green Food Project’, in the Defra Business Plan and in the *Natural Environment White Paper*.¹¹⁸ However, there are risks that come from following a path towards intensification. As Professor Philip Lowe of the Rural Economies and Land Use Programme explained any move towards intensification, in the sense of increasing yields for a given area set area of land, had resulted in the past in environmental decline.¹¹⁹

We want to return to economic efficiency, but that old economic efficiency of the immediate post-war period was very ecologically inefficient. It used vast amounts of natural resources; it was very oil dependent; it knackered the countryside where it could. There is a sense of how do we return to economic efficiency but not lose ecological benefits. To me now it is a pursuit of two things, economic efficiency and what I would call ecological efficiency, to make sure that the gains that we make in terms of increased food production are not at the expense of the environment. That

¹¹⁶ Government Office for Science, Foresight, *The Future of Food and Farming*.

¹¹⁷ Q 117

¹¹⁸ Ev 154

¹¹⁹ <http://www.defra.gov.uk/food-farm/food/environment/>; Defra, *Natural Environment White Paper*, 2011; and Defra, *Business Plan*, 2011.

is the critical thing. It is trying to get the food-producing focus on the dual aims of economic efficiency and ecological efficiency.

65. A number of organisations were worried that implicit in the term ‘sustainable intensification’ was a push towards intensive forms of agriculture and a step away from small scale mixed agriculture that in certain situations could be equally efficient. Mark Driscoll from WWF believed that in UK uplands there were already too many livestock and that reducing their number should be part of delivering a more sustainable system. He told us that:¹²⁰

At the end of the day, there will not be one system that will resolve all [the] issues. Small-scale farmers are a really important part of that for many reasons, but other agricultural production systems also have a role to play.¹²¹

66. Andrew Kuyk from the Food and Drink Federation told us that ‘intensification’ was an unfortunate choice of word.¹²² Mark Driscoll explained that this was because:

[...] it conjures up all sorts of connotations, depending on where you sit within the food supply chain, what type of farming systems you use. The food system provides not only food but a wide range of public goods, public services, cultural and landscape benefits. Sustainable intensification has to include that key range of public goods and services. It is not just about minimal environmental impacts or trade-offs even — it is about adding value to the natural environment, to natural capital.¹²³

67. The overarching aim behind the Government’s work in improving the UK’s food system is ‘sustainable intensification’. The Foresight report presented sustainable intensification as the solution to the global food crisis. The challenge for the Government is to define what this term means in practice, and particularly for the UK. Sustainable intensification must be more than simply increasing yields: The emphasise should be on ‘sustainable’. Policy must take account of social and environmental impacts of the food system, including retaining space for small scale production practices and local food networks (Part 3). But to put that into practice needs a clear strategy from the Government, as we discuss below.

A new food strategy

68. The previous Government’s food policy was set out in *Food 2030*, published in January 2010.¹²⁴ That cross-departmental strategy aimed to:

- use global natural resources sustainably;
- enable the continuing provision of the benefits and services that a healthy natural environment provides;

120 Q 10

121 Q 12

122 Q 53

123 Q 10

124 Defra, *Food 2030*, 2010.

- promote high standards of animal health and welfare;
- protect food safety;
- make a significant contribution to rural communities; and
- allow us to show global leadership on food sustainability.

69. It recognised that the UK food system is made up of interactions between organisations and individuals ranging beyond the immediate supply chain and that the system is affected by policies in a number of different departments. The current Government has no overarching strategy in place. Its 'Green Food Project' will examine only part of the food system. It aims to deliver environmental and intensification improvements, but it risks ignoring the wider social and health implications of the system. If these remain unaccounted for, food policy risks becoming fragmented and lacking co-ordination, as demonstrated by the policy to promote weekly waste collections. The breadth of the food system means that potential policy conflicts are likely to arise and not be recognised, unless formulated under a new food strategy. The absence of a clear strategy also makes it more difficult to identify policies which would bring benefits across a wide front, which support people's health, their communities and the environment.

70. The UN Rio+20 Earth Summit in June will consider a document that will capture the agreed outcomes of the event, currently set out in a 'zero draft'. That draft includes potentially agreed text on food security:

We reaffirm the right to food and call upon all States to prioritize sustainable intensification of food production through increased investment in local food production, improved access to local and global agri-food markets, and reduced waste throughout the supply chain, with special attention to women, smallholders, youth, and indigenous farmers. We are committed to ensuring proper nutrition for our people.

We call for more transparent and open trading systems and, where appropriate, practices that contribute to the stability of food prices and domestic markets; ensure access to land, water and other resources; and support social protection programmes.

We further support initiatives at all levels that improve access to information, enhance interactions among farmers and experts through education and extension services, and increase the use of appropriate technologies for sustainable agriculture.¹²⁵

In the absence of a food strategy that encapsulates Government policy on food, there is currently no clear view of the Government's likely approach to the Rio negotiations.

71. The Government must use the Green Food Project to provide a foundation for developing a broader food strategy that takes into account the health, environmental, social and economic consequences of the way that the food we eat is produced, sold and

125 United Nations Conference on Sustainable Development, *The Future We want—Zero draft of the outcome document* 2011, paras 64–66.

disposed of. Such a strategy should explicitly shape the way policy is to be co-ordinated across departments to provide a sustainable food system. It must provide information on the trade-offs that need to be examined when considering food sustainability and give direction on the types of foods considered sustainable. It must also provide an impetus to shift food policy to deliver a more equitable food system so that healthy and sustainable food is available to all.

72. A key theme of the Rio+20 Earth Summit will be sustainable food production. The Government should review its food policy in the light of the Summit agenda, and after the Summit it should build any commitments agreed into that strategy. That review must ensure that UK food policy is consistent with the global aspirations for delivering a sustainable food system.

Conclusions and recommendations

1. We do not currently have the basic science base to deliver more sustainable food production practices. Relying on markets to identify and to direct where this research is needed, and on sufficient scale, is likely to fail. The Government must be prepared to intervene with universities, colleges and the Research Councils to develop incentives for them to train more agricultural and food scientists. It must also take a more active role in directing the Technology Strategy Board and the Agriculture and Horticulture Development Board to focus research on sustainable food production. In developing the Green Food Project, and a subsequent food strategy, the Government must explicitly recognise the need for more research into:
 - the interactions between the impacts of food production practices and the environment, so that these can be better managed to increase production in a sustainable way;
 - the impacts of agriculture on climate change, to provide a basis for encouraging farmers to adopt more sustainable practices and behaviours;
 - the life-cycle impacts of food, to give producers, suppliers and customers the information they need to be able to make decisions which would have less impact on the sustainability of food;
 - soil science; and
 - the benefits of new farming practices, such as those in fresh water fish farming. (Paragraph 27)
2. Unless and until there is both clear public and political acceptance of GM, it is proven to be both beneficial to the environment and to producers, and evidence that demand for these products is based on understanding by consumers and transparent product labelling, the Government should not license its commercial use in the UK nor promote its use overseas. The Government must ensure that the public and Parliament is well informed on this issue. It should establish an independent body to research, evaluate and report on the potential impacts on the environment of GM crops, and their impacts on farming and on the global food system. An initial focus of such research should be on the scope for, and risks of, the co-existence of GM crops with conventional and organic farming regimes. (Paragraph 28)
3. The National Planning Policy Framework potentially provides local authorities with more powers to provide communities with better access to local food and to be able to grow their own food. However, the NPPF lacks the detail that could assist planning authorities in drawing up local plans to provide for this. The Government should make clear in the subsequent guidance it provides for local authorities that for Local Plans to be consistent with the NPPF they should take account of communities' access to sustainable food and ensure that they are provided with alternatives to unhealthy food options. There should also be provisions in Local Plans to ensure that communities are provided with open spaces to grow their own produce, including for example options for communities or co-operatives to buy

land for these purposes. To help develop such guidance, the Government should also identify best practice from leading local authorities in this field and quantify the benefits of developing local food strategies. (Paragraph 37)

4. Food systems are more likely to be sustainable if food reflects value or cost of the environmental impacts of producing it; an area we identified as needing more research. In the absence of such mechanisms food prices have been relatively low particularly when supplied through supermarkets which are able to bring economies of scale to bear. The Groceries Code Adjudicator's role in delivering fairer prices to producers will be vital in helping all food producers to achieve a fair price for their produce and with the means to invest in less impacting methods of production. The Groceries Code Adjudicator should be established so that it is able to begin investigations following representations from third parties, and it must have the power to fine retailers for breach of the Code. (Paragraph 42)
5. The Government should amend the Office of Fair Trading's remit to take account of sustainable development while protecting competition, and task the OFT and the Competition & Markets Authority to investigate and clarify the scope for supermarkets to cooperate in developing shared sustainability good practice. (Paragraph 44)
6. The Government Buying Standards for food should be extended to cover the wider public sector, to ensure healthy and sustainable food is made accessible to more people and to help establish new markets for producers. Though it is proven that the Standards can be adopted for minimal cost, voluntary measures to promote them have not achieved the necessary improvements across the sector. The Standards must be extended to require local authorities to adopt them across schools and hospitals. It should also continue to raise the Standards further, to reflect existing best practices in particular for eggs, dairy and meat. Effective public food procurement standards could also allow Government to lead by example, and make any new food strategy more credible. (Paragraph 49)
7. The Government has a vital role to play in advising consumers on the environmental and health benefits of eating well, by ensuring that they have clear and easily-understood information. The sustainability of food, however, is a multifaceted concept, as we have described in this report, covering a range of health, animal welfare, environmental, climate-change, resource-efficiency and ethical dimensions. As a result there is a wide range of different food label claims — recyclable packaging, food miles, organic, local, carbon footprint, fair trade, lower fat, low salt, etc. Recognising the multi-faceted nature of sustainable food, the Government should examine the scope for simple and consistent labelling on the sustainability of food products, perhaps through a weighting system to produce an overall score. (Paragraph 52)
8. We welcome the findings of the Food Growing in Schools Taskforce. Good food education and skills, such as cooking and gardening, should be part of the curriculum in all schools. The current review of the national curriculum provides an opportunity for the Government to promote that. The Government should consider stricter advertising limits, to extend the protection for children from junk food

marketing on children's television to all media viewed by children, including the internet. (Paragraph 56)

9. We welcome that the Government will now enable local authorities to use the £250 million Weekly Collection Support Scheme to initiate food waste collections. Without such collections, there is a risk to the use of food waste in anaerobic digestion, as well as for packaging recycling rates. The Government must ensure that there is sufficient funding available for all councils to be able to make sufficiently regular and separated food collections, to help develop a healthy anaerobic digestion sector. (Paragraph 61)
10. The Government should undertake new research to consider the opportunities and risks in using food waste to feed livestock. (Paragraph 62)
11. The overarching aim behind the Government's work in improving the UK's food system is 'sustainable intensification'. The Foresight report presented sustainable intensification as the solution to the global food crisis. The challenge for the Government is to define what this term means in practice, and particularly for the UK. Sustainable intensification must be more than simply increasing yields: The emphasis should be on 'sustainable'. Policy must take account of social and environmental impacts of the food system, including retaining space for small scale production practices and local food networks. (Paragraph 67)
12. The Government must use the Green Food Project to provide a foundation for developing a broader food strategy that takes into account the health, environmental, social and economic consequences of the way that the food we eat is produced, sold and disposed of. Such a strategy should explicitly shape the way policy is to be coordinated across departments to provide a sustainable food system. It must provide information on the trade-offs that need to be examined when considering food sustainability and give direction on the types of foods considered sustainable. It must also provide an impetus to shift food policy to deliver a more equitable food system so that healthy and sustainable food is available to all. (Paragraph 71)
13. A key theme of the Rio+20 Earth Summit will be sustainable food production. The Government should review its food policy in the light of the Summit agenda, and after the Summit it should build any commitments agreed into that strategy. That review must ensure that UK food policy is consistent with the global aspirations for delivering a sustainable food system. (Paragraph 72)

Formal minutes

Monday 30 April 2012

Members present:

Joan Walley, in the Chair

Peter Aldous

Mr Mark Spencer

Mark Lazarowicz

Dr Alan Whitehead

Caroline Lucas

* * *

Draft Report (*Sustainable food*), proposed by the Chair, brought up and read.

Peter Aldous declared an interest as a partner in a family farm near Halesworth, Suffolk, and having beneficial interest in a farm near Ipswich, Suffolk. Mark Spencer declared an interest as receiving rental income from Spring Lane Farm, Sherwood, and Floralands Garden Centre, Sherwood, as a partner in CH Spencer and Son, Nottinghamshire and as a member of the National Farmers Union.

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

Paragraphs 1 to 72 read and agreed to.

Summary agreed to.

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

Ordered, That the Chair 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, in addition to that ordered to be reported for publishing on 24, 30 and 31 March 2011, 27 April 2011, 11 May 2011, 22 June 2011, 26 October 2011, 14 December 2011 and 11 January 2012.

* * *

[Adjourned till 10 May at 2.00 p.m.]

Witnesses

Wednesday 11 May 2011

Page

Professor Philip Lowe OBE, Director, Rural Economy and Land Use Programme, Centre for Rural Economy, University of Newcastle; **Professor Tim Lang**, Professor of Food Policy, City University London; and **Mark Driscoll**, Head of One Planet Food Programme, WWF-UK.

Ev 1

Wednesday 22 June 2011

Andrew Clark, Head of Policy Services, National Farmers Union; and **Andrew Kuyk**, Director, Sustainability and Competitiveness Division, Food and Drink Federation.

Ev 14

Colin Tudge, the Campaign for Real Farming; and **Abigail Bunker**, Head of Agriculture Policy, RSPB.

Ev 23

Wednesday 29 June 2011

Professor Sir John Beddington CMG FRS, Government Chief Scientific Adviser; **Professor Charles Godfray CBE FRS**, University of Oxford; and **Professor Sandy Thomas**, Head of Foresight, Government Office for Science.

Ev 32

Wednesday 19 October 2011

Laura Davis, Strategic Development Manager for Health and Well-Being, Ideal for All; **Jeanette Longfield**, Co-ordinator of Sustain; and **Angela Blair**, Food Access Manager, Public Health, Sandwell Primary Care Trust.

Ev 47

Clare Devereux, Director, Food Matters; and **Vic Borrill**, Brighton and Hove Food Partnership.

Ev 57

Wednesday 26 October 2011

Jane Bevis, Director of Public Affairs, and **Bob Gordon**, Environment Policy Advisor, British Retail Consortium.

Ev 63

Wednesday 9 November 2011

Dr Helen Wallace, Director, GeneWatch.

Ev 71

Professor Ian Crute, Chief Scientist, Agriculture and Horticulture Development Board; **Emma Hockridge**, Head of Policy, and **Peter Melchett**, Policy Director, Soil Association.

Ev 76

Wednesday 7 December 2011

Dr Jennie Macdiarmid, Senior Research Fellow, Public Health Nutrition Research Group, University of Aberdeen; **Sue Dibb**, Executive Director and **Professor Elizabeth Dowler**, Trustee, Food Ethics Council. Ev 86

Rt Hon James Paice, MP, Minister of State for Agriculture and Food and **Sarah Church**, Head of Food Policy, Food Security and Food Sustainability, Defra. Ev 92

List of printed written evidence

1	Rural Economy and Land Use Programme	Ev 103
2	WWF UK	Ev 104
3	British Retail Consortium (BRC)	Ev 109, Ev 175
4	The Soil Association	Ev 112
5	Agricultural Biotechnology Council	Ev 115, Ev 176
6	Sandwell Primary Care Trust and Sandwell Metropolitan Borough Council	Ev 119
7	Food and Drink Federation	Ev 122
8	Food Matters and the Brighton and Hove Food Partnership	Ev 125
9	Sustain: the alliance for better food and farming	Ev 129
10	Sustainable Development Commission	Ev 134
11	Agriculture and Horticulture Development Board	Ev 138
12	GeneWatch UK	Ev 142
13	Royal Society for the Protection of Birds	Ev 149
14	Department for Environment, Food and Rural Affairs	Ev 154
15	NFU	Ev 161
16	Food Ethics Council	Ev 164
17	Public Health Nutrition Research Group, Rowett Institute of Nutrition and Health, University of Aberdeen	Ev 169, Ev 183
18	Colin Tudge, Campaign for Real Farming	Ev 172
19	Professor Sandy Thomas, Head of Foresight, Government Office for Science, Department for Business Innovation and Skills	Ev 174

List of additional written evidence

(published in Volume II on the Committee's website www.parliament.uk/eacom)

1	Dr Mirjam Roeder et al, Researchers, Sustainable Consumption Institute and Tyndal Centre for Climate change Research, the University of Manchester	Ev w1
2	Jo Ripley	Ev w4
3	RSPCA	Ev w7
4	Great Green Systems Ltd	Ev w8
5	Woodland Trust	Ev w11
6	Shepton Farms Ltd	Ev w15
7	World Society for the Protection of Animals (UK Office)	Ev w19
8	Susan Atkinson, Woodside Farm, South Nottinghamshire	Ev w23
9	Wellcome Trust	Ev w24
10	Dr Cathrine Jansson-Boyd, Senior Lecturer, Department of Psychology, Anglia Ruskin University	Ev w25
11	Fresh Produce Consortium	Ev w32
12	Permaculture Association	Ev w36
13	Research Councils UK	Ev w38
14	Dairy UK	Ev w43
15	GM Freeze	Ev w47
16	Rhiannon Jehu	Ev w52
17	Dr Ulrich Loening	Ev w53
18	Campaign to Protect Rural England	Ev w54
19	WRAP (the Waste & Resources Action Programme)	Ev w62
20	Asda	Ev w67
21	National Rural and Agricultural Workers Sector of Unite the Union	Ev w71
22	Which?	Ev w73
23	Compassion in World Farming	Ev w76
24	British Poultry Council	Ev w81
25	Fairtrade Foundation	Ev w85
26	Oxfam	Ev w89
27	Friends of the Earth	Ev w93
28	New Britain Palm Oil Limited	Ev w96
29	Noel Russell, Manchester University	Ev w100
30	Waitrose	Ev w102
31	Director of Catering and Retail Services, House of Commons	Ev w104

List of Reports from the Committee during the current Parliament

The reference number of the Government's response to each Report is printed in brackets after the HC printing number.

Session 2010–12

First Report	Embedding sustainable development across Government, after the Secretary of State's announcement on the future of the Sustainable Development Commission	HC 504(HC 877)
Second Report	The Green Investment Bank	HC 505 (HC 1437)
Third Report	Sustainable Development in the Localism Bill	HC 799 (HC 1481)
Fourth Report	Embedding sustainable development: the Government's response	HC 877
Fifth Report	The impact of UK overseas aid on environmental protection and climate change adaptation and mitigation	HC 710 (HC 1500)
Sixth Report	Budget 2011 and environmental taxes	HC 878 (HC 1527)
Seventh Report	Carbon Budgets	HC 1080 (HC 1720)
Eighth Report	Preparations for the Rio +20 Summit	HC 1026 (HC 1737)
Ninth Report	Air Quality: A follow up report	HC 1024 (HC 1820)
Tenth Report	Solar Power Feed-in Tariffs (Joint with the Energy and Climate Change Committee)	HC 1605 (HC 1858)

Oral evidence

Taken before the Environmental Audit Committee on Wednesday 11 May 2011

Members present:

Joan Walley (Chair)

Peter Aldous	Caroline Lucas
Neil Carmichael	Ian Murray
Martin Caton	Sheryll Murray
Katy Clark	Caroline Nokes
Zac Goldsmith	Mr Mark Spencer
Simon Kirby	Dr Alan Whitehead
Mark Lazarowicz	Simon Wright

Examination of Witnesses

Witnesses: **Professor Philip Lowe**, OBE, Director, Rural Economy and Land Use Programme, Centre for Rural Economy, University of Newcastle, **Professor Tim Lang**, Professor of Food Policy, City University London, and **Mark Driscoll**, Head of One Planet Food programme, WWF-UK, gave evidence.

Q1 Chair: If you are all ready, we can start. What I would like to do is give you a very warm welcome to what is, in fact, the first session of our current inquiry into sustainable food. As you can see, we have a very good turnout from the Committee, which I think gives you some kind of indication of the importance that we attach to sustainable food.

What I would like to do by way of opening this inquiry, and in view of the expertise that the three of you have, is just give you an opportunity first of all to perhaps set out for us what you see as the important issues, how you see sustainable food policy in the context of the global food issues and the issues raised by the *Foresight* report. We are here to hear what you have to say about the importance of this inquiry and also to give us some steer, if you like, on the headlines and issues that you think our inquiry ought to touch upon and what we can do in terms of UK policy on sustainable food. Perhaps, Professor Lang, if I invite you to go first.

Professor Lang: Yes, happily, thank you, and thank you very much for inviting all of us, but certainly me. The nature of your inquiry is enormous. You could go on for years. This is the food system. This is 200 years of British culture on trial not quite knowing where it is going and this word “sustainability” is suddenly bandied about; it means all things to all people.

One of the things I would like you to do is to clarify what the British Government means by sustainability. We need to know. Is it just low carbon, or is it the sort of things that I would stand for—and I suspect my colleagues too, knowing their work—which is a much broader approach? I think carbon is very important as embedded in food, but so is embedded water. Water is probably one of the most important driver of future food systems, if not the single most important. We are drinking bottled water here, which uses more water than tap water. Food has huge amounts of embedded water. So it depends what we mean by sustainability, whether it is just a narrow definition or a big definition. That is the first thing I would like you to do.

Q2 Chair: We would like you set out for us the most important environmental issues that relate to food production. Then we can perhaps go into detail with you.

Professor Lang: Okay. It shows what a boring academic I am or have become that I am now going to refer to something that I wrote. I hope you have had made available the last report that I did as commissioner on the Sustainable Development Commission, because in a sense that was a summation. It was my attempt, because I was lead writer on it, to try to hand over the conch to you.

My argument, and it is an argument, was that during the 2000s an understanding has gradually bedded down into the food system and into government, but not into consumers yet, of the complexity and diversity of criteria by which we need to reframe what we eat and what we produce—not just in terms of carbon, but also water, biodiversity, and soil use. I put into one very simple chart, which I can certainly make sure you have if you do not have it, the six headings that I think matter.

First is quality: no one should ever be talking about any sort of food, let alone sustainable food, unless we are talking about good quality. The great success of the British food system of the last 60 years has been about jacking up and tightening up quality standards. There are arguments about what they should be and whether they matter and whether commercial interests have distorted some as opposed to others, but the need to have a set of tough criteria for quality has to be part of the consumer interest in food. By quality I mean, obviously, taste, freshness, whether people like it, its authenticity—those sorts of things.

Then there is a whole wave of environmental issues that attract the interest of the Committee—not just climate change but water, land use, soil, biodiversity and, probably the issue that has rocketed in importance in the last three years, waste. Actually, we are producing huge amounts of food. There is more than enough food to feed the world at the moment, but about 30%, 40% is being wasted. We, in Britain,

are lamentable in that respect. We overproduce food at the point of sale and we then waste it in a huge way, but some very good things are going on to try and address that.

Social values matter, including trust, choice, identity and pleasure. Then there is health. I know it is not paramount for you as an environmental audit, but a sustainable diet must be about the integration of environmental criteria with health—I know that Mr Driscoll agrees with me on that. You have to eat in order to live. You also eat in order to get pleasure and so on, but unless health is dovetailed into the environment there will be potential conflicts.

Then the fifth area is clearly affordability, the economics issue. We might be able to say we will get sustainable food, have a sustainable diet, but it will be unaffordable. Only the rich—only rich professors like Philip Lowe and myself—could possibly afford it, but we can argue about that. There is an issue about allocation of costs, who pays for it and what is not being paid for. There are long arguments about externalities that we can go into.

Then the final issue, the sixth heading that I proposed, was about governance. The last 20 years of British food policy, and indeed Politics with a capital P—in Parliament and in Government—were dominated by issues of trust and governance, whether or not policy was driven by evidence, science, technical feasibility, whether it was transparent, whether information was getting through to consumers and so on, and other issues of governance.

To summarise, for me the framework of thinking about sustainable food, whether we are talking about production or distribution or consumption or diet, has to be about those six criteria: quality, social, environmental, health, economy and governance.

Q3 Chair: Just in terms of the *Foresight* report, which is really looking toward some kind of global crisis—

Professor Lang: The food futures one, not land use? For me, there are three *Foresight* reports that contribute to this.

Chair: The *Foresight* report on global food and farming.

Professor Lang: The land use one is equally important. I know Professor Lowe will want to refer to that, or I suspect he will. Also, the obesity report, which is still running, is critical within that, because we are overproducing food. There is a calorie excess, which is both a land use issue but also a cardiovascular issue. I declare I am in a public health department, so I have to remind you that sustainability is about health too.

Q4 Chair: I also want to ask you about how we can get some kind of mechanism for getting a timeframe in which some of the issues highlighted by those reports can be addressed through policy matters here in the UK.

Professor Lang: My colleagues will be equally as good on this as I am, but I will happily kick it off. In my *Looking back, looking forward* report, which I strongly recommend you to have a look at, I wrote as someone who was outside government but on the

fringes. I was asked to review the adequacy of British government systems, and we have a mess actually. We have divisions between the Department of Health, Defra and BIS, with the Treasury sometimes piling in, particularly over the Common Agricultural Policy. We have differences between England and, in particular, Scotland and Wales, but Ireland occasionally, where very articulate positions are being expressed.

I made in my report some recommendations of what I thought was needed. I personally regretted the demise of the Cabinet sub-committee on Food. While I understand why that went—the Government obviously does not want hundreds of Cabinet sub-committees—the Cabinet Sub-committee on Food that was set up after the *Food Matters* report was a very important move. That report was a Cabinet report in 2008, on which I was an adviser from my university, not as SDC. It was the first time since 1955 that we had a top level co-ordinating body with parallel civil servant representation which was also multi-jurisdictional, so in other words relating to Northern Ireland, Scotland and Wales. That was very important and it has gone.

I have consulted with many of my colleagues before coming to you today, but I also ran, through the SDC, a survey of nearly a couple of hundred food experts, the results of which are in the report. The overwhelming finding that came back was of a sense of drift, that there had been slow and reluctant engagement by the Labour Government. I am not defending what it did.

Chair: No, but what we want to look at is where sustainable food policy should be in the future.

Professor Lang: We don't know what is happening right now, and that loss of governance is a critical issue for the Committee when trying to come up with recommendations—not that I am telling you what to do, but I am giving you my suggestion.

Chair: I think your colleagues wanted to add to that.

Mark Driscoll: Can I perhaps run through some of our perspectives from a WWF perspective? WWF, obviously, is a global organisation. We work in 60 countries globally with producers both in the UK and in other parts of the developed and developing world. We work with different actors within the food system, so we work with some of the key food retail sector and other civil society organisations.

I certainly believe that global food security linked to food sustainability is going to be the key global issue in the next five or 10 years and that food is probably at the core, at the heart of almost every environmental challenge that we face. Like Professor Lang, I support this inquiry looking at the whole food system, not just part of the food system—so looking at the role of agriculture and agricultural efficiency all the way through to processing, food retailing and final end consumption. I think that is inherently important.

We are all conscious that the food system is enormously complex and there are real opportunities for us to work collaboratively to identify some of the key levers. Hopefully, this Committee can start looking at some of those key levers and challenges.

At the end of the day, we all want to move towards a fair, equitable, sustainable food system. We all know the figures: 9 billion people by 2050. I would also

11 May 2011 Professor Philip Lowe, Professor Tim Lang and Mark Driscoll

recommend that this inquiry looks not just at the UK challenges, but at some of the international context to food security in the UK. After all, we import 40% of the food that we consume, so 40% of UK consumers' food is from other parts of the world. We have to address some of the sustainability issues and environmental impacts, both within our shores and in other parts of the world.

Chair: We are going to go on and look at some of those in detail. I am going to ask Caroline Lucas to perhaps home in on some of that.

Q5 Caroline Lucas: Before I go on to the set question, on that point you were just raising about importing 40% of our food, it is a fairly staggering figure. Can you just reflect how that has changed over time? Is this a high point or is it an average point?

Mark Driscoll: It has changed over time. It has varied. That figure post-war—and I think Professor Lang can probably elucidate on some of the—

Professor Lang: I can. I know it backwards. Basically, we went into World War II in 1939 producing 30% of our food, and we raised it to 60% by 1945. In 1947, the Agricultural Act committed us to not going back to 1846 for repeal of the Corn Laws, which is what we are talking about. Basically, under the system of subsidies production rose slowly. We joined the Common Market, as it then was, in the mid-1970s and production reached its peak in 1982, when it was 82%. It is now back down to 60% and still dropping—slowly, but from my point of view worryingly.

That is the percentage share. If you look at absolute production, it has risen, because the population is higher, so it is a slightly more complicated picture. Indeed, for some commodities, there is overproduction. For cereals, we have 115% self-sufficiency, but for fruit, it is 10%. Fruit and vegetables are catastrophic. We produce 10% of the fruit that we consume—and we should be consuming more—and about 50% of the vegetables, and again we should be consuming more.

Q6 Sheryll Murray: You said that it peaked at 82% after we joined the then Common Market. Is that 82% figure from a UK domestic perspective or from a European perspective?

Professor Lang: No, those are the UK figures. Defra produces excellent figures through the statistics division at York and those are current figures, but they are gently dropping. It is about 60%, but it depends whether you are talking about indigenous products. We cannot grow mangoes and papayas, but we can grow apples and pears, and we are importing 75% of them.

Q7 Peter Aldous: I just want to pick up on food and the reasons for the decline in food. I would suggest that climate has actually played a role in that. Well, certainly, on mangoes and papayas, we are not yet there, are we?

Professor Lang: On apples and pears, I do not think climate has anything to do with it. It was heavily to do with subsidies in the 1970s to encourage Kent producers to grub up their fields and grub up their

orchards. That was actually the problem. It was finance-induced.

Professor Lowe: It also has a lot to do with the growth of exotic tastes in fruit, which we can't grow here and which has hugely increased.

Professor Lang: Bananas are our favourite fruit.

Q8 Peter Aldous: I am getting very parochial. Where I come from, Waveney Valley, North Suffolk, we had Waveney apple growers and there were apples all the way up the Waveney Valley. Why is that? Is that because consumer taste has changed and they didn't like British apples or price or what?

Professor Lowe: It is complicated. Certainly, there has been growth in exports within the European Union. Some apple growers in other contexts have been more efficient, clearly, than British apple growers have. Certainly, we have sucked in huge amounts of apple imports from France.

Professor Lang: If I can chip in, I think it is a lot to do with supermarket buyers, and the need to feed mass markets. Producers like those in Waveney were small mixed farms in the 1950s, 1960s and 1970s—I have talked to some of them. They went out of business because they could only produce small amounts. The concentration of the buying chains by the supermarkets was also a factor. It was not about climate change, as I understand it.

Chair: I think we will be coming to local versus general retailing, but I wanted to get back to Caroline's train of questioning, if I may.

Q9 Caroline Lucas: We have already talked about the *Foresight* report, particularly the report on global food and farming. One of the things that the report says is that there are strong environmental reasons for limiting the amount of expansion of agricultural land. It puts forward a proposal that we should have what they call "a sustainable intensification of production", which is a slightly strange term. I wonder if you could define what you think sustainable intensification means and whether you think it is the right approach.

Professor Lowe: The issue is, again, where we have come from. In the UK we tried to be efficient in a very narrow economic sense through the 1940s, 1950s, 1960s, 1970s, 1980s, and then it was declared that we had too much food production. We introduced milk quotas and set-aside and things like that. To a certain extent, we accommodated other things in the countryside, like biodiversity and landscape, because we felt that we had too much food capacity. We stopped pursuing what you might call economic efficiency. To a certain extent, we pursued other sorts of objectives. We left economic efficiency, essentially, to market forces but within a protected Common Agricultural Policy.

We have had a great growth since the mid-1980s in paying farmers to not maximise production. That is what agri-environment schemes are about.

Q10 Caroline Lucas: Is it a contradiction in terms? Sustainable intensification to me sounds weird.

Professor Lowe: Yes. We went for economic inefficiency to allow scope for both food production and the environment. We have now decided that no

longer do we produce too much food, certainly on a global level. We want to return to economic efficiency, but that old economic efficiency of the immediate post-war period was very ecologically inefficient. It used vast amounts of natural resources; it was very oil dependent; it knackered the countryside where it could. There is a sense of how do we return to economic efficiency but not lose ecological benefits. To me now it is a pursuit of two things, economic efficiency and what I would call ecological efficiency, to make sure that the gains that we make in terms of increased food production are not at the expense of the environment. That is the critical thing. It is trying to get the food-producing focus on the dual aims of economic efficiency and ecological efficiency.

Mark Driscoll: Caroline raises a really important point. The term needs to be defined. It conjures up all sorts of connotations, depending on where you sit within the food supply chain, what type of farming systems you use. To us at WWF, the important thing is not only definition but what are the key principles behind whatever we mean by sustainable intensification. For us, particularly for crop-based systems, it means basically increasing production in a given area while reducing key environmental consequences and increasing what we call the flow to key environmental services. We are talking about key ecosystems and the services they provide.

To us at WWF, the food system provides not only food, which is fundamental, but a wide range of public goods, public services, cultural and landscape benefits. We can list dozens of them, but sustainable intensification has to include that key range of public goods and services. So this is not just about minimal environmental impacts or trade-offs even. It is about adding value to the natural environment, to natural capital, and it is really important.

It is a bit like the discussion that is still happening now about how we define sustainable development. It still means totally different things to different people. I think this is crucial. If it is based on those principles, we believe that sustainable intensification, as *Foresight* says, is a really important part of that story, but in the context of some of the consumption changes that are also required. It is part of the picture but not the entire picture.

Q11 Caroline Lucas: I wanted to just come back and say is there not a danger that it will be used as a Trojan horse for those who want us to have lots more biotech and GM and so forth? To that extent, is there a potential conflict between how this idea might be used and the future of small-scale farming, for example, in this country?

Mark Driscoll: Yes, and again, people interpret that in many different ways. To us, technology has an important role to play. What type of technology is interesting but it must contribute to the reduction of adverse social, economic and ecological consequences. Yes, it does conjure up all sorts of connotations. To us, agri-environment schemes are really important in that context.

Q12 Zac Goldsmith: Just quickly on that point, there was a report, it was either a year or 18 months ago,

put out jointly by UNEP, the UNFAO and I believe the World Bank, looking at this issue of productivity. The conclusion they reached pretty clearly was that small, diverse and more traditional farms are more productive per unit of land but less productive by unit of labour, obviously. Given that livelihoods and jobs are a key part of this as well, is it possible to interpret sustainable intensification as in fact being more of a return to smaller scale, diverse, more traditional?

Mark Driscoll: Yes. For example, in our own uplands, many would argue that in some parts of our uplands there are too many cattle or sheep and you could say that reducing the number of sheep or cattle is part of the sustainable intensification picture. You have a really important point. At the end of the day, there will not be one system that will resolve all those issues. Small-scale farmers are a really important part of that for many reasons, but other agricultural production systems also have a role to play.

When we are looking at sustainable intensification, again we can talk about just the UK, but if you look at the global picture, parts of Belarus and Russia have incredibly fertile soils in land that has been abandoned, and we should also be thinking about supporting those regions in making the most use of abandoned land. There is not one system fits all and small farmers have a really important role to play.

Q13 Mr Spencer: Obviously, you would look at that in a global context, wouldn't you? There would be little point to introducing a more extensive system in the UK if you then just imported product from another part of the world to fill that gap in the market.

Mark Driscoll: I can speak for WWF, but perhaps I will let other colleagues. I think we have to look at it in a global context, but I also think it is an interesting one when you look at land use. We are not very good at land use planning in the UK, many would argue. Perhaps Professor Lang would argue that actually the most productive use of our uplands could be extensive farming or it could be trees. Is it right that we have dairy farms in East Anglia that could be more suited to crop production, for instance? That is just an example. I don't have the answer.

Professor Lowe: It is a difficult set of trade-offs, because for me sustainable intensification means that we have to produce more from the land, but more of what? More food, yes, but also the other things that land produces. The notion that this has to be done within a finite land base comes from a sense that land conversion itself can be quite damaging, can release a lot of carbon, for example.

The question is how you do it and where you do it: do you do more food production in Britain and less environment or do you do more environment in Britain and import more food? All these things have to be worked through. I suggest that the Committee might want to say, "This is our understanding of sustainable intensification and what it should mean within the UK", before the scientists define it too technically. Don't get the impression because it sounds so techie that someone knows what it means exactly. There are choices to be made and you are pretty early in the game. I sense that defining what

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you might want it to mean or what it should mean could well contribute great clarity.

Chair: Did you want to come in on that, Professor Lang?

Professor Lang: They have both said it exactly: don't take sustainable intensification as given.

Q14 Mr Spencer: I am fairly simplistic, to be honest. Sustainability to me means if we come back here in 200 years time will we be well fed and will we have done that without killing the planet or each other? It seems fairly simple to me. If that is my definition of sustainability, what can we do to make sure UK food production increases its sustainability in those terms?

Professor Lowe: There is a question of how much of Britain's food supply do we want to grow at home and that is a critical issue, because our overriding concern has a set of hierarchies. We want food security. We want sustainable environments. On each of those the UK has national responsibilities and international responsibilities.

Q15 Mr Spencer: Are there technologies that at this moment in time are not available to us that will assist us in becoming more sustainable, or are there skills that we are lacking as well?

Professor Lowe: There are technologies and skills available to us that we don't use. So already there are lots of things on the shelf that we could use a lot more of.

Q16 Mr Spencer: What are they specifically?

Professor Lowe: Our lack of interest in agricultural systems over the last 30 or 40 years means that we have not invested much in research and skills. We have run down our farm support systems, we have run down our farm advisory systems. Much of the improvements in productivity that you could look for both within countries and between countries would be just by bringing the average up to the best, or bringing the worst up to the average. There is a lot of science and technology out there that is pretty humdrum, but if you look at the range of productivities you could increase enormously the production of local food systems, and regional, national and international ones. The people who are the most productive are not necessarily the ones who are bashing the environment most, so you could certainly learn a lot by spreading existing good practice.

Q17 Mr Spencer: Should we continue to strive to produce as much food in the UK as we possibly can, or is that not what we should be doing?

Professor Lang: It depends what it is. If it is mangoes and papayas, no, because you would need to build biomes everywhere, but if it is apples and pears, yes. If it is tomatoes in season, okay here, but if it is tomatoes out of season, don't grow them here. It goes back to the set of six headings and different criteria by which you judge what a sustainable food system is. If you give priority to carbon, it cuts across a lot of aseasonality. There is a lot that would improve by being more seasonal. If you are trying to produce strawberries in October-November, you are going to be using a lot of plastic, a lot of heat and a lot of

fertiliser. That is not very sustainable, if you have the complex set of criteria that we have.

Q18 Mr Spencer: Could we do more by educating consumers rather than changing the actual production of the food? Is that what you are saying?

Professor Lang: I wanted to pick you up earlier. I agree completely with what Philip Lowe said and I think we all do—indeed, we were talking outside. I think there is an issue of colleges of agriculture and skills. The infrastructure to support the raising of worst practice to the level of the best practice, as Philip Lowe was mentioned, is urgently needed. We don't have good mechanisms in Britain for raising worst practice to best practice.

Mark Driscoll: The question about self-sufficiency is an important one because it comes up all the time. Like everything, there is just not an easy answer. It partly depends on the kinds of products. If you are looking at the environmental impacts of particular products, a tomato grown in the UK could actually have a higher environmental footprint than a tomato grown in Spain and flown in, because it has better climatic conditions. It might depend on the time of year, that kind of thing. I think we have to be very careful. I certainly think that with temperate fresh fruit and vegetables where there is a lot of waste driven by importing those particular crops, it is nonsense to import apples that we can grow in the UK from New Zealand, so that is an issue.

We also have to be very careful of the social dimension. In Africa, 1.5 million people rely on the UK or exports to the UK. There is a really important social dimension. We have to look at the global environmental impact picture. It does depend on production methods and systems. It depends where they come from and how they are grown, but you can't ignore the social dimension. There is an issue for the UK about us being vulnerable, if we are depending on just totally home-grown produce, to extremes of climate, and all sorts of other issues in a relatively small country, so I just wanted to flag—

Q19 Neil Carmichael: I just want to quickly make three points. Number one is that I completely agree with Professor Lowe about the need to improve agriculture, both in comparison to between ourselves and others but also historically, because we simply haven't done a huge amount of research and development over the last five or six decades. I think that is fair.

I was going to test you though on your belief that we had an economic food production system up until the 1980s. Of course, what really drove that was the Common Agricultural Policy with its price-fixing mechanism. I do think that needs to be borne in mind in terms of the way in which we think of food production. I would link that to something Mr Driscoll said about upland farming. The real reason why upland farming is supported as it is is not anything to do with sheep or land, but society. That is the real driver behind the Hill Livestock Compensatory Allowance scheme. If it was not there, you simply wouldn't get any farming there at all. I do think that those sort of policy issues need to be considered when

we are discussing whether or not we are going to go down the production route or the other route.

I just want to hear your thoughts about this. I think the key is to pursue best practice, but sketch it in terms of efficient farming with a proper husbandry of the environment. That is the direction of travel that agriculture needs to be encouraged to pursue. I am just wondering if you think that training and so forth would be the key thing or do you think that we need to be tinkering with the policy mechanism in the form of the Common Agricultural Policy to achieve these things?

Professor Lang: I would like to respond, but I bet we all would. You go first.

Professor Lowe: The point I was making was about this shift in 1980s when Margaret Thatcher decided to reform the CAP.

Neil Carmichael: No, she didn't. That was a decision made by the mob in the Commission.

Chair: I don't think we have the time to really go into these avenues.

Professor Lowe: The critical thing was the introduction of milk quotas, 1984, and that signalled to everyone a sense that the end of the post-war emphasis on efficient expansion of UK production had come to an end. We went from 1984 to just a few years ago where the agenda was either we produce too much food or we had surplus food capacity in the UK. That was linked to obesity and overeating. We shifted in about a five or six year period to now concerns about food shortage. I think the pendulum is swinging in the right direction. It might swing too far. Five or 10 years ago, you would have got economists in here who would have said, "British food capacity doesn't matter. It is a global issue, global trade, and in any case, we have too much food. We're all too fat". That is what they would have said. We are redefining this because we are conscious of climate change, we are conscious of running out of oil, we are conscious of the fact of population growth, but that is the issue that I meant.

Q20 Simon Kirby: Coming back to your point about consumer choice, we can have the most efficient cabbages grown and the most wonderful asparagus and local apples. If people choose to have mangoes and pineapples and beans from Africa, surely that is the most important thing. I am playing devil's advocate here. Are we not missing the point entirely?

Professor Lowe: I think people want exotic fresh fruit and that can be grown quite efficiently and can be brought into England. That should be entirely a question of consumer choice. The problem to me is I would like to see more fresh fruit grown in Britain, but I would like to see people, more critically, eating more fresh fruit. I wouldn't want to restrict them because of what can be grown in England. We could grow a lot more and make superfruits more healthy if people were willing to have a lot of polytunnels everywhere. They give you the capacity to produce healthy fresh fruit that you wouldn't need to import, but a lot of your constituents would not be happy about lots of polytunnels everywhere, so that is one of the trade-offs we have to make.

Q21 Caroline Lucas: What about the price though? Isn't it about the price you are going to pay for your mangoes? By all means have the option of buying your mangoes, but make sure the price of that mango properly internalises the environmental costs of getting them from country A to country B, which currently they do not.

Mark Driscoll: Yes, it is about the cost of the mangoes and it is about those mangoes reflecting the true external costs of producing those mangoes. The same applies with the entire food system. I don't know whether we will be able to get on to this subject, but to us valuing those external costs and incorporating them into the costs of the food we buy is absolutely fundamental, whether it is mangoes or cucumbers or whatever. That is a really important element. Ecosystems, ecosystems services and the value of pollination services are not costed in to the economics of our food system, and that is really important.

Just a quick second point—and I know you want to get on—many consumers, 70% or 80%, value environmental issues, but they don't have time when they are running around the supermarket to make those decisions when they are choosing a product in two seconds. One is clear and concise labelling to help inform consumer choice but, number two, I suggest there is a role for retailers. Should retailers edit out unsustainable choices for consumers? If you ask consumers, they will partly expect that.

Chair: We are coming on to this later. We have strayed off our briefing at the moment. Peter, was it on that point previously that you wanted to come in?

Peter Aldous: Yes, it was on the point that I think Professor Lowe mentioned, which was along the lines that British farming is less efficient today, has poorer backup and advice. From my perspective, 30 years ago as a mixed farmer in the east you had MAF, you had the MLC, you had British ADAS and whatever providing advice. That structure no longer exists. Some people would say it is still there in the private sector. You would say at universities, if you want to go into food science there are still opportunities. But is the system not there? Is it too expensive?

Professor Lowe: Well, it has all been privatised, and to a certain extent you have private systems of advice that have replaced the public system. It is very patchy, and one of the net effects of that is that, compared with 30 years ago, the spread of productivity is huge. Government has been prepared to back what you might call public good advice, environmental advice, but we are now piling a range of issues on the farmer: produce more, have regard to biodiversity and landscape, remember water quality, and don't forget climate change adaptation and mitigation. Should we leave that all to just the independent initiative of the farmer? One of the classic things that our work suggests is that if farmers get together to do things, not just on the production side, but co-operate to deliver landscape benefits or climate change benefits or water quality benefits, you will get great advantage. That is where a public advisory system could be a great advantage.

Q22 Martin Caton: If moving to smaller units is a practical form of sustainable intensification, as has

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been suggested, what does Government need to do to move policy in that direction, because it is reversing what has been happening over many, many years? What can they do?

Professor Lang: I am going to fudge it by saying my report gave you six pages on that. There is no one thing that is going to sort that out. Philip was just pointing it out, just about farmers, but actually the problem is not farmers. I know some of you, and me too, are interested in farmers and farming, but total carbon, total water, total impact is not just at the farm level. 40% of carbon in most food is at or before the farm gate; after it is huge. Whether a consumer gets into a car and drives to the supermarket has a huge impact on the carbon footprint of the diet that they then eat. If I go on my bicycle over there or you go in your Rolls-Royce, it is a very different carbon footprint in the same meal. Never tell MPs what to do, but I think it would be a mistake if the inquiry into sustainable food was only looking at farming. It must look at total supply chains. We need advice in exactly the same way that Philip was pointing out on farming, we need that at point of consumption.

There is a similar parallel, and Mark Driscoll is heavily involved in that, as am I. There is a similar political with a small “p” argument going on around the role and power of retailers in shaping diets and doing the hidden choice editing that he was referring to. That needs to come out into the open. Consumers, frankly, are in the dark. They say lots of grand things about what they want and then don’t know how to do it, not just because of labelling that Mark was referring to, although partly that. It is partly they don’t understand yet, they haven’t been presented with the sheer complexity. How can you have low carbon meat, how can you have low embedded water in meat? Well, it depends how it has been grown, and then you are trading it off with price, because to start improving the embedded water and embedded carbon in meat you are going to have to have less intensively reared, less cereal-based meat production. That is the sort of thing that is very difficult as a message to sell to consumers, but then that is what we are going to have to do.

Put it this way, if there was a third world war, God spare us, and there was rationing, it would be doing it for us. But we are not in that situation, we are in a situation where the retailers ultimately at the moment are struggling with this. They are doing huge amounts behind the scenes and out of sight. I have had meetings with three of the top five—no guesses who—of the retailers in the last six months. They are shaving out carbon, indeed beginning to address embedded water and altering land use in their dairy and meat supply chains, not telling consumers about it, but there is a limit to how much that will affect consumers, unless consumers cut down the amount of meat they eat. So we are in a very paradoxical situation at the moment where a lot of people in big, powerful positions in the food system are acutely aware of the need to start getting more sustainable but are ultimately worried that it means confronting the consumer. That is why we have to address the issue of sustainable diets.

Q23 Sheryll Murray: I think you have strayed on to what I was going to ask you about.

Professor Lang: Forgive me, then.

Sheryll Murray: I was going to concentrate on supply. To what extent are we paying a fair price for the food we eat? For example, are we paying enough to ensure it is produced in a low impact way, and that the producers are fairly paid?

Professor Lang: I think the answer to your first question is no, generally.

Q24 Sheryll Murray: How might we achieve a fairer price?

Professor Lang: This is a big one. I would like both Mark and Philip’s views on it. My personal view from my centre, my university job, is that we are not paying enough for food. The great success—you will find it in my report—of British food capitalism, and Philip referred to it, was the way in which not just production went up and then has declined, but the way in which the price to consumers has dropped. In 1950 25% on average of domestic expenditure went on food. It is now 9%. If you add eating out, it goes up to 12% or 13%. But if you look at a reasonably well paid professor like me, it is 5% and that is tiny. That has meant lots more money to spend on cars, holidays, houses, children, TVs, and so on. The entire nature of the economy has been facilitated, the consumer economy—

Q25 Sheryll Murray: I think Mr Driscoll has something to add as well.

Professor Lang: Do you agree with that?

Mark Driscoll: Yes, absolutely.

Professor Lang: This is big stuff. If you are telling consumers they have to pay more for food, that means less on other things. But that is the reality.

Mark Driscoll: I perhaps want to make three points. I agree, over the last 40 years the developed world has spent less and less of the monthly pay packet on food. Basically, that has been of huge benefit to us, we have stocked supermarket shelves full of choice.

Professor Lang: As consumers.

Mark Driscoll: As consumers. I would like to make possibly three points here. One partly relates to a previous question reflecting the true cost of food. The food system at the moment doesn’t truly reflect the true external costs of the food that we produce and consume, and that is a real issue. Farmers need to be paid a fair price to reflect those external food costs. That is one key point and CAP has a very important role to play. I know the UK Government, through its Natural Capital Initiative, is looking at valuing ecosystems and the services that they provide. We wholeheartedly support that approach. It does have its drawbacks. There is another question that comes in here, and that is the relationship between the food retailer and the food producer, because at the moment food producers, perhaps, have an unacceptable burden of risk, passed down from the food retail sector to the food producer, and we very much support the role of the Groceries Adjudicator to ensure there is more—

Chair: We are going to come on to that in a minute.

Mark Driscoll: Okay. But that is essentially about the benefits being not just retailer benefits or consumer

benefits, but paying a fair price to farmers. That is a key mechanism. The other one is about how we support farmers. CAP is obviously going through reform at the moment and 2014 will be a key date. So it is about paying farmers a fair price, not just for the food that they produce but for the public goods that they produce, without going into detail.

Sheryll Murray: Professor Lowe, did you have anything to add to that?

Professor Lowe: Just that point—I don't think we do pay enough. Certainly, wealthy, middle class consumers in Europe could afford to pay more. One of the factors arising from us not paying enough is that we exploit the environment, we exploit the farmers. We exploit the farm animals too.

Q26 Martin Caton: In your first answer, Mr Driscoll, on valuing ecosystem services you gave the example of tropical fruits and that the environmental cost of that is clearly not being reflected, but in the answers you have all given now you are saying that all food is underpriced. Surely, if we are going to get this change in consumer approach then there have to be some very clear differentials. Those foods that are lower in environmental costs have to be much, much cheaper, relatively, to those that are high. Can you not envisage that some food prices might even go down?

Mark Driscoll: Yes, absolutely. I think that is a key point. We do have to value ecosystems and ecosystem services and make sure that we pay the real cost of food. It is absolutely right to say that some will go down, some will go up. There is a big issue about mechanisms for that, in terms of do we focus on market value or do we look at taxing high impact food, through, for instance, a nitrogen tax or a feed tax? Because of the amount of red tape and bureaucracy, ecosystems and services are very complex things. It could add extra financial burden through that process in itself, so we have to look at very key mechanisms to be able to address those issues.

Q27 Martin Caton: Do you have a view on what is the best mechanism?

Mark Driscoll: Because of the particular burden to both producers and consumers, the easiest would be to tax things like nitrogen inputs, particular feedstuffs, rather than try and embed it into the market value of foods going through the system.

Professor Lowe: From one of our study projects, we have looked at healthy eating: what would the countryside look like if we ate healthy diets? One of the things was looking at the mechanisms for promoting healthy eating and we did extensive survey work. It was evident that a tax would work to a certain extent. You could have a sort of neutral tax that taxed fatty food and gave you tax remits on healthy food. The problem with that is that the poor, whose diets are the poorest, would get hit hardest by it. Then we looked a lot at the experience with the different approach of social marketing, giving people tailored marketing messages. The trouble is that the social marketing gets through best to what you might call the worried healthy and not to the unworried unhealthy.

Q28 Simon Kirby: On that very point, it is all very well valuing ecosystems but what should I say when I return to Brighton Kemptown and the 25,000 people who live on large council estates who genuinely struggle to buy food as it is? What do I tell them?

Professor Lang: The track record of health education is that it doesn't overwhelmingly work. The people who think they are doing it are not doing it in the same way. The short answer is it depends where you are going to spend your money. It is an issue. Earlier, one or two of you were raising the issue of consumer choice. This is what, in my academic terms, we would call the cultural issue. How do you value it? Do you value the health of your children, your family and yourself and your life expectancy by putting more of your money into good diet and less into a TV or subscription to Sky? That is an issue of values. There is great sensitivity in public health about telling people what to do, but that said, everyone knows that we have a massively divided, diet-related ill health problem. That is why I was referring earlier to the *Foresight* obesity report. I was an adviser to that and still sit on the expert advisory group of the Department of Health on obesity.

We know acutely—and Philip Lowe is absolutely right—all the money at the moment is going to go into social marketing. It is a very lite—L-I-T-E—approach to government. We need multiple levers. No one answer we know can help shift people away from an unsustainable diet or an unhealthy diet. Prices, aid, advice, role models—a whole complex array can be useful, but also we know diets change rapidly in crisis. It can be national crises like wars, shocks, oil prices, dislocations, but also it can be your mother dies of a heart attack, it shakes families up. We are not using that enough, but this is a different inquiry. We need to be reminded of that.

Chair: I think it is useful to go down that public health behavioural track but I have a lot of people wanting to come in and we are time-limited. Mark, on that point do you want to come in?

Q29 Mr Spencer: Yes, it was about food prices specifically and I just wondered if you thought that successive Governments basically have benefited by the suppression of food prices and inflation being held down by those food prices being very low.

Professor Lang: You are absolutely right; I think you would find us all agreeing that. That has been the unwritten British food politics. It is what I teach my students: leave it to Tesco et al. That has been the deal. That is why Blair sent for Walmart to buy Asda to try and inject some high level notional competition in the oligopoly between Tesco and Sainsbury's and Morrisons.

Q30 Mr Spencer: How do you make it politically acceptable for food prices to rise, if that is what you are advocating?

Professor Lang: That is absolutely the big question. We are all interested in that. It is recognising the consequences of the diet we eat.

Q31 Caroline Lucas: If benefits at the moment are linked to the average price of a notional basket of food

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and if that basket of food is going to cost more, benefits should go up more and we shouldn't be using cheap food as a way of keeping those kinds of welfares and things low. It has its own set of implications as well but it seems to me you can't expect people on poor incomes to be paying more on food right now.

Professor Lang: Exactly. I personally am intrigued academically by what the Americans did from the 1890s and we didn't, which was to cost different diets. The US Department of Agriculture still produces diets for low income households, middle income households and more affluent households. We need something like that, and I made it a recommendation of my report that we need to have a set of indicators coming out of Government about a notional basket of sustainably produced foods, what a sustainable diet would cost for rich, middle and low income consumers. The USDA publishes a regular indicator, which I think also we need—to go back to a previous question—of who makes the money from food. We concentrate heavily on farming but most of the money is made beyond farming.

The issue of the cost of the food to the consumer must not be confused with how much money the farmer is getting, but that too is a complicated issue because sometimes a longer chain can end up being cheaper for the consumer, although in terms of reducing carbon we want shorter chains.

Q32 Sheryll Murray: Is there a role for added value then to make sure that the prime producer will get a fair price?

Professor Lang: I bet you would find all of us agreeing on that. I think behind us are cohorts of academics and NGO think tanks who would broadly say yes, but the issue is consumer acceptability. It goes back to what I referred to as food culture. In Britain, remember that in 1846 one arm of British industry won over the landed interest, and for 165 years we have had a culture based around celebrating cheap food as a good thing rather than quality of food as a good thing. I think we all know in the 21st century that culture is going to have to change and it will be imposed on consumers. It has already been choice edited without them really knowing it and it is probably going to be choice edited even more dramatically. But at some point, not far off, consumers are going to have to be rapidly educated into the realities that food prices are going to have to go up and they are going to have to change what they eat. The ubiquitous high fat, high calorie diet is going to have to probably modify. In public health we think that is a very good thing.

Q33 Dr Whitehead: The Government has announced that it is going to urge manufacturers to scrap sell-by dates and move to display-until dates. I must say my view that this will eliminate food waste is not that advanced, but what is your view of the extent to which that is going to work? Also, are there other factors in food waste? I know there are, for example, a number of pinch points in terms of production, the extent to which food production is edited by, say, overrides in supermarkets requiring

food producers to chuck away a lot of food that is produced. So what are the particular pinch points in terms of food waste? Is it really post-consumed waste that is the main point?

Mark Driscoll: If I can have a stab at answering that. Waste differs whether you look at a developing market or the UK. Food waste in the UK is wasted throughout the food chain, usually about a third, roughly, in the agricultural production process and harvesting process, a third through processing in the food retail sector and about a third, I think, at a household level. If you look at the developing world, interestingly the predominant food waste is post-harvest losses because of the lack of infrastructure or the lack of storage facilities. So in the UK, yes, food waste is really important. I think the display-until date is an important step but it is not the only part of the story. WRAP has done quite a lot of work that shows that we waste food worth about £680 per family in the UK; 8 million tonnes of food is wasted.

There are a number of other issues, I think. One of the issues I just want to flag. I think it is crazy that non-animal food waste from things like schools and prisons is not fed to livestock. That came in after obviously the BSE crisis. I would encourage the Government and the Committee to look at that aspect, but also other aspects in terms of working with the food retail sector through the Courtauld agreement that set key targets in terms of reducing food waste. So you do have to look at food waste across the piece. Some of the behavioural change aspects, the Love Food Hate Waste campaign from organisations like WRAP, are important mechanisms.

Professor Lang: If I can come in on that. They have raised it very effectively but they haven't transformed behaviour at the point of consumption yet. I would like to just add to what Mark said there. Don't forget the way in which the sell-by dates and so on were all introduced, as you said, as issues of food safety. There are microbiological issues. Now that we are focusing much more upon waste, we must not forget those. I don't think that the Department of Health has been good at this, frankly.

Chair: We are coming up to the magic hour of 4.00pm and most of the Members will have to leave to go on to other sessions, I do want to bring in Zac Goldsmith if I may and then perhaps if there is anything to tie up at the end, if we are still quorate, I am very happy to do so.

Q34 Zac Goldsmith: I have to leave at 4 pm unfortunately. I have two questions that are linked, as all these issues are, but they are not immediately linked. The first one is do you think it is possible for the Government to encourage local food networks without curbing the reach of the supermarkets? Is there an inevitable conflict between the two?

Professor Lowe: No, I don't think so. I helped set up Northumbria Larder, which we set up after foot and mouth. Before then, there had been these efforts to encourage little, small scale food producers, and with foot and mouth, because we closed farmers' markets, their outlets disappeared and they were all going to collapse, so we set up Northumbria Larder as a collective of small scale food producers and we got

some money from a quango, Food from Britain. That money continued under the regional development agency and now Northumbria Larder has, I don't know, 50 or 60 small food producers and new niches have developed. So things that you didn't use to be able to buy in Northumberland, like Northumberland cheeses, are now thriving.

Q35 Zac Goldsmith: But are you saying then the trends are already being countered, or is that an insignificant blip in terms of the overall direction of—
Professor Lowe: In terms of local food and small speciality food producers, it has been a great growth over the last 20 years and it has been a great renewal. Some of it is middle class food trendies, some of it is CAP support for farm diversification and a lot is to do with the choice eating habits of the middle class.

Q36 Zac Goldsmith: Can I ask Tim to answer before you go on, because I have another question, and I want to be as quick as possible. Sorry to be pushy but the minutes are sweeping by and I would love to hear Tim's views on that.

Professor Lang: I agree with what Philip said. I am a trustee of Borough Market, I should declare an interest, and that has been the archetype of the middle class consumer. Our profile is right across the classes, so don't underestimate the degree to which there is a cross-class interest on that.

Secondly, I think Philip is absolutely right. What he has done in Northumberland has been echoed everywhere. We are in a period of extraordinary experimentation with local food hubs and local food identities, but they are still very small. But magically, always looking for another percentage growth opportunity, the big retailers are also in there. Asda, I think rightly, says it is the biggest local provider of local food systems and it has created more diverse local supply chains. It is not my version of localism, but it is a bit like sustainable intensification; local means different things to different people. The big companies have got their version of it and we have got the democratic experimentalism, which is how I would see what Philip was referring to.

We are at a very interesting moment in British culture where there is an appeal of that. You know as well as we do. You are interested in this and I am with you. I don't see much support from Government for that. The RDAs were running with it but now we don't know whether that will do it.

Professor Lowe: A lot of public money did go into it.

Professor Lang: It did go into it, yes.

Professor Lowe: When you look at the history of a lot of the farm diversification activities, quite a bit of public money has gone in.

Q37 Zac Goldsmith: The second and final point, and this is a huge one I'm afraid, when we talk about cheap food—going back to Professor Lang's points about re-education, about trying to shift the consumer fashion when it comes to choosing what to buy, what to eat and so on—is it mostly not about education but more about honest economics? If you look at what we mean by cheap food, usually it is only cheap because we are paying twice for it. You pay over the counter

and you pay indirectly through subsidies, which can take any number of different forms, partly by not including the cost of environmental pollution, for example. If you had an honest pricing mechanism so that cheap food is less cheap and some of the niche stuff that you were talking about in the context of Borough was perhaps less expensive, would that in itself not be more transformative in terms of consumer choices? Should that not therefore be the priority of Government, trying to create a more honest and, in effect, a fairer and freer market when it comes to pricing food?

Professor Lowe: One would like that to be so but it is drenched with market failure, the system.

Zac Goldsmith: Yes, it is. That is my point. That is what I am trying to say.

Professor Lowe: You have oligopolies in terms of the food retailers. You have small consumers. You have small farmers. You have people who don't pay for the environment and food miles. The thing is steeped in market failure.

Professor Lang: Yes, it is a mess. But you are right. That is what my table in my report was trying to say: unless we sort out this issue of policy and fairness, all the other things can't be delivered. There is distortion across those six headings and I think almost all of us who are struggling with this complex picture feel that we don't yet have the steer from Government or the big companies. The great irony is the big companies are now deeply worried about this because they are getting to the limit of what they can do unless they come out and say, "Consumers have to pay more and diets have to be different". They are locked into servicing an out of control, distorted consumerism, which is why gently I have been saying that although we have to concentrate on agriculture, of course, we also have to take supply chain approaches. All of us, I think, would say in different ways we think the analysis of sustainability in food has to be systemic. But the tricky bit, Zac, is really that business about consumers and what they will do. We have had 60 years since the Second World War of an assumption being built in of what progress is, and it is deeply wired. It is deeply wired and it troubles me. I'm a social scientist. It troubles me. How can we change it?

Zac Goldsmith: I would love to have this discussion for hours on end but I really do have to go. I'm very sorry. Apologies.

Chair: I think that Peter Aldous is going to come in a little bit on the systemic strategic approach towards food, and I thank Mr Zac Goldsmith.

Q38 Peter Aldous: We have heard about a variety of policies to encourage sustainable food production, but to what extent do you think the Government is or is not providing a strategy to join up all those policies?

Professor Lang: Very quickly, my report was about a slow growth of policy. I did a table with you in mind, on pages 16 and 17, just showing the way in which it was growing across diverse headings. Reluctantly, after the Cabinet Office report, there was an acceptance that the devolved administrations were leading and England wasn't yet doing its bit. So the Cabinet Sub-Committee was set up, with parallel civil service governance, to begin that process and then

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England and the devolved administrations liaison was also being created. That has all been frozen. The *Food 2030* report by Defra was aspirational. We all hoped it would be non-party political and it was; the then Conservative Opposition welcomed it. But there has been no follow-on and that is what I think almost everyone in the food policy world feels frustrated about, that we could now move to implementation. Yes, rejig it, but it needs to be implemented and we need to be thinking about the relevant institutions for doing it at national level, devolved administration level and local level. I am not sure whether we have structures that can address it at the local level yet and—I don't know what Philip thinks—I don't think LEPs are even on the planet as far as that is concerned in replacing the RDAs. The RDAs were pretty hopeless, let's not be romantic about them. Do you agree?

Professor Lowe: I think, to a certain extent you have a new framework with this interesting report, the latest *Foresight* report, which gives you a global perspective. The critical thing there is a hierarchy concept: there is food security; there is healthy eating for all; there is the environment. Critically, we have to decide. The previous debate tended to be immensely parochial. The reframing is a global picture and what I am looking for your Committee to do is on those three elements—food security, healthy eating for all and the environment—What is the right balance between UK's domestic responsibilities and UK's responsibilities for the wider world? On each of those headings you could say, "We'll grow more. We'll grow less. We'll protect the environment at home. We'll let the environment suffer overseas. Healthy eating for all: does that include our development responsibilities?" I look to you guys to say, "This is what it means for the UK", and not to be little Englanders but to say, "In the new global context of this report, this is what a set of UK responsibilities must be".

Professor Lang: The only criticism I have of the *Foresight* report—I would rather declare an interest because I have said it to Committee Members—was I thought they were strong on production and supply and weak in terms on following through the analysis on consumption. It is partly because, even in academia and science, we are nervous about consumers. We are all focusing upon production. It is sort of there and they acknowledge the report that I led from the SDC called *Setting the Table* where we tried to articulate, based on work we had done for us from Oxford University, to balance the interests of the environment and health. But the reality is no one wants to or everyone is nervous about saying, "Depending what you want to eat, here is how you are going to have to change it". Until we do that and then say, "What would a sustainable diet look like?" and then, "What would a production system be to deliver that?" that is the tricky bit. So, to Philip's three I would add sustainable diets as a driver of policy.

Q39 Mr Spencer: Just to say that the problem is that politically they are ranked in the wrong order, in my opinion, in that lack of food security, if we were to experience it, would be highest on the political

agenda, followed by the diet aspect and then right at the bottom would be the environment impact—in terms of the effect at the ballot box. That is the real crux of the problem.

Professor Lang: You are up against the reflex of the Treasury versus, if you like, Defra and that is a key dynamic.

Mark Driscoll: I think with the hierarchal approach, there is a lot of interplay between each of those three. If I can just make a point around Government's role: we see Government as fundamental in this process. They have to take a strategic lead in this process. That is the first point I want to make. The last 12 months has been a hiatus. Do look at the 2030 food strategy. Many organisations, including ourselves, were engaged in that. Food strategy has to be a collaborative process, so all the key actors have to play an active role. It is not just about a Government strategy. It is about a strategy that involves us all and which we can all contribute towards. 2030 did get part of the way there, so don't lose that. Use that as a frame, refresh it in the light of *Foresight* and the changes in the external world. So that is a kind of plea.

The second one is what we are expecting is an action plan and a clear delivery plan, and that is crucial and that is what has been missing. We understand the issues are complex. Do look at some of the win/wins within the food system. There are many tradeoffs but there are many win/wins. We can get ourselves too het up about some of the complexities. We have to cut through some of that, bearing in mind it is the system. So sustainable diets would be a key issue. What is beneficial for your health is often beneficial for a healthy planet and lots of our work in WWF-UK on *Livewell*—I think we have given you connections to that report—started that kind of debate. We as an organisation are really keen to work with Government but Government has to take that mantle on. Retailers are saying to us, "Government needs to define the key principles of a sustainable diet, for instance, we can't just go out on a limb". So Government has to take a role with some of these issues. So that is a bit of a plea in terms of pushing this forward and don't forget what has already occurred over the couple of years and build on that.

Professor Lang: A process that did begin in Government—I declare some frustration because I was part of it, as Mark knows—we got from the *Setting the Table* diet, which I ran at the SDC for Defra, the development of what was called the Integrated Advice to Consumers Project, which was being led by the Food Standards Agency. For better or for worse, the carve-up of the FSA, the shifting of bits into the Department of Health and bits into Defra, has broken that up and the project has closed exactly at the moment when we needed it. Maybe I shouldn't put words into his mouth, but I think Mark and I would have said it was weak, compared to what he has just been saying, but it was the beginning, in that slow reluctant way that the British state specialises in, to produce something about, "Well, do we eat fish, yes or no? Do I obey the nutritional advice: two portions a week, one of which is oily? If I listen to WWF, the Royal Commission on Environment Pollution, it

depends. If it's global, wow, there is no clarity at all. There isn't enough fish to feed 7 billion people two portions of fish a week, of which one should be oily". So where are we going to get the Omega 3s and 6s is a huge issue in my world of public health, but we can't fudge that. Imagine the scenario if there is a world war 3 and the British state has to introduce some sort of rationing; how do you work it out, given suddenly supplies are collapsing and changing, or there is an oil crisis or something? What would the Government do, because it would be Government that would have to do it? In that sense, wow, is the issue of sustainable diet a critical issue. It is not just WWF marginal professor territory. This is about national security in the military sense. That is why the Chatham House project was put together by the Ministry of Defence. It was the only ministry that was thinking long term.

Mr Spencer: Of all ironies.

Chair: I think, Mark, you wanted to come in.

Mark Driscoll: Yes, just a couple of quick points. Governments globally are struggling with the issues of food security. Nobody has the answer. They are all struggling. In fact, despite the problems, in many respects the debate in the UK, if you look at the global perspective, is quite advanced. So it is not all negative. The debate is quite advanced in the UK if you look at it in a global perspective and there is a real leadership role that the UK Government could play. If we can get this right, governments around the world could learn from this process and learn from some of the experiences. There are issues that we haven't even touched on today around public sector procurement and the Government taking a lead in public sector procurement through Government buying standards. So there is a real leadership role. Food is a real Gordian knot and it will take something to unravel that but we all—civil society, food businesses and Government—need to play a really important role, because there are some systemic issues and they will be issues that will be painful for some of us but issues that we have to address.

Q40 Chair: That is exactly where we wanted to finish in respect of Government procurement. Perhaps I should declare an interest here as having a Private Member's Bill that has failed so far to get to even a Second Reading and has had no Government support whatsoever. But I just wanted to ask you—given the views of organisations such as Sustain—how much difference the £1 billion or so of public money that is spent on procuring food in the public sector could make to sustainable food were we to apply some of the principles that we have been talking about. Also, related to that, could you just perhaps, for the record, give your views on why it is that Government has public buying standards that are linked to certain Departments but do not apply, for example, to hospitals right the way across the board where, in the views of some people including myself, they could make a big difference? Is that something that should be looked at?

Professor Lang: I am probably going to be slightly heretical. I declare an interest. I was chair of Sustain. Two of my academic department are on the board of

trustees and one of them leads that work as a trustee. So I am totally supportive of it. The heretical bit is that I want us to remember that public procurement is tiny compared to the turnover of Tesco.

Q41 Chair: But isn't it a question of Government being able to lead by example?

Professor Lang: But it is what Government does and it should absolutely, definitely be doing more about it. There is deep frustration everywhere. I sit as an adviser to the Mayor of London—Mr Johnson, not the City Corporation—and there we have struggled on the Olympics. Sustain has led the commitment to try and get sustainable fish as one of the criteria of the Olympics delivery system. So definitely you are right, absolutely right, we have to use public procurement. But I don't think we should allow Government—this is my heretical bit—to just think, "Okay, we're not going to really address this big issue", that I think all three of us have been trying to address, sustainable food, sustainable diets, by just saying, "Okay, we'll only do it around sustainable procurement". It has to be that big picture and, "Oh, by the way, yes, we're doing our bit in our own procurement".

The problem is there is a retreat to bad public procurement, weak attempts, patchy attempts to address sustainability in public procurement, instead of the more integrated position that I think Mark was giving of Government taking a lead—I thought you didn't say this so I'll say it for you—at the European level. There is a little potential alliance of Sweden, Netherlands, Germany and Denmark and us, with us the most articulate on this, in the European Union, right down to the level of public procurement.

Q42 Chair: I am going to bring in Professor Lowe and then Mark Driscoll and I think we are going to have to bring it to a close.

Professor Lowe: I think the critical objective that you want is innovation in the food chain around these new objectives of sustainability and healthy eating, and public procurement has its role. Equally, bad public procurement could not produce it. So it is the objectives that you are trying to achieve. You must see also to what extent you could have a similar set of objectives about barriers to innovation with the supermarkets and barriers to innovation within other elements of the food supply chain. It is intriguing, we compared the sort of dynamic that Zac Goldsmith was talking about with small scale diversified food processors and food manufacturers. That is entirely operated by little bits of subsidy and going with market demand.

The other areas that I would look at include barriers to innovation. We have not touched on it, but more sustainable agriculture would involve development of biological controls instead of pesticides. There are barriers to innovation there. There are barriers to innovation in farmers introducing things like anaerobic digestion. So there is innovation in the system that could lead to more sustainable practices.

Q43 Chair: What about funding for that innovation? Where should it come from?

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Professor Lowe: Well, I think we should channel more of what is left of the Common Agricultural Policy into innovative development.

Q44 Chair: What about other European funding programmes like the Life Plus Programme, for example?

Professor Lowe: Yes, and the European Regional Development Fund. To a certain extent, in an atmosphere of public cuts these are areas that still continue to be resourced. But on innovation in farming systems, I would press for us to introduce a new agricultural advisory system and services. So there are ways of thinking about different approaches to innovation that could introduce novel practices and novel development.

Q45 Mr Spencer: Just on CAP reform, would you expand Tier 2 or would you green up Tier 1?

Professor Lowe: I would do both but my instincts would be to expand Tier 2.

Q46 Chair: I am just going to bring now Mark Driscoll for the very last word.

Mark Driscoll: Can I just touch on public procurement and then perhaps just briefly on CAP? We obviously supported the Sustainable Food Bill and are actually a member of Sustain. So we do believe procurement is a really important lever, although it is

a small part of the overall food system. Obviously we have quite a lot of concerns as to why Government dropped the original healthy food mark and are quite concerned about what will come out of the Government buying standards that I think have been delayed slightly. But that aside, I think there are lots of other benefits. A lot of it is about public services, how they engage with their suppliers and how change can occur with some of the suppliers that they engage with. It is an essential part of the whole package to ensure that both sustainable and healthy food choices are made.

To touch on your point, Mark, in terms of the CAP, our approach is there needs to be more recognition of payments for public goods, not just agricultural production. We would like to see a greening of Pillar 1, to link those payments to direct payments that farmers get at the moment over time. We would like to see more resources shift from Pillar 1 to Pillar 2. There is a lot of horse-trading between national governments as to how that will go, but it is a fundamental issue.

Chair: I am afraid time has caught up with us. I know there is a lot of expertise from each of you and we have had a full attendance earlier on. So if we have not covered all the aspects in sufficient detail, I am sorry. Thank you very much indeed for coming along anyway. Thank you very much indeed.

Wednesday 22 June 2011

Members present:

Joan Walley (Chair)

Peter Aldous
Martin Caton
Katy Clark
Zac Goldsmith
Caroline Lucas

Sheryll Murray
Caroline Nokes
Dr Alan Whitehead
Simon Wright

Examination of Witnesses

Witnesses: **Andrew Clark**, Head of Policy Services, National Farmers Union, and **Andrew Kuyk**, Director, Sustainability and Competitiveness Division, Food and Drink Federation, gave evidence.

Q47 Chair: Gentlemen, if I could welcome both of you to our Environmental Audit Select Committee this afternoon and thank you both for giving up your time and coming along. We are quite excited by our report into food and very much interested. I wonder if first of all you would like to introduce yourselves to the Committee very briefly with any major concerns that you have; just very briefly.

Andrew Clark: I am Andrew Clark. I am the Head of Policy Services at the National Farmers Union, based up in Warwickshire where our headquarters are. I very much welcome the opportunity to provide some evidence to the Committee in support of our written evidence. Just to emphasise the point: NFU is very much committed to improving productivity and efficiency of UK agriculture, self-reliance and our competitiveness. Our driving mantra, which we feel backs up the study that you are looking at at the present moment, is one of produce more and impact less. We are convinced that agriculture has many of the solutions that society requires, in terms of improving food security as well as energy security and, representing a group of land managers who manage the bulk of the countryside, we think we have a special opportunity to contribute to that and a special responsibility as well.

Chair: Thank you very much. Mr Kuyk.

Andrew Kuyk: Hello, my name is Andrew Kuyk. I am Director of Sustainability and Competitiveness at the Food and Drink Federation, which is the trade association representing UK food and drink manufacturers, and I should explain that means non-alcoholic drink manufacturers. We in FDF have been running for three years now something called our Five-fold Environmental Ambition—which I hope some of you will have heard of—which is a programme of action to reduce our environmental impacts and improve our resource efficiency within our own manufacturing operations. Last year we had a fundamental review of that and decided that we needed to extend that influence across the broader supply chain and look at issues of sustainable sourcing and reducing environmental impacts wherever they occur in the food system. In fact, we very much welcome the conclusions of the *Foresight Report* on that subject. Indeed, as Andrew has said, the message of: produce more from less and with less impact resonates very well with what we are already doing and our ambitions for the future.

What I think I would want to add to that, in introductory remarks, is that we genuinely believe that sustainable food production needs to be made a policy priority in its own right. There is need for more comprehensive joined-up thinking across a number of different areas because, as the *Foresight Report* so cogently sets out, these are system issues, there are issues of infrastructure, and again, echoing what Andrew has already said, food security is also about energy and water security. You can't look at any of those in isolation.

Q48 Chair: Thank you very much indeed for that. The *Foresight Report* is exactly where we want to start with the first set of questions by asking: what do you think sustainable intensification should involve, given that there was a recommendation to have a drive towards sustainable intensification of food production?

Andrew Clark: If I could kick off on that. First of all, I very much endorse this driving philosophy in Foresight's report, that of sustainable intensification. The problem is it is very easy to say sustainable intensification, a bit like sustainable development in the past. It is perhaps more challenging to actually explain what it means and make it happen on the ground. But as we understand sustainable intensification—and that is probably the best place to start—our understanding is in essence, from a farming point of view, it is about doing the job better, being more professional, applying technology responsibly. It is about understanding the impacts we place, on the environment, on our workforce, on our livestock. If I likened it to the financial envelope in which farmers operate, and most farmers would be aware of that—they have a strong understanding of the economic argument within sustainability—in the same way, we need to be much more aware of the environmental envelope in which we operate and use that as a way of managing and understanding the impacts of our farming systems. But perhaps most importantly, sustainable intensification is producing more food from the same area of land and doing it in a responsible way, a way that impacts less. That is the critical heart of it. It is not about bringing more land into production.

Q49 Caroline Lucas: Exactly on that point, I have real problems with this concept. To me it is a complete

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paradox, but that is by the by. Can you explain to me how you do get more out of the land for less without actually damaging the land intrinsically in the process?

Andrew Clark: It actually goes to one of the themes I want to talk about, which is the Greenhouse Gas Action Plan, which we launched back in April of this year across the road. We see it as about production efficiency. We are very much aware that there is quite a lot of slack in the system. There are great opportunities to use our inputs more efficiently and effectively than is current practice; for example, substituting some of our inorganic fertiliser use with organic manures and slurries, recognising the manure and the nutrient values of that, so substituting across in terms of that. It is about, understanding and having the opportunity to access new technologies, and therefore, as a result of using new technology and biotechnology, actually being able to have pest resistance built into some of our crops, to have those crops using the nutrients available to them in a more efficient way, perhaps having drought—

Q50 Caroline Lucas: Is that GM specifically or not?

Andrew Clark: Potentially, yes, if consumers find that acceptable, because that is ultimately where we need to be. Those are the sorts of things. It is about farming more effectively, understanding how we can reduce some of the slack out of the system and produce more in the same amount of area.

Q51 Chair: From your perspective, what would you see to be the pros and cons, both sides, of the whole way towards sustainable intensification?

Andrew Clark: The pros and cons? There are a few cons; there must be pros because we have a growing world population. We have to play a full role in the UK and globally, in terms of agriculture production, farming in a more productive way but with fewer inputs.

Q52 Peter Aldous: I will just pick that up. So, this slack in the system, are you implying that farmers have been inefficient over the last decade?

Andrew Clark: Yes. Not deliberately, but I would be first, and most farmers would be first, to recognise that there are opportunities to improve our productivity and do it in a better way, to cut out some of the wastes. If I go back 10 years, 15 years, what we understood to be good farming practice at that stage might be considered to be rather outdated now. When my dad was farming in the 1970s, autumn application of nitrogen was common practice. That is completely outdated. Use of tramlines was unheard of; that is absolutely common practice. In 10 years' time the application of GPS application systems for nutrients will probably be common practice, and yet it is quite cutting edge at the present moment. That yields significant reductions in the amount of input we need to put in to produce a given output. There are opportunities there and it is about using a whole range of different technologies, understanding our impacts in a much more effective way than we currently do. Yes, looking back on it there is waste. Currently there is a job that can be done better.

Chair: You wanted to come in, Mr Kuyk?

Andrew Kuyk: I just wanted to add, let's get this in the context of the *Foresight Report*, which is looking at the situation from a global perspective. I think some of that questioning is around what happens in the UK, but in the *Foresight Report* itself, section 4.2, talking about applying existing technologies better, saying that in Africa yields could be doubled or tripled simply through better application of existing technologies. That is not through people being wilfully inefficient, it is simply not having access to modern farming techniques; better grain storage. That brings us on a little bit to the question of waste and so on. You have two different issues with food waste. You have food waste in the developed world where people buy stuff and don't eat it and throw it away, but in the developing world you have an awful lot of crops that never reach the point of consumption because they spoil in the field or through poor infrastructure, and so on. Back to the definition that Beddington himself gives in the *Foresight Report*: it is higher yields with fewer negative consequences, so I do not see there is a downside. If you fulfil—

Q53 Chair: Who do you see to be the arbiter of what those downsides are?

Andrew Kuyk: Again, anticipating other subjects that we might come on to, assessing what are the externalities and the environmental consequences is something that needs a lot more research and evidence base because I think there are a lot of issues in terms of tradeoffs, and indeed unintended consequences. You can do something with the right motives but it turns out that you have an unintended effect that may have a negative externality somewhere else. It is all part of the same piece, but if you do what the *Foresight Report* recommends, which is to increase output with fewer negative consequences, it is not an either/or, it is a both/and.

Again, I think there is possibly a misunderstanding that intensification necessarily means industrial scale. It doesn't. It means better efficiency of resource use at any number of different scales. Sometimes an industrial process will give you greater economies of scale and sometimes it can also give you better control over some of the external impacts: you can have better waste disposal systems, you can have better systems for recycling heat, and so on, but ultimately I think what matters, from a global perspective, is the resource use in relation to the end product. What natural resources, what natural capital are you expending to produce a given unit, whether it is a calorie or a kilogram of whatever it is? It is basic economics. It is efficiency. I think maybe "intensification" is an unfortunate choice of word. Maybe if he had said "sustainable increase in efficiency of resource use", that might have been a better way of expressing it. That is certainly how we understand it and how we understand it in a manufacturing context.

Clearly, we are very interested in the environmental footprint of the raw materials that we buy, but just as you can drive those systems more efficiently, so you can drive manufacturing operations more efficiently. That is what our Five-fold Environmental Ambition

has been all about over the last few years: reducing water, reducing packaging, reducing carbon emissions, and in a business sense that makes good business sense. Why would you spend more money on inputs than you have to? If you can be more efficient, if you can use less energy, if you can use less water, if you can incur less cost, that is what you do as a business.

Q54 Zac Goldsmith: Would you apply that to labour efficiency as well in the developing world?

Andrew Kuyk: In the developing world? Well, I think again back to tradeoffs and unintended consequences. I think you would have to look at the individual systems, and sustainability, as well as its economic component and its environmental component, also has a social component, so I think it is hard for us to abstract and lay down hard and fast rules. Again, I think what comes out of *Foresight* is that there are no single solutions to this. These are complex issues and different solutions are appropriate in different contexts. I would come back to my basic point that what you need is a proper evidence base. Look at what the actual externalities are; look at the resource use; look at the other possible consequences and it is a question of balance, so I think you would have to judge each situation on its merits on the best evidence that is available to you.

Chair: I will bring you in very quickly, Mr Clark, but we are going to have to move on very shortly.

Andrew Clark: Yes, I know. I just want to say about people—I am not going to talk about people in the developing world, I am talking about people on farms in Britain at the present moment—part of the sustainable intensification debate is going to be about skills and professionalism of those people, the agricultural workforce and the farm managers. I wanted to say that because that is an important part of achieving sustainable intensification and it might not be captured later on.

Q55 Chair: A really quick answer if you can. You mentioned just now about water and waste. How much do you think the regulatory mechanism is a real factor in moving towards sustainable intensification?

Andrew Kuyk: In a UK context or more generally? In the UK context, to take waste as an example—and I speak only days after we have had the publication of the latest *Waste Strategy* from Government—I think there are genuine issues there around waste infrastructure and around some of these regulatory issues. There are also some problems, and here I think perhaps we get into some of the tensions with localism and devolved solutions, because if you are a manufacturer and you have sites in different parts of the United Kingdom, it is quite difficult if you have different waste regimes for your different factories. It is much simpler if you are working to a common standard. Again, what is or is not able to be recycled? At the moment there is an On-Pack Recycling labelling system. Some of the entries for that say, “Consult local sources”. Again, if there were greater consistency across the country and greater uniformity of provision of infrastructure, I think that would help greatly in terms of cutting waste or making better use,

whether it is recycling, whether it is anaerobic digestion. There are a range of things out there, but at the moment there is quite a patchwork of different things that give rise to different costs and, therefore, make it difficult for companies with centralised decision-making to decide what their best strategy is.

Q56 Sheryll Murray: You have already mentioned some of the incentives that there are, such as the Greenhouse Gas Action Plan and, of course, we have the farm stewardship schemes through the single farm payment. Which have the greatest uptake and why?

Andrew Clark: If I may start on environmental stewardship, because that has by far and away the greatest impact at the present moment in terms of farming activity. The NFU is hugely supportive of Environmental Stewardship. We think this is the number one cutting edge agri-environment scheme in Europe. No other scheme has the level of commitment across the scale of farmland that we find in any other Member State. We have about 70% of English farmland involved in agri-environment schemes at the present moment, a large part of that in the Entry Level Scheme of Environmental Stewardship. I think there are some admirable qualities in terms of ELS and Environmental Stewardship. It is the product of stakeholders—farmers, organisations like the witnesses RSPB who are coming along in a moment or two, Natural England and Defra—working together to develop a scheme that rewards farmers for environmental management, encourages them to do more, but does that alongside productive farming as well. It gives farmers the choice and I think a subtle nudge to go in a direction that does meet some of the objectives we have in terms of sustainable intensification.

Q57 Sheryll Murray: Can I just ask you if you could go a little bit further? Do any of these incentives deliver broader goals, goals of sustainable food production?

Andrew Clark: I believe they do. The agri-environment schemes we have—in fact, Andrew was very much involved in leading this in his time at Defra—they look at biodiversity, they look at landscape, they look at archaeology, they look at access in the countryside, they look at heritage. There is a very wide range of activities there. They complement the work we need to do in terms of improving our impact on water quality, so meeting targets in terms of the Water Framework Directive or helping our way towards that. They help us in some of the climate change greenhouse gas actions that we need to do by encouraging carbon sequestration under some of the buffer zones. For example, I could take a pollen/nectar mixture, which is very good from a pollinator’s point of view, and there are thousands of hectares of that put into place on farms. That not only meets the biodiversity objective of pollination in the wider countryside, but we are also talking about carbon sequestration underneath that margin and potentially about water protection as well, if it is put in the right place.

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Q58 Sheryll Murray: Can I ask you, what further incentives are needed to encourage producers to act more sustainably and deliver the wider goal of good healthy food for all?

Andrew Clark: I would like to talk about the Campaign for the Farmed Environment here, which again we have worked up mainly at the present moment as a response to the demise of set-aside, but NFU, CLA, the agricultural industry have been working with environmental groups, including RSPB, to actually encourage better quality participation within Environmental Stewardship. That is an example of where civil society is trying to find ways of improving quality, within an existing agri-environment scheme. I think that quality is one of the things we need to focus on in the years ahead.

On the Greenhouse Gas Action Plan you mentioned, that plan is part of agriculture's commitment to the Government's Low Carbon Transition Plan, where we have been challenged in England to deliver 11% reduction in terms of our greenhouse gas equivalent emissions by 2020. The Plan was launched in April, so we are very much at the process stage, developing the stakeholder arrangements and all that sort of thing. That is focused on using tried and tested approaches to talking to farmers. We are working through agronomists. We are talking to some of the supply companies. We are talking to AHDB, the Agriculture and Horticulture Development Board, to use existing approaches to improve productive efficiency. As I said earlier on, it is as basic as using our muck more intelligently.

Q59 Chair: Just on that, there was something in the press this week about the possibility of Europe changing the goalposts, with the RSPB expressing concern about funding for some of the European schemes. Would you wish to comment on that at this stage?

Andrew Clark: Our official line, our position statement, is that we do not comment on leaks because the report is not going to come out until next week, as I understand.

Q60 Chair: Your unofficial line?

Andrew Clark: CAP is undergoing a huge reform process at the present moment. There are 27 Member States. There is a Council of Ministers. There are 600 MEPs, all with different views as to how this should be taken up. I don't have to talk about how complex the decision-making process is in Europe now. Our official line is: until we understand what budget is available, it is very difficult to know exactly what the impact is going to be on individual schemes.

Q61 Martin Caton: In your written evidence, both your organisations called for greater investment in research to assist sustainable production methods. What areas of research and development are currently lacking and could help shift the UK's food system in a more sustainable way?

Andrew Kuyk: I will start on that one for a change. As I have already said, the approach here should be to understand properly the impacts and interactions across the whole supply chain. Again, I think, as was

brought out in the *Natural Environment White Paper* published very recently and the accompanying *National Ecosystem Assessment*, we are at a very early stage in understanding how some of these things work. I think there is a need for much better evidence base and much more to be done in terms of metrics and life cycle analysis, so that we understand how these different things work.

The particular areas where I think that is lacking are areas like soil science, again water, and biodiversity. I don't think it is researching into particular crops or particular techniques. At the first stage it is the bigger picture: it is understanding how ecosystems work better to try to avoid some of these unintended consequences, which I referred to earlier, and trying to get a better grip on issues like comparative advantage; in terms of efficient resource use, which areas are better adapted to growing particular crops, or particular types of production, in a way that minimises the environmental impact.

I think at the moment the pattern of production across the globe is a mixture of circumstance, commercial judgement, politics and a whole range of different things. It is not done in an environmentally, or indeed in a sustainably rational way. It is not looking at what this particular set of factors of soil, climate and biodiversity, what form of agricultural production would best suit those particular circumstances. I think there is enormous potential to do research into those areas.

Also there is a need for much more multidisciplinary research. I think in the past people have worked very much within their own silos, whether they are looking at plant breeding, pesticides, whatever it is. But again, because of the way different things interact, I think there is scope for much more to be done in looking across different fields and combining knowledge. There is certainly significant scope within that for things like: advanced plant breeding, drought resistance, disease control, any number of different areas where we need to maximise the potential of the breeding stock that we have. That may include GM techniques as well. I think there is certainly a need for more research into animal nutrition. Back to the question of greenhouse gas emissions, what you feed an animal has a very important impact on the emissions that it produces. That again is a way back to the sustainable intensification: higher yields with fewer impacts. That is all part of that same story.

I think, for what in terms of national budgets would be a relatively small amount of money, the potential benefits of investing in that research are quite enormous. There was the Royal Society report of, I think, 18 months ago, which made that very same point, that there was a need for some of this basic research to be done but the benefits would be very significant in the longer term.

On the question of research, I think there is also a related issue around skills and technology. It is not just the scientific research; it is being smarter in how we use things. Particularly in the manufacturing area we are looking at potential skill shortages in the future in areas like food technology and engineering. Again, it is all about: how do you get the most out of the materials that are available to you? So enormous

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scope for investment in the science base, in research in the areas that I have described, but that accompanied by increasing the skills and knowledge transfer. Back to what I said earlier about what can be done in the developing world through the application of existing technologies, again, for a relatively modest expenditure in terms of technology transfer, there will be a very big payback.

Martin Caton: Do you want to—

Andrew Clark: Just very quickly, about three years ago we published *Why Science Matters for Farming*. I think many of the issues that have already been picked up in Andrew's answer are contained in that report. We believe that farming going ahead has to be based on a good understanding of science research. We have to have effective interdisciplinary applied research groups, who can understand how farming systems work and the impact of farming systems on the environment. That is absolutely critical. If we don't have the knowledge, we can't manage it.

Q62 Zac Goldsmith: What Government research are you talking about?

Andrew Clark: It is a combination. It is not just Government funded research because I know we are not in a bottomless pit period of funding, but what we need is to ensure that we have cutting edge science and access to it and the courage to apply it.

Andrew Kuyk: On the question of whether it is Government or commercial, I think we are very much in an area here of market failure, particularly when we are talking about these broader systems approaches, because no individual farm business or no individual food manufacturer will be able to make a business case for a return on their particular investment in that if you are looking at these wider benefits. Again, particularly things like technology transfer to developing countries, that will certainly improve global food security, but again there is a market failure issue where the funding for that is going to come from, so I think—

Q63 Zac Goldsmith: I want to take a slightly broader point before we move on from this issue, because it seems to me that the implication in what you have been saying, and what the NFU historically has said, is that the direction of travel for farming is bigger, more industrial, higher tech, more specialised and all based on the assumption of the export model. That seems to be the thread that runs through everything that you have said and everything the NFU stands for, whether it is dairy farming in this country, GM, whatever it happens to be. I just wonder how much of your assumptions are based on actual research. Both the UNFAO and World Bank put out a report about 18 months ago, which I am sure you would have seen, saying that in the developing world the most productive farms were not the modern farms, the intensive industrial farms, but the smaller, more diverse ones, but they were less efficient in terms of labour. They required more people to work on them, which in many ways is probably a very good thing. It seems to me that that basic research is always overlooked by the large lobby groups or the lobby

groups representing industrial agriculture or large farming, and I would like to hear your response.

Andrew Kuyk: If I may, I would push back on that a little bit because I thought I was quite careful to say that intensification is not necessarily the same as industrialisation. While there may be economies of scale in certain operations, there isn't a one-size-fits-all and you have to look at solutions that are appropriate to different circumstances.

Q64 Zac Goldsmith: But by talking about comparative advantage as—

Andrew Kuyk: Comparative advantage is about efficiency in resource use. Again, efficiency does not necessarily mean bigger. You can be small and efficient. Indeed, *Foresight* talks a great deal about different models in the developing world. What matters is the ratio of inputs to outputs, what natural capital you are expending for a given volume of food produced. That is not a unique curve that applies anywhere in the world. It will be very different in different circumstances. The research is needed precisely to understand those different interactions. What makes sense in a European setting may well not make sense elsewhere, so the technology transfer is not saying they must follow our model, but if there are techniques that can reduce harvest spoilage, improve the storage of grain, make sure more food gets to the market, that seems to me an entirely worthwhile endeavour.

Chair: Mr Clark, I know you want to come in, but I suspect that what you might want to say you might want to say in further responses to Mr Caton's questions.

Q65 Martin Caton: You have clearly identified some important areas of research. How well are those being encouraged by food R&D strategies at the EU level or international level?

Andrew Kuyk: I am not an expert on food strategies at the EU or international level, but my impression—and certainly going back to something like the Royal Society *Reaping the Benefits Report*, which is obviously much better informed on these issues than I am—clearly not enough I think is the short answer.

Andrew Clark: Yes and I think from our point of view there is interest. The framework programmes the European Commission launch potentially have the benefits, in terms of improving our sustainable intensification, our productivity, our productive efficiency. The point I particularly wanted to make was that it is about taking that research and putting it into action, the knowledge transfer. To some extent, that is not in place. That is poorly developed.

To answer your question about industrial scale agriculture: the NFU is arguing for a range of different scales. We can't change the fact that we are in a competitive world market and some farming systems are going to have to be larger scale than they currently are—some farm businesses will have to be—but that does not mean that all farm businesses and the only future for farm businesses is large-scale intensive. A range of different farming systems, but all of them based on better knowledge.

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Q66 Martin Caton: That brings me on to my next question. How well are agricultural and food technology research organisations delivering knowledge to those who need it?

Andrew Clark: That's good—that was the other thing I wanted to pick up on, which is—

Chair: I knew you would have a chance to.

Andrew Clark: Very perceptive. One point I want to make: already we have the Agriculture and Horticulture Development Board. That is funded by levies on producers and production in the UK, and we believe that is a critical body in terms of turning the concept of sustainable intensification into something meaningful at a farm scale. For example, the work that EBLEX is doing in terms of the livestock sector and BPEX in terms of the pig sector, these are critical organisations that are undertaking research, which is relevant to particular sectors, and promoting them to farmers and growers in ways that are meaningful to those farmers at a local level, therefore complementing the work that the agronomy companies, like for example Syngenta, in terms of the combinable crop sector, are also doing. There are existing pathways. There are opportunities there. We just have to encourage them, as a farming industry, to be clear about what the future requires, and we are working very closely with them. We are collocated (with AHDB) on the Stoneleigh Park Showground and that helps us to improve our connection there, but we need to encourage more farmers to participate in the programmes that they operate.

Q67 Martin Caton: Have either of you identified particular best practices that could be spread within the UK to improve sustainable productivities; indeed, have you identified best practices that we could export to developing countries and other countries, or that we could import from other countries?

Andrew Kuyk: Are you talking about primary agricultural production here or manufacturing? Because in the manufacturing area I have already alluded to our Five-fold Environmental Ambition. That is all about promoting and sharing best practice. That is one of the ways that we drive success in that because it is in the common interests of all manufacturers to do that. It is almost a non-competitive issue, although it impacts on the bottom line in terms of meeting carbon reduction targets and so on. There is a great deal of sharing of best practice, and I think what we need there to help us—again, back to a point I made earlier—is joined-up and coherent policies across Government, looking at energy, water, infrastructure, and so on, alongside sustainable food production.

One of the problems at the moment is that the energy landscape in particular is very complicated, with variants of emissions trading, carbon reduction commitments, and so on, incentives for things like combined heat and power, feed-in tariffs. It is very difficult if you are the energy manager in a company recommending to your board what new piece of kit you should put in that is more energy efficient because at the moment you don't know what the pricing structure, what the rate of return is going to be. I think there is more that can be done in that area.

Certainly our whole drive, in terms of the FDF's Five-fold Environmental Ambition, is precisely to share best practice in these key resource use areas: carbon, water, packaging, and so on, and we work very collaboratively. We also work with the relevant governmental agencies. We work with WRAP on waste in packaging, and again with WRAP—prior to WRAP it was Envirowise—on water and so on. It is all about a collaborative effort to share and promote best practice.

Andrew Clark: From a farming point of view, yes, there are opportunities to export some of our technology and our knowhow and some of our livestock, for example. There are those opportunities; however, in terms of technology, I think the greater priority is making sure that we have access to technology and research that suits the UK climate. For example, one of the concerns that we have is pesticides availability, specifically active ingredients that give pesticides effect. Increasingly, the approvals regulations to manage those active ingredients are meaning that commercially it is not in pesticide manufacturers' interests to supply active ingredients into minor uses and into some of the sectors where we need to have it. Continued access to a range of technology and active ingredients is becoming an increasing concern, so to answer your original question, it is actually access to technology rather than simply export technology to other countries.

Martin Caton: I am not convinced you need the pesticides, but thank you very much.

Q68 Zac Goldsmith: To what extent do you think we are paying a fair or accurate price for the food that we eat, in the sense that takes into account all the associated costs?

Andrew Clark: It is a very good question. I think it is very difficult to know what the total price is of product. Certainly, in terms of farming systems that we currently operate, we recognise that we are under significant regulatory pressure and societal expectation for the type of production we have in the UK. We are seeking to have fair recompense and recognition in the market for those production systems.

The problem we have is that we are operating in a global marketplace and not all product imported into Britain is produced to the same standards that we have domestically. Yes, in theory we could have—as the *National Ecosystem Assessment* has indicated—whole chain pricing and understanding the cost, if you can compute a price for some of the impacts that are had in production, processing and consumption. But I think it becomes very difficult to do that in isolation; I don't think you can operate a system in the UK without actually having a similar system looking at imported produce as well.

Q69 Zac Goldsmith: That last point, is that something that is possible and is it something you think a Government would be willing to pursue?

Andrew Clark: I suspect there are many economists who think it is possible.

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Q70 Zac Goldsmith: Certainly it is a campaign, the idea of raising the standards at the point of entry so that they meet whatever standards we apply in this country.

Andrew Clark: Many of my members would be arguing very strongly that we have, for example, the introduction of animal welfare constraints on sows and tethers, which meant that much of—in fact half of—the pig herd was effectively exported abroad with its introduction. There is not a problem with having welfare standards, which society wants to have. The problem is that if society then is not prepared to buy that, then we don't sort the problem out. It is exactly the same with greenhouse gas emissions as well.

Q71 Zac Goldsmith: I know the NFU has been pushing this for a long time and it seems to me the choice is either get rid of the standards here, which consumers would react against—

Andrew Clark: Which we can't.

Zac Goldsmith:—or to raise standards at the point of entry. Nothing from this Government or the previous Government or the one before that has suggested that anyone is willing to engage with this issue. The question is: do you think that is legally possible within the context of the laws we currently operate under. If it is possible, why is it do you think the Government is so unwilling to—

Andrew Clark: I am led to understand, my legal colleagues will tell me it is not possible. We are operating in a single market in Europe and hence with the introduction of enhanced welfare for intensive poultry, which is supposed to be introduced in 2012 across the whole of the European Union, our poultry sector is absolutely desperate that eggs coming into Britain are produced to the standard that the whole of Europe is supposed to be producing to. We are very supportive of a whole European approach as we are in a single market, but we are also conscious that there are some Member States' poultry producers who are seeking exemptions from that because they find that they can't afford the cost. It has cost UK producers over £300 million to comply with that regulation.

Q72 Zac Goldsmith: Do you think this is an issue that should form a condition of our negotiations on the CAP reports?

Andrew Clark: Unfortunately, on that particular sector it is not part of the CAP, but yes, if politicians are serious about introducing superior environmental standards, welfare standards, especially those in Europe, or even climate change, and using the pricing mechanism to do that, then we have to have an approach that applies not just to domestic production but to European production, especially on world production ideally, especially when you are talking about things like greenhouse gas emissions, which do not respect boundaries.

Zac Goldsmith: Can I pursue that, and please jump in, Mr Kuyk—

Chair: I think Peter Aldous wanted to come in on that point, Zac.

Q73 Peter Aldous: I do have a special interest; I am involved in a pig farm. But if you look at the pig

industry, as you said, are our labelling system arrangements in food stores adequate enough? Could it be made far more prominent? Instead of a little red tractor hidden away at the bottom perhaps we could have a skull and crossbones?

Andrew Clark: Or a large tether. We could do. This is straying into my colleague Andrew's territory here, because labelling is a problematic area and I think there is a real danger of confusing the consumer with too much information. At least that is what I am told by the marketers. But I know many of our members, pig producers, poultry producers, are very keen to see welfare labelling that actually demonstrates that UK production is at a higher level than that found in many imported product. Not just product in retailers, but significantly catering as well, which is something that we tend to overlook. We perhaps sometimes leave our ethics behind when we go into a restaurant or a cafeteria.

Andrew Kuyk: I just want to add on that: we work within the context of the relevant regulatory frameworks, which are essentially European, both in terms of the EU Food Labelling Directive—and there are food information proposals currently going through a process of agreement in Brussels—but also in terms of the single European market. From a manufacturer's point of view, we fully support the concept that consumers should not be misled with regard to the origin or standards of products and we are committed to providing clear and honest labelling, consistent with the regulatory requirements that are there. Certainly around things like country of origin we worked with others in the food chain, and with Defra, to develop the voluntary code of practice, which has been in force for a little while now.

The point that Andrew has already made, we are part of global systems, not just Europe, there is the wider global market and there are WTO rules around non-tariff barriers, and so on. What we need is a level playing field because otherwise there is a danger that requirements that are imposed only on UK production will make both farmers and manufacturers uncompetitive in global markets. People will still eat. It is in all our interests that they eat sustainably produced food manufactured and grown in the United Kingdom. The danger is that, given the fact that it will not be possible to discriminate at the point of entry, people will still eat; they will simply buy that food grown and manufactured elsewhere, arguably with not only worse standards in terms of welfare but possibly worse standards in terms of greenhouse gas emissions, water use and a whole range of other things.

Q74 Chair: I think we are moving quite a long way away from the fair price that we wanted to—

Andrew Kuyk: Well, I think it comes back to what is the true cost of food and, arguably, as the *Natural Environment White Paper* and the *Eco-system Assessment* made clear, a lot of those externalities are not reflected, but to have a true cost of food that has to be generalised. You can't have one country on its own charging the true cost of food because you can't put up the tariff barriers, and so on, that would protect that, and in a global market you would simply become uncompetitive. Indeed, the *Foresight Report* says that

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these are issues of global governance for food systems that need to be addressed but they have to be addressed internationally.

Q75 Zac Goldsmith: I am going to move slightly away from that, but I think this is a crucial point and I hope we will be able to come back to it with other experts.

Chair: From the point of view of my Sustainable Food Procurement Bill as well.

Zac Goldsmith: I was about to ask about that and I knew that if I didn't you would. What other things can be done to ensure that producers get a fair price for the sustainable food they produce and—this is my last question—could that include more intelligent use of the Government procurement of £2 billion or so?

Andrew Clark: The simple answer to that is yes, absolutely. Not just Central Government, local government, every public authority should have confidence in buying British food, seasonal food, locally produced.

Q76 Chair: The Government Buying Standards, which were extended last week to food and catering, cover the public sector but that excludes hospitals and schools.

Andrew Clark: Yes, that is an issue for Government. You are best placed to fix that one.

Q77 Dr Whitehead: You have mentioned a little bit about waste this afternoon, and clearly there is a distinction on what kind of waste we are looking at in terms of UK food production and what happens on a global canvas. Could you expand a little on the categories of food waste that are experienced and also what sort of quantification can be put on those? I have in mind, say, if we were looking at energy flows you couldn't have a chart saying how much fuel is going into a power station and how much stuff is coming out. How do those various things, including spoiling, getting things to market, supermarket selection, consumer waste, stack up in terms of the sort of waste through the chain?

Andrew Clark: I don't have any figures to hand, and perhaps we could come back to you in terms of the production end in terms of waste. I have been looking at the Greenhouse Gas Action Plan and thinking about how we could improve our productive efficiency in terms of that, and I am conscious—I was looking at some new potato production the other day—about the quantity of new potatoes that are left in the field because they do not meet specification. Or even horticulture where, if it doesn't meet specification, it is not even harvested. In greenhouse gas terms—forget about the cost of production—it costs just as much or it is just as big an impact on the environment to produce those misshapen potatoes, slightly scabby apples, lettuces that are not quite the right shape or cucumbers that are the wrong shape, as it does to produce the perfect ones, which apparently consumers will only buy. There is an outcry about the amount of fish that are thrown back into the sea. There should be a similar outcry about the quantity of food that is produced on farms but never leaves the farm gate, because of the alleged consumer preference for

particular appearances, basically cosmetic impacts. That is one aspect of waste.

The other aspect of waste I think I should highlight is that agriculture can be a consumer of waste for beneficial use. Some of the so-called wastes that come out of the processing sector are organic and can easily be used on farms, but we have very significant regulatory burdens because they are defined as waste, as well as obviously the costs of moving from the process to the field. We could use those and we used them in the past for beneficial use, but the lawyers have got in the way.

Q78 Dr Whitehead: Looking at that waste chain, what particular interventions in that process do you think would be the most appropriate—for example, not growing food that is likely to be wasted? Clearly, I guess we are not going to persuade all consumers to eat scabby apples.

Andrew Clark: They taste just as good.

Dr Whitehead: Yes, I agree. I grow very good scabby apples, actually, but no one wants to eat them.

The corollary: the quantities that are wasted at each stage of the process, and indeed are not tucked back into a circularity of process, what would be the interventions at each level of the process that could make the most impact on those particular levels of waste? Is it perhaps producing protocols for tucking organic waste into fertilisation? Is it anaerobic digestion using digestate? Is it changing protocols as far as food selection is concerned? Is it different specifications for growing? Is it better protocols for getting stuff to market as far as spoiling is concerned? What are the—

Andrew Clark: There is a whole range. You have outlined many of those already. There are a whole range of cultural and regulatory changes; cultural, in the sense of growing. If we are better at growing crops we will produce more crop that is saleable. For example, one of the concerns we have is access to water and it is a major sustainability issue. If we don't have continuing access to water—you wouldn't know it from the weather outside but we are in the middle of a drought in this part of the country—without access to water for irrigation, potatoes come out small and scabby with a poor skin finish and stay in the field rather than go to the plate, so there are 'cultural' issues there in terms of growing. There are also cultural issues in terms of consuming, so that consumers feel happier about buying some of the product that might be regarded as class B rather than class A, thereby increasing the amount of product that is actually used. That is some of the ways.

In terms of the waste end to it, it is actually looking at those blockages. I was actually in Defra this morning talking to our colleagues on the waste stream looking at how we could actually remove some of those blockages in terms of anaerobic digestion, for example. There is a greater acceptance that you can set up at local farm scale anaerobic digesters and it is perfectly all right to use the waste from that. It is not going to be poisoning the ground. Some people believe that that is the problem.

Q79 Peter Aldous: If we take the scabby potato example, what is the role of the food stores in this? The food stores might say, “Oh we are actually responding to what our customers want”. On the other hand, you could say the food stores are actually shaping what their customers are looking for. Is there a more responsible role for the food stores to play?

Andrew Clark: I think there is undoubtedly a role for food stores, retailers, to play in encouraging a better reconnection. We have a role to play as well. Farm Sunday just gone past, is an example of that where we try to encourage the public to come out and see farming, see what happens and see what the product looks like when it is growing in the field or running around the field. As farmers we undoubtedly have a role to play in terms of connection, but so do retailers and the processing sector as well.

Chair: Caroline, on that point you wanted to come in.

Q80 Caroline Nokes: I did, and I think that this is the cultural issue, and minimisation of waste is very interesting because is there a danger that, in trying to make food more attractive to the consumers—so you do have the non-scabby potatoes, everything perfect looking—in order to achieve that by minimising waste you are likely to make it less sustainable by putting more fertilisers, more pesticides on the product in the first place?

Andrew Clark: If there are very high standards of what it looks like, of cosmetics, yes, undoubtedly you are much more selective in terms of the product coming out of the field, much greater reliance on specific inputs. It is a much more technology-driven approach to go and get that sort of approach. Therefore, there must be a greater environmental footprint from that cosmetic approach to consumption.

Andrew Kuyk: Can I just put in a word on food manufacturers? Our primary aim is to prevent waste arising in the first place. If we pay good money for an agricultural raw material, we want to use it in our product and what can't be used directly in the product we want either to sell on for animal feed or get use or return out of, whether it is from energy use, anaerobic digestion or whatever. On your scabby potatoes point, if you are buying a manufactured potato pie, you have no idea what the potato looked like before it went into the pie, so that is a very good way of maximising the output from farming.

Q81 Zac Goldsmith: Why does the one not balance the other? Sorry to jump in. I wondered, in terms of the math, why does the one not balance the other, given that what you said is self-evidently true?

Andrew Kuyk: I look to Andrew to describe how farming operations work, but people will be contracted to grow for a particular outlet and if produce does not meet the standard for that outlet they will then be in a rather open and difficult market to find a short-term buyer. There will be opportunistic buyers, but again food manufacturers, because we are trying to build sustainability through the supply chain,

trying to work with people and try to get greater resilience, again we will be looking to have regular contracts with regular suppliers. The market will provide some solution to that. Whether there is going to be an exact balance I don't know, but certainly food producing has an important role to play, not only in minimising waste in its own operations but making sure that full use can be made of the output of the agricultural system.

Andrew Clark: Yes, I absolutely accept your point that there should be a balance in the system. The problem we have is very often we have a perishable product, in terms of horticultural product, and the ability to be very swiftly moved from one outlet to another and move from one processing sector to perhaps a finished product sector, and vice versa, is not always available on the timescale available, especially when you are on just-in-time delivery.

Andrew Kuyk: Again, as a food manufacturer you will want to know where your supply is coming from. You will not want to open your factory one day not sure if you are going to get potatoes from here or there. You will try to buy forward and so on.

Q82 Dr Whitehead: Could I expand that a little to international food production, particularly in terms of international food produced for import to the UK. To what extent is food miles a correlation of waste in that respect? Obviously there are different starting points as far as waste is concerned in terms of international food production, quite often spoilage or storage, but presumably transport and indeed the timely arrival of perishable goods does have a substantial impact on waste.

Andrew Kuyk: Not really. I think the whole concept of food miles has been greatly exaggerated, particularly in terms of greenhouse gas emissions. We are back to where we started in terms of what is a definition of sustainability. What matters is understanding the lifecycle impacts. There are plenty of examples of agricultural raw materials, tomatoes being a good example. Tomatoes grown in an open field under natural sunlight and rain-fed rather than irrigated, the carbon that is added by bringing them, say from Spain or somewhere else, to the UK is less than 5% of the total carbon footprint, and compare those with something grown in a greenhouse or artificially irrigated, so the food miles is a relatively tiny part of that.

As a food manufacturer, if you are importing from a distant destination you will want to make sure that whoever your transport contractor is, is looking after the stuff properly en route. Again, you won't want to be paying for material that is going to spoil in transit. Those basic technologies for food transport are very well known and well understood, so I think, in that sense, distance is not a material factor.

Chair: Thank you. There we must leave it, I am afraid. I am so sorry, time has caught up with us but you have been generous with your time. Thank you very much indeed for coming along.

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Examination of Witnesses

Witnesses: **Colin Tudge**, the Campaign for Real Farming, **Abigail Bunker**, Head of Agriculture Policy, RSPB, gave evidence.

Q83 Chair: If I could give a warm welcome to both of you. I think you have sat in through some of the previous session that we just had. We particularly wanted your perspective, especially in view of the refreshing evidence that we had from you, and we do have some detailed questions to get straight into because our time is limited. I wonder if you would like to introduce yourselves very briefly, with the broad perspective that you have on this part of our food inquiry. Mr Tudge.

Colin Tudge: I am Colin Tudge. I started life as a biologist—well, serious life as a biologist—and I started writing about it. That is how I earned my living for the last 45 years, writing about science. I got very involved and interested in agriculture, in particular, about 40 years ago, and I looked at agriculture in every continent where it is practised and have written various books, which I forgot to bring.

I have come to the conclusion that you can look at agriculture in two ways basically. You can either say it is a business, and the purpose of this business is to make a great deal of money, or you can say the purpose of agriculture is to provide good food for everybody without wrecking the rest of the world, which is what I call “enlightened agriculture”.

It is abundantly obvious to me that in the end the two are incompatible. It is quite easy to make a lot of money out of agriculture, as some people are demonstrating, not many but some are demonstrating. In other words, you can make a lot of money for a few people. It is quite easy to do that, or it would be easy if we went down the other route to provide everybody with good food, if you started from a good biological and moral principle and just went down that route. However, you can’t do the two together. When people talk about the complexity of the problem, what they really mean is, not that either of these things are difficult but that trying to do the two together, you are trying to ram the square peg of enlightened agricultural into the round hole of global economics.

Chair: Thank you very much. Abigail, if you would like to introduce yourself to us with your organisation as well, please.

Abigail Bunker: Thank you very much for inviting me along. I hope I will be able to answer all your questions. I work as the Acting Head of Agriculture Policy at the RSPB and, as many of you may know, we have been involved in agriculture in a variety of ways for some years. We have invested a lot of money in research to develop ways that farmers can farm and deliver for the wildlife at the same time. We have advisors working with farmers on the ground, over 3,000 interactions with farmers every year. We engage very much at a policy level, both in Brussels and in the UK, trying to influence agriculture policy—primarily our locus is in biodiversity—and trying to address biodiversity declines that we have seen in the farmed environment over the last 20 or so years.

Q84 Caroline Nokes: I wanted to kick off by asking about better production practices, and I have a nasty feeling I am about to get a very long list when I ask what the most significant unsustainable aspects of food production in this country are.

Abigail Bunker: Yes, you probably could get a long list. As I say, our key focus as a conservation organisation is in the loss of biodiversity that we have witnessed over the last 20 years, in the UK and across Europe. Many of the aspects of how farming changed very successfully post-war, in response to policy levers to deliver the food we needed in the post-war period, unfortunately had the perverse effect that they provided less food for less space for nature, and we have seen the impact of that. Equally we know the use of nitrogen has increased enormously, although in recent decades there has been a reduction in nitrogen use in the UK and Europe. But we are still seeing massive implications in terms of diffuse pollution of our water bodies, and indeed in coastal waters.

Those are probably two of the most important, but in terms of soil degradation and soil loss there is an enormous problem. Emissions from our agricultural systems and production are also a key concern, in particular losses of carbon in soils through drainage, particularly organic soils across Europe. So there is a whole suite of things that, from the natural environment’s perspective, urgently need attention.

Colin Tudge: I more or less agree with everything that Abigail has just said. The only thing I would add is this gentleman here, Mr Kuyk, said there is so much we just don’t know and I want to emphasise this: that we don’t know what we are losing. One of the things about loss of soil, okay, you can see general loss of soil carbon or you can talk about loss of biodiversity, and you can easily see that you are losing certain birds, and so on, but one thing that has hardly been looked at is the soil flora, the bacteria and fungi in the soil, which almost certainly have key importance but one has no idea how important they are, and they have hardly been looked at. So the loss of these things—we know we are losing them—must be unsustainable by definition, but what the importance of it is one can’t really tell.

Q85 Caroline Nokes: The existing policy mechanisms, how well are they addressing these issues?

Colin Tudge: For me, one of the distressing things about science—there are many scientific issues, which we are looking at—is the fact that science has lost its independence. So, for example, questions about the structure of soil, what is happening, and so on, they are not being looked at because it is not in the interests of any commercial company to do that, and they have to do things that are in their commercial interests. That is what they are for. The loss of all the agricultural research stations over the last 20 years, or many of them, and the experimental husbandry of farms is a tragedy. It is a disgrace that this should

have happened, and until we restore the independent research base we are never going to get these things looked at. So we are never going to know.

Q86 Caroline Nokes: What about schemes like the Environmental Stewardship Scheme; how well is that working?

Abigail Bunker: Environmental stewardship has delivered enormously in many ways. Environmental Stewardship has two elements. This is the England Agri-environment Scheme. It has a high level targeted scheme and the so-called broad and shallow entry level scheme. We know from a whole range of projects, some of them at landscape scale involving multiple farmers and landowners, that they can deliver fantastic results. RSPB is involved in some of them but certainly not in all of them. They are showing that they can deliver, not just for biodiversity in quite targeted ways but can also deliver in terms of reducing diffuse pollution and addressing problems of colouration of water. These are projects that are involving water companies—for example, in the Uplands of northwest England—and can also be very important in restoring peatland landscapes in the Uplands, again with soil carbon and water benefits, and increasingly there is evidence of some of them being very successful.

Entry level stewardship has unfortunately not delivered the outcomes that it has the potential to do. We know it has the potential to do so because we, and a whole range of other stakeholders, have invested a lot of time, money and effort into researching the options that are available for any farmer in England to do. We ourselves took a risk 10 years ago in buying a conventional arable farm—a commercial farm—in Cambridgeshire to show that if you have the right range of options it is possible to address and deliver the objectives, and we have been very successful in doing that. Over the last 10 years we have managed to increase our farm and bird index by 200%, which is great. We kind of knew that was going to happen, we hoped it would happen, but we took a bit of a risk and it has happened.

At the same time, we have also managed to increase our yields. We are above the average yield of wheat for the area, and indeed sometimes oilseed rape is also above the average. Key to that success has been the right structure and a range of different options, which provide the range of different needs that our wildlife has. Unfortunately, just doing grass strips on the sides of arable fields is not enough to deliver the needs of farmland birds and other farmland wildlife. That has been a downfall in terms of how the structure of ELS has been set up, that quite understandably farmers will do the easiest least cost options.

Q87 Caroline Nokes: How would you encourage them to do more?

Abigail Bunker: We and Natural England, FWAG, LEAF, and many others who are involved with farmers on the ground, are doing all we can to help and advise as to how they can make the best use of what is on offer in environmental stewardship. Unfortunately that is very resource intensive. It takes a lot of time; one-to-one is always very effective but

it takes a lot of time. We have been pushing the Government and lobbying through the review of environmental stewardship that just took place—and we have done so previously, both at the outset of environmental stewardship and any reviews that have taken place—that the structure, the way it is delivered and the freedom of choice to farmers needed to be addressed if we wanted to see results on the ground. There are farmers doing that and where they are getting advice they are able to do it, but a much simpler and more effective way of delivering that on the ground would be to address the problems in the structure of delivery.

Colin Tudge: Again I agree with Abigail, but one thing that strikes me as being a pity is that on the one hand people think about agriculture producing lots of food and on the other hand they think about: what are its other environmental benefits? The other point I want to make is: if you farm in ways that are genuinely sustainable, and genuinely produce a lot of food, then this is automatically going to be much more environmentally friendly than we are at the moment. For example, there is a very strong case to be made for encouraging grassland, pasture fed ruminants, and so on, and we are talking about meadowland rather than monocultural ryegrass. There is a very strong case for encouraging agroforestry on purely farming grounds. This again is very, very wildlife friendly. I would like to see a different approach—if you see what I mean—to encouraging these specific forms of agriculture and other things, like keeping pigs in woods, and so on; they kill two birds with one stone. That is not a very good expression for you, but you know what I mean.

Q88 Caroline Lucas: I want to ask a quick follow up, if I could, to get your views around this concept that we discussed in the earlier session about sustainable intensification. What does that mean to you?

Colin Tudge: It sounds good, of course. It starts with the premise that we do need a great deal more food, whereas if you read certain reports, including Hans Herren of the IAASTD, which is a very authoritative group—he says we already produce enough food for 14 billion people on this planet, which is twice the present population and about half as big again as the world population is ever likely to get, because the demographic curve is supposed to be flattening out by 2050. So one does question the premise: do we need a lot more food?

When it comes to saying, “Well, okay, we would like to get more food per area of land” there is a huge amount of evidence that says that small, mixed basically organic very labour intensive farms can be, if they are properly supported, much more productive per hectare than the vast monocultures. So one immediately says, “Well, if you are going to talk about sustainable intensification this is the route you should be going down, the small farm”. On the other hand if you look at what Defra is now planning to investigate, they have apparently interpreted this that we mean mega factory farms: 30,000 unit dairy farms, and so on. You can interpret it that way. You can say you get more milk per hectare if you do it this way than if

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you put them out in the fields, which seems to me to be a very dubious kind of expression if one term can apparently justify two totally opposite approaches. What strikes me, though, is that the evidence in favour of the small mixed farm rather than the big monoculture, in terms of productivity and sustainability, has not, as some people would say, been seriously nailed down, because what you need is a controlled experiment to compare the two directly. At the moment the evidence is what you might call epidemiological, it is natural history gathered from what is actually happening. This to me is probably the most important material question that humanity could be asking: do you go down the small mixed farm route or do you go down the big monocultural route? It has so many ramifications right across the board. It seems to me—well, I shall use the word—disgraceful that with all the money that has been spent on research this key question has not been properly addressed, and we need to know.

Q89 Caroline Lucas: So you think the jury is out in terms of the answer to that?

Colin Tudge: As other people have said here, the term needs to be defined. Do we need more food is a good question. If we say we would like to produce as much food as possible per hectare, which is the best route to go down? Yes, nobody can answer that properly, although I think the evidence is very much in favour of the small mixed farm.

Simon Wright: This question bears relation to some of those—

Chair: Sorry, Simon, I think Peter wanted to comment on that point. I hadn't realised.

Q90 Peter Aldous: In my romantic moments I do agree with Colin Tudge completely, but I wonder if you are attempting to push water uphill, in that the tenure situation in this country, the price of land, means that when the 150 acre mixed farm comes on the market the person who is going to run that as a small unit can't afford to buy it. It gets bought by the person coming from outside agriculture, buying for the amenity. It may get bought by the next door farmer. I would love it but I just question whether it is realistic?

Colin Tudge: I think the question is whether we are serious about the future of the world or not, and if you say we are serious about the future of the world then we say, "Actually, the small mixed farm is the only one that is going to deliver in the long term, and if it is the case that tenure gets in the way, the laws of tenure, and the price of land gets in the way, then let's address that". What we are talking about is what one might call the laws of biology, which should be taken as a given—you know, this is the real world—versus the conventions of the economy. The conventions of the economy are supposed to be in our control. They are our invention. So the economy should give way to the biology and not the other way round. At the moment we are trying to do it the other way around.

Chair: After that romantic interlude, Simon Wright.

Q91 Simon Wright: Thank you. Developing that theme; is there a general model of food production

that we should be aiming for? It is suggested by many that supplying much more, and focusing much more on local food and seasonal food, would bring major improvements to sustainability of the system. But I wonder if you could also explain when you feel this might not be the answer to the problem and whether there are better solutions out there?

Abigail Bunker: I can't see that there are any arguments against seasonality and following seasonality, other than you would get damn bored, as I do with my veg box in the winter after the 57th turnip. So seasonality can never be a bad thing, notwithstanding those issues. On the issue of sustainable intensification, can I go back to that a little bit? I think it is important. I don't know what it means, and I am looking forward to finding out what it means for a range of people. I think, from the RSPB perspective, what it needs to mean is that we address and reverse some of the challenges and problems that we have seen in our farmed environment over the last 30 years, and also ensure that we deliver systems and develop systems of farming that no longer undermine our natural resources.

The problem is to think about it in global terms and come up with one definition of what it means globally, which I think is flawed. The report from the FAO, which I think just came out last week, about sustainable intensification, what they think it means, is about its value and how it can be used to help developing countries to increase their productivity while bringing environmental sustainability to the core of it. Thankfully, it is addressing the things that we have learnt the hard way in the west, and problems that we have had over the past 20 or 30 years and trying to avoid them. I think that is absolutely the right way to go.

In terms of the UK, I think in the short term there are ways that we can address it, for example, as we have been doing at Hope Farm. I believe what we have been doing for the last 10 years potentially is a form of sustainable intensification, in that we have delivered some increase in our yield. I think we have managed to start to reduce our diffuse pollution impacts, although that is something that we find difficult, not least because the research is not there. There are not all the tools. We don't know how to do that on the farm. We have addressed biodiversity declines but I think what we are having to address there is that there are limits. There are environmental limits on how much can be produced, and in trying to become more sustainable in our farming we have to try and deliver all of those objectives, and that means finding a balance between them.

I am sorry, I have gone totally off your question, which I can go back to or I can let Colin have a—

Colin Tudge: Well, thank you, if I can have a crack at it. The general model to me must be the small mixed farm. Let me just rush through it very quickly. Basic biology tells you that you need diversity. Among other things that is what gives you protection against pests. I mean, never mind pesticides and all that, it is diversity that will carry you through. Basic biology tells you it needs to be integrated so that nothing is wasted. Traditionally pigs were there almost to clear up the mess that other things had

made, and so on. That is where you get real efficiency. That is biological efficiency. They have to be low input in the interests of sustainability. That actually means organic, and that does not mean that every farm has to be organic or you have to follow all the rules of the Soil Association. It does mean that organic has to be your default position, what you do unless there is some good reason to do something else.

If you are going to follow those rules then it is bound to be complex. If it is going to be complex then it has to be labour intensive. The idea that there is this merit in getting rid of farm labour, which has been the obsession of British farming for the last 50 years, and American farming—so that we now have only 1% of people on the land—is a disaster, and worldwide if we pursued it, which we have been trying to persuade other people to do, you would put 2 billion or 3 billion people out of work. I mean this is the royal road to poverty. It has to be labour intensive for all sorts of reasons. If you go down the route of having a complex labour intensive system, and so on, there is no real advantage in scale up. That means small to medium size. It is not a piece of ideology. It is not a piece of romanticism. It is where the biology just leads you quite laterally. That is the general model.

On a strategic level, it seems to me that if every country in the world aspired to be self-reliant in food, which doesn't mean self-sufficient it just means producing the food that you can produce, as much as you need, then you find that almost every country in the world could be self-reliant, and some of the African countries, which are written off as basket cases, could be feeding themselves several times over. Britain, as several studies have shown, could be self-reliant quite easily, according to several different models, and without any of this bumping up yields, and so on, just by doing things properly and organising things properly.

This does not mean self-sufficiency. It does not mean that in Britain we should be growing oranges or tea or cinnamon or anything like this. It does mean that we should be trading these things but we shouldn't be paying through the nose for it. In other words, seriously fair trade. We should be making sure that the people who are selling us stuff are not wrecking their own environment while they are doing it. As the Kenyans are apparently I am told; I haven't been there recently. The Kenyans are wrecking their environment by sending us French beans to sell in Sainsbury's, for example. It is common sense, but you know—

Abigail Bunker: Can I add something?

Chair: I think we do need to move on.

Abigail Bunker: That's fine.

Q92 Simon Wright: Are there specific measures that could be introduced or changed that would improve the way we produce food? For example, are there any regulatory barriers or market barriers that are holding producers back from more sustainable practices?

Abigail Bunker: I think there are a number of immediate opportunities. Probably the ones that come to mind immediately are to do with water, so the Nitrates Directive, the Water Framework Directive. In the UK, in particular, I think to date the implementation and plans for implementation have

been less than robust; for example, with nitrate vulnerable zones and the implementation of the Nitrates Directive. It is one of the reasons why the UK has failed to deliver any real improvement over the last few years, although there is evidence in Europe that, where other countries have implemented it in a more robust way, benefits are already being seen.

We have very good legislative protection for point source pollution but diffuse pollution—that is the pollution through leaching into the soil of pesticides and nitrogen—is still an enormous problem. Recently a European nitrogen assessment set out very clearly that we need to address it, not just for its impacts on biodiversity but on ecosystem health and on human health.

Colin Tudge: I suggested in an essay I sent around before that there is a whole list of things you could change, tweaks to the law that could make quite a big difference. I think two of them that stand out in my mind, first of all, are changes in planning laws. It comes back to your point: you can't make big farms into little farms unless you have places for farmers of little farms to live, and the planning laws prevent this. You can't even put up a nice chalet or something to live in, so that is very serious.

The business of feeding swill to pigs I think is key. It is part of this whole waste issue that was being discussed earlier. Why was the legislation introduced in the first place? The reasons for it being introduced in the first place in 2001, just after the 2001 epidemic, are very spurious. They don't stand up. There is an inference that this foot and mouth epidemic began on a farm because this chap had fed this stuff. I mean correlation is not cause and all that kind of stuff. It is not clear that the epidemic did begin there, and so on. It is just a piece of ad hoc on-the-hoof law, which is very wasteful.

Q93 Peter Aldous: Are you saying that what you have seen in the pig industry in the last 10 years is fewer and fewer pig farmers and a small number of very large producers? Are you saying that the actual foot and mouth outbreak in 2001 and the ban on swill, as a result of that, played a key role in that in pushing up the price of food?

Colin Tudge: I don't know about that. I am just saying that the evidence that banning swill will make any significant difference to the propagation of foot and mouth is very dubious indeed. It would push up the price of food obviously. The big pig unit seems to me to be a disaster on almost every front you can think of. One of the main ones being—this is being a bit historically romantic perhaps—that the original reason for keeping pigs in this country was not for meat, it was because they cleared up rubbish and they dug up the ground for you and the meat was a bonus. I am not saying we should go back to that, but one should rethink the multiple—whatever the word is—uses of the pig, and to think of it just as a way of producing a lot of meat quickly by feeding it with cereal and by feeding it with imported soya is frankly grotesque. I mean this is waste on a megascale.

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Q94 Peter Aldous: If we just move on to the Government's role in encouraging sustainable food production, do they have the right strategy in joining up their various policies and incentives?

Abigail Bunker: In joining up, for us we feel that one of the biggest levers for getting more sustainable production of food in the UK, and across Europe, is the CAP, and getting the CAP reformed into a sustainable land management policy rather than continuing what it has been in the past. We are part way down that route. We have had the reform in 2002, which created the options to do agri-environment and it was an extremely important one. In the UK many farmers have responded to the opportunity to make use of those income streams very positively and indeed in some of the Member States, although I would argue probably some not as successfully and not as wholeheartedly as in the UK.

However, there is still a very long way to go. The UK Government has been pushing hard on getting a reform of the CAP that delivers the public benefits and the public goods, which we and others have been arguing for for some time, including funding for Pillar 2, which delivers the funding for agri-environment.

We haven't taken all the opportunities in getting the results under agri-environment that we could have done, and there is a real opportunity now for Ministers to make that change. As I mentioned, the implementation of the Water Framework Directive and the Nitrates Directive have shown a lack of integration and commitment. The *Natural Environment White Paper* recently set out some of the intentions of what we will achieve over the next years for our natural environment, some of which is extremely good to hear. However there are no suggestions of new legislation. The proof will now be in how we can deliver that and integrating our agriculture policy, what we are asking of farmers in terms of reducing their emissions, whether we hold them to account on the Greenhouse Gas Action Plan and the other voluntary approaches. NEWP has said they will be reviewed next year as to whether they are delivering something, and that is critical. If we are going to give farmers and land managers the time to take voluntary action we need good robust monitoring to see if it works and then we need intervention if it does not work.

Colin Tudge: The short answer is no. It is so far off course it is quite difficult to believe really. If one listens to Secretaries of State talking about the future of British agriculture and talking I suppose about Caroline Spelman this year and Hilary Benn last year, they say the same thing, "We need to take British agriculture more seriously". Five years ago they were saying, "We need to run down British agriculture", but leave that aside, we need to take it more seriously. We need to produce more but we have to compete, they say in the next paragraph. What that means is British farmers apparently have to produce more food, but somehow or other they have to do it more cheaply than the Brazilians because we are in competition with them, it is global market. So we do. Our farmers are in competition with Brazilian farmers, with African farmers. They compete by cheap labour and lots of land and cutting down the trees and all that stuff, and

we compete with more and more high tech. This more and more high tech, which is all oil based, how does that square up with the also stated desire to be more sustainable and more environment friendly, and so on? I won't go on, but you see this kind of incompatibility at every level. One that struck me very strongly, a point of detail in John Beddington's report, was in one paragraph they were saying, "We must emphasise biodiversity". I hate the expression "biodiversity". We are talking about fellow creatures here but must emphasise biodiversity. Virtually the next paragraph, or a few paragraphs later, they are talking about the need for cloning. I mean that is a wonderful inconsistency, and so it goes on.

Q95 Caroline Lucas: Can I just press you on that, because it seems that in a sense we have come back to the discussion that was being had earlier about the NFU and the extent to which it felt that trade rules needed to be changed, or something like that. I wonder, in terms of getting to your vision of the small and medium scale farm, and so forth, do you think that the first prerequisite, the place where people should be putting focus in terms of trying to get things changed, would be something to do with ensuring that cheaper products, which don't meet the same standards, don't get access to our markets or how do you resolve that competition issue? Because it is true that it is the thing that queers the pitch every time. It is constantly the thing that, if you bend agriculture to try to be internationally competitive, then that is exactly the turning you take that takes you down the intensive large-scale damaging thing we are talking about.

Colin Tudge: One thing within British farming, the total amount of money that goes into the whole food production is roughly the same as it was 30 years ago apparently. This is a statistic I have in my head. Whereas, 30 or 40 years ago, most of the money that went into farming went to farmers, now it goes to supermarkets basically and to other processes. There has been this massive shift of cash from there to there. What this suggests to me, and to a lot of other people, is that one of the priorities is to shorten the food chain. If farmers received more of the proportion of the money that we pay for food it would make a huge difference.

Just an example, as you know dairy farmers have been going down like that, and anybody with fewer than 400 cows these days is not in the game, that kind of thing. We have a good friend and neighbour in Oxford and we own one of his cows. He makes a living from 17 Ayrshires. Ayrshires are not the milkiest cows. They are nice cows but they are not the milkiest. The way he does it is by selling the milk directly to the customers and it cuts out the middle man. He would get 20 pence a litre if he sold it to Tesco. He gets £1 a litre plus if he sells it to us. His income immediately goes up five times. This becomes a priority. On the matter of selling scabby apples and all that kind of stuff, several people used the word "food culture". The fact that people in this country—not only have we simply lost the culture but had it systematically beaten out of us, so that we no longer know what good food is. They didn't have this problem traditionally in

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Italy. You knew what an apple was. You didn't care. Do you see what I mean, food culture absolutely vital. Shortened food chains, obviously this means much more localism. Not for its own sake, again, but because it is logically necessary; all these kind of things. Then the whole business of land price, the fact that, as Peter Aldous said, you can't be a small farmer because of the huge price. Government could do something about this. Not necessarily about controlling the price of land, but by creating the distinction between mere ownership of land and the use of land, use to which land is put. Traditionally the two have often been distinguished. The fact that you own land does not mean you can say exactly what it should be used for, and so on and so on.

Q96 Katy Clark: To what extent do you think a lack of knowledge or skills is holding back a wider uptake of more sustainable agricultural practices?

Abigail Bunker: I would say it is probably a significant issue. I suspect that a lot of our training of farmers of tomorrow, and landowners of tomorrow, the education they receive at agricultural colleges and elsewhere does not include sufficient focus upon the environmental sustainability issues—including biodiversity, including water—about the tools that are available. I think access, certainly for smaller farms, to expertise in those areas is difficult, it is expensive. In many ways, farmers need advisors to advise them on all sorts of things. They will quite often rely on their agronomist to be their expert on water and biodiversity, and they would not necessarily have the skills. I think it is an issue that needs addressing through a variety of ways, through advisor support, and those advisors being able to give advice across the range of what sustainability means. People sometimes think we only talk about birds. It isn't just about birds, it is about addressing other challenges that we face.

Colin Tudge: Absolutely crucial the knowledge gap, I would say at three levels: first of all, there is the loss of food culture, so that people don't know what food is and will buy what is biggest and brightest and all that kind of stuff, which of course is encouraged by the food industry. The second thing is unfortunately the farmers. I know quite a lot of people who have recently been to farm colleges and they say, "We don't learn farming any more, we learn how to open packets and how to apply for grants and all that stuff, but we don't learn how to be hands-on proper farmers". One manifestation of that is the insistence by the pig industry recently that they absolutely have to have soya to feed pigs because everyone knows you can't feed pigs without soya, except that we have been feeding pigs for 5,000 years before anybody decided to import soya, and so on.

I have good friends who are proper animal nutritionists who say, "Look, this is how it is done" and so on. This knowledge is now disappearing. Then I think at the level of the people who make policy, I was just remarking this morning that you need people who, on the one hand are very good biologists, on the other hand are well versed in farming, preferably farmers themselves. I know quite a few people who are very good biologists who are also farmers. I don't know anybody who is a good farmer and a good

biologist who has any influence over agriculture policy. Even Hans Herren, the head of IAASTD, very good biologist, very good farmer, but his report has been sidelined. His report says much the same thing that I am saying.

Q97 Katy Clark: To pick up on that, who do you think should be undertaking the research to provide this knowledge and how do we make sure that the work is done and that the knowledge is spread among those that need the knowledge? How should we highlight and distribute that? Maybe if you could bear in mind that we will be producing a report, so we are looking for quite concrete suggestions of what Government should be doing.

Colin Tudge: I wish Government—I mean it is not going to do it, it is not going to happen—but I wish it would somehow reinstate the network of the old AFRC research stations and the experimental husbandry farms that went with it. Some 40 years ago they were there and they were brilliant. People complained about them of course, but they were brilliant.

My own personal plan is to start something called the College for Enlightened Agriculture, and if the Government would like to put some money behind that we could build that up quite nicely. I think you could form a little panel of people, like Hans Herren and a few other people one could name, good biologists, good researchers, who I think could address this very well, and specifically.

Chair: I am going to bring in Caroline Nokes on a related point.

Q98 Caroline Nokes: A very quick question. We had some fairly damning indictments of the standards at our agricultural colleges just now. I wonder if you could tell us, factually, what proportion of time is spent teaching agricultural students about sustainable farming?

Abigail Bunker: I don't know that. I do know that I have attended a course at one of the agricultural colleges, which was about sustainability and biodiversity, and I was disappointed at its quality. That is my personal experience of it. I went alongside other farmers to experience it. My conversations with farmers are that they need access to greater expertise on being a sustainable farmer and they also need the tools to do so, and I don't think they have them currently. I think there are a whole range of competing agendas and objectives that they are being asked to deliver on, and they need to be better equipped to be able to deal with it. We are in a different world to the world when the CAP was first created and some of the policy levers that were there. I think that greater investment in that has to be a good thing.

Colin Tudge: I think one of the most serious things that happened over the last 40 years is the loss of independent Government-backed advice to farmers. The old—

Q99 Caroline Nokes: It was a question about the colleges. My question was specifically about the colleges.

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Colin Tudge: Yes, it was. The answer is: I don't know the answer.

Q100 Caroline Lucas: I wanted to ask about how people can be encouraged to eat food that is more sustainable? In other words, how much can the consumer affect the whole supply chain? The Government is very fond of its nudge policy at the moment. Is that going to be enough or do we need something more?

Abigail Bunker: I would argue that nudge is useful but I don't think it is enough without good regulatory baseline. I will quote Jeanette from Sustain who says this regularly: that your general consumer will go into a shop to buy food and will make assumptions that children have not been damaged; the environment has not been polluted. That in basic terms they can trust the food that is on the shelf. That may be naïve, but I think it is something that a lot of UK consumers believe to be the case, and I think generally people wish to be good environmental citizens but I think they need to know that everybody is being a good environmental citizen, and are doing their part. I think that requires a role from Government.

The scope for Labour was to do a very valuable job in indicating certain production methods to consumers, but there are an enormous number and varying quality. I think if there was some push from Government that labelling schemes were developed, revised and maintained according to best practice, and there are organisations; there is an organisation called ISEAL that aims to deliver and ensure best practice in standards and certification schemes, so I think that is possible but I don't believe nudge on its own will help us move to more sustainable consumption patterns.

Colin Tudge: I think at this stage we have to think about the next generation. Domestic science was cut out of schools officially in the 1970s. We have to get back to that but broaden it and maybe call it Food Culture and teach cooking, and teaching growing and farming in schools, which used to be standard. In urban schools they always had growing and stuff. It is quite difficult to fit that in now because it is difficult to fit it in with the core curriculum, so room has to be made for things that—

Q101 Chair: Organisations like the School Food Trust do good work.

Colin Tudge: Yes, exactly. Things like this.

Q102 Caroline Nokes: Labelling goes a certain way but it feels to me like every time you go into a shop now you need a microscope, a dictionary and about half an hour spare time to scrutinise everything, so there are limits to labelling. Are there any other interventions, other than regulation, that you think could be useful, whether that is around financial incentives, for example, or some kind of choice editing in terms of what is available on the shelves? I am thinking of this not only from an environmental perspective but from the health perspective too, which we have not spoken very much about. Given that we also have a health crisis in this country, the two are obviously very much related, so how much

intervention do you think we could have around some of that?

Colin Tudge: I am running on about the same old stuff, but one of the great advantages of local food production is that the people know the farmers. You didn't necessarily know him personally but you knew he wasn't very far away. Then the Adam Smith-type view of the economy starts to come into play, whereby the producer is trustworthy because he is directly answerable to his customers. What the whole labelling debate is about is that there is such a huge gap between the producer and the customer, endless scope for bamboozlement, and so on. Localism to me and knowledge is the only real way forward.

Abigail Bunker: We live in a world where probably most of us go to the large supermarkets and they are, whether we like it or not, an important actor in people's choices. As you say, they do undertake a lot of choice editing. I think there could be much more that the supermarkets could do and others, to assist consumers: give them the information and the awareness they need in order to make good choices, and in working with their suppliers and supporting those suppliers to be much more sustainable producers.

Q103 Zac Goldsmith: There are a number of questions. I am going to try and condense them as we are more or less out of time. Specifically for Colin Tudge, you are implying, if not saying, that in your view it is impossible, for all the reasons that have been laid out today, for British farmers to truly be internationally competitive, with the higher land value, the higher standards. They are up against it in so many different ways. I agree with you absolutely on that, but do you think the Government should abandon this commitment, and obsession almost that transcends Governments, this Government, the previous Government, the one before? This obsession that British farmers should be internationally competitive; do you think that is at the heart of the problem of the farming policy?

Colin Tudge: I think it is unquestionably at the heart, and it is at the heart of the problem for every other country as well. We can make common cause on this. Clearly some people can grow stuff easier than we can, but we have to do it here for all sorts of other reasons.

Q104 Zac Goldsmith: So logically that needs some form of protection or protectionism—

Colin Tudge: Absolutely.

Q105 Zac Goldsmith: Is that something that RSPB are looking into? Is that an echo of your—

Abigail Bunker: No, it is not. Our work on the issues of trade is not an area of specialism for us. It hasn't been for some years. I am in an odd position of defending your average UK farmer, that it is a perfectly reasonable thing for a UK farmer to want to make a good living for his family and to be competitive within a market. It is the reality that we live in. Whether that has to be a global market, a European market, or it should be restricted to the UK market—

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Q106 Zac Goldsmith: I don't think Colin Tudge or anyone is saying that they should not be competitive. The question is: how should they compete? Going back to Caroline's point, a couple of questions ago, we are effectively asking our farmers to compete on an uneven playing field, where we ramp up the animal welfare standards here, and effectively we are just exporting cruelty to other countries. The question is about the global food economy. Whether or not we can ever truly—

Abigail Bunker: Take them with us.

Zac Goldsmith:—subject our farmers fairly to that competition and expect them to come up in business?

Abigail Bunker: Certainly the kinds of farmers who are delivering what would be called a high-nature value farm, the systems that they are practising are about delivering conservation objectives and I am thinking here about across Europe, some of the farming systems in Scotland and in the Uplands, which either are or have the potential to be delivering all sorts of things, and these are the farming systems who are most marginal and who are at most risk. That is why interventions through levers such as the CAP and support to farming systems who deliver these kinds of benefits, including rural communities and employment in areas, are critical. That is where the policy should be focusing its investment. It is over £53 billion spent every year through the CAP, which should be supporting those kinds of farming systems.

Q107 Zac Goldsmith: Just on that issue of the CAP, I suppose going back to Defra, do you believe that Defra is making the right demands? Do you think the Defra position in relation to CAP is the right position? The reason I ask that is because there is such an obvious tension between the *White Paper* that has been produced recently and the Ecosystem Assessment Report. All that is great on one hand. On the other hand, there is an obsession with mega dairies and mega pig farms and cloned food and GM food and selling off the forest and pretty much everything else that was not in the manifesto before the election. There is a huge contradiction between what is happening on one hand and what is now emerging in these papers on the other, which leaves me concerned about what our position is likely to be when it comes to the CAP negotiations. Does your organisation trust the current Defra to handle those negotiations well?

Abigail Bunker: There is a question. Defra has been very clear in its objective, in terms of CAP reform, to shift the support to the delivery of public goods, and that we try and increase the delivery of good outcomes from that. That is absolutely where the RSPB and BirdLife and its partners through BirdLife Partnership are arguing, and many others, that we need to be delivering stuff on the ground, which are public goods. These are the goods that the market cannot reward and has not rewarded, and that is ultimately the reason why we have seen the problems we have over the last 20 years with the natural environment.

I am concerned about, as you say, how we are going to tie up now the challenge that is very clearly set out in the NEA and the costs and benefits very clearly set out in the NEA. The challenge set out in the European nitrogen assessment, and the objectives and desires set

out in the NEWP, and then *Foresight* and how we make sure that this sustainable intensification aligns and delivers the objectives in NEWP and the challenges set out in those other two documents. I look forward to seeing very soon some indication of how we are going to do that and RSPB will be playing a full part in that, if it can.

Zac Goldsmith: Do we have time for the international question, the last one?

Chair: As long as we have four members who are able to stay, yes.

Q108 Zac Goldsmith: I just have one more question. This is theoretically the last one, but it is quite a big one so you may not feel you have time to answer it properly, but I am interested in what role you think Britain can play, specifically what role can the British Government play in terms of addressing what appears to be the growing issue of food insecurity around the world? So both in terms of how we manage our own food economy and, I suppose, how we spend our money overseas through aid, and so on. It is an almost limitless question, but if you have anything insightful that would be useful to have.

Colin Tudge: You are talking about food insecurity worldwide?

Zac Goldsmith: Worldwide.

Colin Tudge: I would say that the policy that we ought to be adopting in this country, which is that of self-reliance with fair trade, is the same one every country, everywhere in the world, should adopt. If we adopted that it would be a statement, at least, to the rest of the world that that is okay. If we stopped, for example, therefore trying to tell third world countries that they should follow our model we should change our model.

That is the first thing. The second thing is come back to this labour intensive-type stuff. We need to increase the number of farmers in this country, I reckon by about 1 million, in other words from 1% to about 10%. Then one thing that one could do for the rest of the world is to say, "Look, you are not doing it too badly". I mean Rwanda with 90% farmers too many; foolish. India, 60%, probably about right given the state of India, given the fact that there aren't alternative industries and won't be in the foreseeable future, so encouraging people who are already doing the right kind of thing would not be bad.

The second thing is: whenever we have talked about technology transfer, that expression has come up several times today, and the implication always is that we know and we can input stuff to you because we have done the work. Really the flow of information should be more and more the other way. African farmers, to a significant state, really know what they are doing. So I think it is this kind of, yes, doing what everybody ought to be doing and talking to other people with greater humility.

Abigail Bunker: There has been much said in the period post-*Foresight Report* about the moral imperative of UK farmers to produce more. I think the moral imperative for the UK is not only to bring the environment and environmental sustainability to the centre of our own farming systems, but to help developing countries in the rest of the world to do the

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same. Our development budget is significant, and I still think we have more to do with making sure that the principles of truly sustainable development are taken forward. I think helping and developing countries to develop truly sustainable ways to increase their food production is an absolute priority for our Government and for various departments, including DFID.

Chair: It has been quite a lengthy session, so thank you to both our witnesses for coming along. We did want your perspective, and I think precisely because this is such an important subject, and the whole issue of food is on our radar, we wanted to have your input, so thank you both very much indeed.

Wednesday 29 June 2011

Members present:

Joan Walley (Chair)

Peter Aldous
Neil Carmichael
Martin Caton
Zac Goldsmith

Caroline Lucas
Dr Alan Whitehead
Simon Wright

Examination of Witnesses

Witnesses: **Professor Sir John Beddington** CMG FRS, Government Chief Scientific Adviser, **Professor Charles Godfray** CBE FRS, University of Oxford, and **Professor Sandy Thomas**, Head of Foresight, Government Office for Science.

Q109 Chair: Welcome to all three of you. Professor Beddington, I think you have appeared before the Committee previously, in a previous format, but I welcome you all here this afternoon. We think that our food inquiry is very important and we are very pleased that you have made time to come and give evidence today. Because we have three different witnesses, it perhaps might be best if each of you introduce yourselves first of all to the Committee and then we will get straight into the questioning, if that's okay. Do you want to start, Professor Godfray?

Professor Godfray: My name is Charles Godfray. I am a population biologist based at the University of Oxford and I chaired the Lead Expert Group for the Government Office of Science Foresight Project.

Professor Sir John Beddington: I am John Beddington. I am the Government Chief Scientific Adviser. Part of the Government Office of Science is the Foresight Group that is led by Sandy here, I commissioned this project and it was I who prevailed on a long-term friendship to ask Charles to chair the Lead Expert Group.

Q110 Chair: Perhaps it might be interesting to know just how optimistic you are about some real action coming out of this.

Professor Sir John Beddington: I am very happy to go into that, Chair. I suppose the launch of the report was arguably well timed in the sense it coincided with the highest agricultural prices that have been observed since records have been taken. We obviously have very significant buy-in from both DEFRA and DFID Ministers including the DEFRA Secretary of State; the two Departments were sponsors of the study. I think we can perhaps go into that in a bit more detail but more generally, it has been very well accepted. There has been very positive press coverage. In February, I went with Charles to Washington where we made presentations to the Worldwide Bank staff and to the USA ID staff as well as giving presentations on the report at the US Association for the Advancement of Science and there were very positive responses. In fact, last week, we were in Rome where we made presentation to FAO and had a lunch with the permanent representatives of FAO. We then met with the President of EFAD and, subsequently, his staff, and we met the Head of Policy at the World Food Programme. I think it was fair to say that it was rather a meeting of minds and there was a general

acceptance that the basic messages of the report were correct. There was a united view that action should be taken and I think that we will have to see the outcome of the discussions of the G20 but we know that agriculture is very high on the agenda and I know that the Secretary of State for DEFRA was planning to raise some of the issues that were raised in the report. I think the other aspect of it, which is extremely encouraging, is the way in which the World Bank has bought into it. When we were in Washington in February discussing it, the President of the World Bank said he thought food security was the most important problem for 2011. I agree, and would add 2012 and 2013 as a minor supplementary to that view. So I feel very positive. The report is very much down to the hard work of Charles and his colleagues in the Lead Expert Group. It is also down to—we had 400 additional experts providing input to it and it is a fairly daunting report to read the whole lot but I think it is worth it. It was timely, I believe, and I think that we will be seeing the way in which both the UK community and the world community address some of these issues over the next few years.

Q111 Chair: Thank you very much. I think that is very helpful by way of introduction to the whole context in which we are discussing this. If you'd like to introduce yourself as well, please, Professor Thomas.

Professor Thomas: Yes. I am Sandy Thomas. I am Head of Foresight and I have been in the Government Office for Science for four and a half years.

Q112 Dr Whitehead: I hesitate to ask this question because it has such substantial ramifications but what consequences would you sketch in of, as it were, a business as usual scenario as far as food production and consumption is concerned across the world, i.e. not acting to solve the food crisis, and what other sorts of timescales would be involved in a deterioration of the situation as far as food security is concerned?

Professor Sir John Beddington: Perhaps if I could start the answer and the perhaps Sandy or Charles might add.

Chair: The acoustics are not all that good in this room, so please have regard to that when you speak.

Professor Sir John Beddington: I am terribly sorry, Chairman; I just did not hear what you said to me. I

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know you were scolding me but I am not entirely sure on what.

Chair: I was not scolding you at all. I was just making it clear for everybody's benefit that the acoustics in this room are not particularly good.

Professor Sir John Beddington: That exactly explains why I could not hear what was said, so I will try to project and I may have to ask for questions to be repeated. I think the issue is really fairly stark. The basic population is increasing by the order of 6 million a month,¹ there is a significant increase in basic prosperity that is occurring in the developing world in particular and taken together, plus a major urbanisation trend, significantly more people are now living in urban environments rather than rural. They all point to surges in demand that are variously estimated.

We did some earlier work in the Government Office of Science pointing to a 40% or so increase in the amount of agricultural products. That understates the need for agricultural production because there will be an increase in demand for higher level products, livestock, dairy and higher level agricultural products rather than basic cereals. So that is the demand side. I think there is the basic perturbation that is coming from what I think is our increasing realisation of climate change and that climate change is showing, of course, in weather but it is really difficult to attribute any particular event to climate change. For example, the drought in Russia last year involved a major perturbation to the cereal production—is that climate change or is it weather? Well, it is manifestly weather but we have a reasonable expectation from all the analyses that severe climate events are going to be more frequent. So if we operated business as usual and did not take into account these phenomena both in the surge in demand and the problems of climate change, we are in significant danger of seeing big increases in world food prices way beyond what would be seen as being equitable. We already saw in the 2007/08 price spike that 100 million people went into genuine poverty, and the World Bank published figures to show that another 44 million were also meeting the poverty definitions. So I think the world problems of poverty and the ability to meet Millennium development goals are significantly underpinned by the fact that we need to do something about the food system, and I think Charles and his colleagues might want to expand on that.

The other issue, which comes out in the report and which I should like Charles to expand on, is that the current food system is failing on sustainability grounds. It is not sustainable in terms of its over-usage of water, and we see real problems in dealing with that. Current estimates are that we need probably of the order of 30% more available fresh water for the world community.

Q113 Chair: I think we will be looking at some of those issues in detail in a short while.

Professor Sir John Beddington: Please forgive me, Chair.

¹ *Note by witness: Today's Population of about seven billion is most likely to rise to around eight billion by 2030 and probably over nine billion by 2050.*

Chair: No, that is fine.

Professor Sir John Beddington: I will turn to Charles. Have I answered your question sufficiently then?

Q114 Dr Whitehead: Timescales; how bad do we get and how quickly?

Professor Sir John Beddington: I think the first thing to think about is what are the particular actions in mind. For example, if we are talking about increasing funding for agricultural research, timescales are probably good to investigate now because it takes of the order of 10 years for developments to come through and provide benefits, so I think that is one timescale. A second timescale arguably might be to do with intervention and putting funding into poverty programmes to address future problems. That should be done as soon as possible. The various meetings at L'Aquila, for example, were about putting more money in; we have not seen the results of the G20 discussions yet but hopefully there will some movement on thinking about ways of enhancing agricultural production.

Other more general issues—and the Chair will probably tell me I have answered your question too fully now—are to do with reserves. We are cautious about having some sort of massive international reserve for key food products but we do think there is scope to consider the use of targeted food reserves or financial instruments to help more vulnerable countries. All of those need to be operating on fairly quick timescales.

Professor Godfray: Perhaps if I just make one point. John's narrative argument really underlies the challenges ahead and you can go a little bit further and try and model the different drivers that are going to affect the future food system. Within the Foresight Project, we collaborated with the International Food Policy Research Institute in Washington, which is probably the best group at the moment in doing these complex models. They are good because they include water supply and climate change. According to the projections in those models, by 2025–2030 one is looking at price rises. This is not the volatility; this is the underlying meaning of a rise of 30%. Getting on towards 2050, one is getting up to 80% or 90%. I suspect some of you around the table are economists and I do not have to stress the huge amount of caution with which you must imbue the predictions of any particular model, but a suite of models are all predicting price rises in the medium term that would affect the way we live in rich countries and would be absolutely devastating to people who are living in poor countries. As John said, inasmuch as you can look at the correlations with environmental sustainability, business as usual has some very fairly frightening things ahead.

Q115 Dr Whitehead: A second enormous question relates to what some people say about climate change in the UK, "We'll have a climate similar to that of Loire in the future; what's so bad about that?" and the implication that somehow the UK will be okay as far as food production and food arrangements and can be

isolated from what is happening. What is your view of the extent to which that—

Professor Sir John Beddington: I think there are two points really. The first is that the current climate change projections indicate that the UK and Northern Europe more generally, over the next 30 years or so, will have a relatively benign climate change. There will be some differences. The detailed projections that DEFRA obtained from the Hadley Centre and the Met Office indicated significant problems of drought in the south of England, but more generally, I think Northern Europe has the potential for increasing agricultural production; the projections indicate relatively benign rainfall and temperature changes. There are uncertainties, of course, associated with that but I think the point here is that we do not live in isolation. We have the potential to increase food production of certain sorts but not others and that we will not be isolated from the overall commodity issues on the world market. For example, very substantial amounts of soya bean are imported to feed our livestock. That is not going to be produced in Northern Europe and there are many advances that indicate that we cannot really go it alone and be rather content with the level of climate change. I do not know if Charles or Sandy wants to add.

Professor Godfray: Just briefly; the Hadley Centre has done some interesting studies trying to look about what is going to be the overall effect globally of climate change. Although, as John says, there are winners—relatively, we are probably going to be a winner—overall the effect is substantially negative. Slightly more concerning over the last 10 years since these studies have been done is the overall negative effect of climate change. Our estimates are getting worse for two reasons. Firstly, because we are failing to get carbon out of the atmosphere and so climate change is going to be worse and, secondly, our estimate of the positive effects of climate change are now being downgraded, in particular, although warmth tends to be good, often it coincides with water scarcity. Secondly, it is now thought that the effect of direct carbon dioxide fertilisation was previously overestimated. What will hit food production first will be extreme events and especially extreme events that are correlated over large spatial scales. They will have quite major effects on food supply in the UK in terms of the economics of the food system.

Q116 Peter Aldous: Just on the specific points Professor Beddington made, do we have to import soya to feed our livestock? We have not always done that. Why can we not go back to what we used to do?

Professor Sir John Beddington: You can always find substitutes but substitutes at a price and at a level of convenience, and I think that is an issue and it depends how much livestock we have. Of course, we can think about adjusting all of these things and they are adjustable, but such adjustments come at various prices at different scales of the food chains; some on the farmers, some on retailers and ultimately on consumers.

Q117 Zac Goldsmith: Yes. The Foresight report talks about sustainable intensification as a big part of

the solution to the impending food crisis. Can you start by defining what you mean by sustainable intensification?

Professor Sir John Beddington: I will probably ask Charles to do that initially, if that is okay.

Professor Godfray: We give a definition in the report and it clearly means producing more food from the same amount of land.² Whereas in the past, simply increasing yield in terms of crops or the amount of meat produced in terms of livestock has been the be-all and end-all, we are now talking about the sustainable intensification agenda trying to optimise a far more complex set of objective functions, in particular, a market increase in resource efficiency, so that means using less water, less nitrogen, less other inputs so that one is eating into natural capital to a lesser degree. Secondly, it means producing more but reducing the footprint of food production on the environment. Now, it can sound a bit motherhood and apple pie but when you look at the technological opportunities, both in applying existing knowledge—some of it is relatively old-fashioned agronomic knowledge—and some of the possibilities of new knowledge, the report concludes that there is a real opportunity of maintaining yields or increasing yields in the same acreage but having less damage to the environment.

Professor Sir John Beddington: Sandy?

Professor Thomas: Yes. I just wanted to say that we were thinking about a sustainable intensification not just in rich countries but also in low-income countries and a particular piece of work in the Foresight report shows how, in quite small farm systems, the same principles that Charles has just described also apply, so we see them as being quite flexible.

Q118 Zac Goldsmith: This is a very top level analysis and the term itself is obviously interchangeable; it can apply here, in poorer countries and so on. How do you avoid this becoming a one size fits all? Perhaps I can refine that. How do you avoid this becoming simply a process of transferring practices in the developed countries and just transferring them into less developed countries; again along the one-size-fits-all model?

Professor Sir John Beddington: I think the report did quite a lot to try to avoid that as a problem. In particular, there were some studies in Africa but perhaps, Sandy, you were at that workshop; do you want to speak about that?

Professor Thomas: Yes. We worked with a wide group of people across several African countries to see what studies could be scaled up and responsive to particular kinds of crops and also different kinds of

² Note by witness: the definition of Sustainable Intensification, as indicated in *The Global Food and Farming Futures Report*, Chapter 10, Page 171

— The Global Food and Farming Futures Report articulated Sustainable Intensification to be 1) simultaneously raising yields, 2) increasing the efficiency of inputs and 3) reducing the negative environmental effects of food production.

— It requires economic and social changes to recognise the multiple outputs required of land managers, farmers and other food producers, and a redirection of research to address a more complex set of goals than just increasing yield

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livestock. So there is a real opportunity for farmers themselves to innovate if they are given the appropriate mechanisms to build social capital. So I think we present good evidence in the report to show that the principles are very flexible and can be easily transferred to different kinds of communities. I do not think the one-size-fits-all idea really applies to the kind of arguments we were making. I think there is quite a lot of evidence to show that this is a very adaptable and straightforward mechanism that different kinds of people can use.

Professor Godfray: I think there is a really interesting two-way flow of best practice in that some of the typically more higher tech agricultural production systems developed in richer countries can be applied in poorer countries but I think we in the richer world have a huge amount to learn from some of the resource efficiencies practised in countries like Vietnam and south of China where they really close the energy loop within a farm. They integrate, say, terrestrial crop production with livestock production and with agriculture in a way where market incentives in those countries push them in the right way and we need to think where we can learn and mainstream that type of resource efficiency.

Q119 Zac Goldsmith: That is a really interesting point and I repeat what I asked at a previous panel. There was a joint report put out by FAO UN, the World Bank and another organisation—I can't remember which one it was—all of which looked at the relative productivity of small, diverse, traditional farms as compared with the modern, industrial monoculture and they concluded pretty categorically that the smaller, more diverse farms are more productive per unit of land; obviously less productive per unit of labour. I would love to hear your response to that report and obviously its conclusions, and also to ask you whether or not you think it's the case that we should be putting more emphasis in looking at what works already as opposed to trying to improve systems of agriculture.

Professor Godfray: Again, that is very interesting. I think there has been an unfortunate dichotomy especially in low-income countries between some people arguing that the only solution is by a pure investment in smallholders and others arguing that the only way for Africa to increase food production radically is by adopting Western, highly mechanised agriculture. It is much more complex than that. Low-income countries are highly diverse and the report strongly argues that one has to go with an open-minded, evidence-based approach. I think there are some very good examples in Brazil, which has been an extraordinary story of increased production. Although it is the high tech, mechanised farms that get the headline, one can also see fabulous examples especially in the Santa Catalina province of yields in smallholder farms being tremendously increased and interestingly with economic and skills input from the private sector going in. Literally two weeks ago, the FAO produced a report called *Save and Grow*, I think that is right, which again looks at taking multiplicity approaches and using the right techniques for the local situation.

Professor Sir John Beddington: There is the potential to use indigenous knowledge, which I was asked about when we were at the FAO two weeks ago. Are we wasting indigenous knowledge given that small-scale farmers have ideas of how to do things in a more efficient way, whether that is in pest control or control of storage and I think the answer is, yes, of course, but I think that we have to be fairly rigorous here and not romanticise. I think indigenous ideas for changes in ways in which one provides agricultural production are perfectly reasonable things to look at but they should be subject to the same sort of rigor that you would apply to any technology innovation. I think that's the way to do it. You do not want to throw away what could be extremely important insights but, on the other hand, you do not want to romanticise it and say this has been done traditionally for 300 years and is the best way to do it. So I think we are slightly hardnosed on that attitude.

The other aspect is to do with it cannot be one size fits all. What would happen, for example, in a highly populated country in Africa where you have a wide variety of different farming types with a typical holding being a hectare or so at most and with countries that have very substantial areas of land with relatively low population density. I think in the former you clearly would be focusing on trying to help and increase the productivity of small-scale agriculture. And primarily, much of that is not to do with anything to do with technology but is to do with provision of infrastructure and markets and the availability of credit whereas in some of the others—Angola is one potential example—there are substantial amounts of arable land that could be used at a highly intensified way and with a relatively moderate to small population density. So I think that both are right and, in a sense, the scale of the problem in answer to the first question is so great that we are going to need all sorts of approach.

Q120 Zac Goldsmith: Can I just ask one final question? In most development programmes over the last few decades, more or less since the Second World War, the assumption has been that the right kind of agriculture or food economy is one where food is grown in countries, produced in an intensive manner in monocultures and all geared towards export. Whole countries have seen the replacement of their domestic food infrastructure in small scale and traditional forms of agriculture that you have just been talking about, giving way effectively to mass specialisation for export. Do you think there is a case for questioning that model and acceptance of that is not necessarily being adhered to, and that that, in many ways, increases the food insecurity in individual countries as they become effectively at the mercy of global commodity markets over which they can never have any control?

Professor Sir John Beddington: I think it is not only that the model should be questioned; I think it has been questioned and I think, to an extent, a lot of the Foresight report contains material to show that there are significant reasons why you want to be concerned about small-scale agriculture and thinking about ways to improve it. I think you are right in terms of history,

but I think the development community has been somewhat myopic in underplaying the importance of agriculture over the last 30 years. Real prices of agriculture products were dropping for about 30 years and the 2007/08 reversal was a real wake-up call and that wake-up call has now been taken on by the key aid agencies, and I think that is really important.

Q121 Zac Goldsmith: But then do you think helping countries to establish greater levels of food security through self sufficiency should be an objective of aid otherwise it is simply focusing on what they can sell in the international markets—

Professor Sir John Beddington: I am sorry to interrupt you, Mr Goldsmith, but yes, I think that a goal of total self-sufficiency just misunderstands the economics of comparative advantage. It is going to be a question of degree. Some countries are, in fact, highly dependent on imports and their topography and soils and indeed their population precludes them being anything other than partially dependent on imports. Again, it is not going to be a one-size-fits-all answer. One can pose sensible questions about whether in fact it is better, for example, to produce cash crops for export and import lower priced goods; a perfectly legitimate activity, but I think each one of those needs some detailed study. Would you agree?

Professor Godfray: Yes. When looking at low-income countries and low to mid-income countries, you need to pay special attention to the very lowest income countries, because their joining the world market is not germane at that level. I agree with you that there has been a trend in aid philosophy—initially it was trying to recreate rich country farming immediately but then the idea was that you did not put any money into the agricultural sector, and instead made much more macro-economic interventions. I think, as John said, recently there has been an encouraging return to agriculture as an engine of rural development. It has a triple benefit: it produces food; it gets money into rural economies and much of that money goes directly to women who, as you know, are a major producer. So I think there are special things that need to be done for the very poorest, and if you look at a country like Ukraine or many of the old Soviet Union countries that have an enormous potential for addressing food security, which are using farm machinery on Soviet style farms that leaves 40% of the grain on the field, then a major effort could be made in food security by making that economic investment. And the model for that type of low-income country is very different from the model for a very poor country where there are still people in calorie hunger.

Q122 Neil Carmichael: You are absolutely right; there is a huge amount of wastage in the old Eastern Europe bloc. I know Poland very well. I have seen large farms being bought by big firms and they still do not have it right in terms of the mechanisation or fertiliser levels or whatever. So you can safely say that there is a huge unused capacity there, so what do we do about it? We always talk about aid but I think what we need to really be talking about is governance and policy. I know the Common Agricultural Policy is much maligned but if you go back to the 1950s, you

will know that France was pretty poor in terms of food, Germany was virtually starving in parts and the mechanism the CAP adopted was in fact the original German agricultural policy. It has gone through a lot of changes but several of its great triumphs have been moving France to acting as a major exporter. We are not exactly short of food within Europe. Britain's output doubled basically in the period that we were part of CAP and we were still, ourselves, using subsidies of some description before. So the question I really want to ask is this: should we be looking not at handouts and aid but structural policies to enable us to effectively develop the areas that we are talking about?

Chair: I think we probably have two aspects, I do not know whether we want to perhaps give a little bit more detail on later on. Have a go at giving a brief response.

Professor Godfray: I do not know much about Poland but thinking specifically about some of these other countries, I would be very leery about trying a CAP-type solution there because I am not sure that it is needed. This is an area where the market will go in the right direction if it is allowed to do so and I think some of the problems with these countries are just the transaction costs of doing business there. If you consider what is happening in Hungary, that is a country of the old Communist bloc that has moved furthest in this direction. Just going back to some of the issues of self-sufficiency, if we are right about the challenge of demand looking ahead and we are right about the possibility of really quite highly spatially correlated production shocks from climate change, then we essentially need, as the report describes it, “an interconnected series of bread baskets connected by a global trade system that is working in favour of food security and taking account of both the needs of the poorest and sustainability”. That is going to be the way to ensure food security and that, the report concludes, is a better way of going about it than national self-security, which of course is not open to many countries.

Q123 Neil Carmichael: Yes, I am not advocating self-security. I do not think anybody in 1956, the second section of CAP, would have done that either because that was not one of its objectives. Its objective was to effectively encourage specialisation with a price support mechanism so that farmers could invest in the kind of machinery you correctly say is absent in Eastern Europe. My question is this, or at least my next question is this: what kind of mechanism do you think would work to get the right kind of investment in the countries where you have already conceded it is lacking?

Professor Godfray: Governance reform in-country. Let me ask John.

Professor Sir John Beddington: Yes. I am not sure if I understand you correctly but in terms of the sort of interventions that one can look to, it is fairly clear, talking in general, that subsidies are problematic, that they cause imbalances. Lack of free trade is problematic as it causes imbalances. Another problem is the lack of some form of agreed governance about how countries react to different problems. One of the

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reasons we saw the major price spike in cereals was essentially Russia taking a decision, and the Ukraine, not to export. There are international agreements that need to be made.

It is interesting that in South East Asia, some agreements that have been made between states in terms of rice have meant that the 2010/11 price spike that was shown in cereals was not mimicked in rice where essentially the price has remained pretty much around what it was when the shortages started to occur. A number of interventions go towards freeing up trade and trying to avoid unilateral action and again I have no idea what the G20 report will do, but I would hope that would address some of these issues because they are quite critical.

Q124 Simon Wright: Much of the evidence that we have received highlights risks associated with intensifying production. In your view, what are those risks, particularly in relation to ecological damage, and how can those risks can be kept to a minimum?

Professor Godfray: As you intensify then there is a greater possibility of destroying the ecosystem services upon which food production is required; for example, damaging soil structure, damaging the externalities or increasing the amount of carbon coming out, increasing the amount of nitrogen. Now, the whole reason behind sustainable intensification is to increase yield while mitigating those effects. So it is explicitly agreeing with your initial premise that there are potential ecological damages of producing more food and having a major research programme and a major skills' based programme to try to address them. But you are right that they come with risks and you have to view them against the comparative risk. So what is the alternative to sustainable intensification? Well, certainly one should be trying to work with other parts of the food system. We have largely been talking about supply but one should be increasing the efficiency of the food system, one should be reducing waste, one should be moderating demand, but if you do all that, the report, and I think most other analysts, still conclude that production and increasing supply must be part of the picture. So you either sustainably intensify or you extensify so you bring more land into food production.

The report argued very strongly that most types of land can be brought into production, but there are much worse ecological costs of doing that. That is straightforward when it comes to tropical rainforest because, given that carbon goes into the atmosphere and large amounts of rain go through tropical rainforests, if you cut down the Congo rainforest, you reduce by 90% the flow of water going down the Nile; approximately, of that order I should say. There are also costs of bringing grassland, non-agricultural grassland into agriculture, so you have to look at it as competing risks. Yes, there are ecological risks of intensifying but the report argues very strongly that the whole research programme should be aimed at reducing those risks because the alternatives of not producing more food from that amount of land are even worse and that is not to say one should not be working at all other parts of the food system—sufficiency, demand and so on—to try and make the

extra amount of food you have to produce as little as possible.

Q125 Simon Wright: Which of the risks that you have identified are least able to be minimised? To what extent is there a sort of inevitability of ecological damage?

Professor Sir John Beddington: There are some current risks. One of them is indeed not having sufficient understanding of the ecosystems, of the agro-ecosystems. I think not doing any research and not understanding those risks is probably the biggest danger. I know that sounds slightly like sophistry but that is indeed the case.

Historically, something of the order of a quarter of agricultural land is significantly degraded from soils and one of the recommendations of the report is to concentrate on trying to improve the quality of that land. Now, I think one can be thinking of ways of doing that but obviously one of the major risks of intensification is that you get soil with degradation; there are ways of mitigating that. One straw person to attack is the notion that you need significantly more pesticides and fertiliser. We absolutely do not think that and that is why we are talking about sustainable intensification that manifestly does not involve significant increases in fertiliser or pesticide use.

That being said, we need to be thinking of smarter ways of dealing with problems relating to nutrients, pests and diseases of crop systems. There is real scope for our understanding of both plant and animal genomics to improve seriously the ability to address some of those risks. It is also sensible to be thinking about some of the ideas that are coming under the general banner of climate smart agriculture. This is the idea that we look both to the sustainability issues and the environmental effects but also the direct effects of agriculture on greenhouse gas production, and work is already underway in a number of areas of the world to think about climate smart agriculture that involves practices that sequester carbon dioxide. That significantly improves and drops the usage of nitrogen fertiliser and involves some sequestration of nitrogen into the soil. All of these practices can be looked at and all of them taken together do quite significantly mitigate risk.

The basic answer is that you need to be thinking of each individual agro-ecosystem as a whole; pose the risk, ask the questions about the risk and think how best to mitigate them and I think that is where some of the case studies in Africa that Sandy referred to are really quite helpful. For example, in Brazil, there have been very, very major improvement in yields but give or take about 80% of arable agriculture in Brazil is now low tillage, which significantly mitigates the risk of soil degradation.

Professor Thomas: Could I just also say that one way of mitigating several of those risks is a greater role for extension services to help both poor farmers and farmers in richer countries to adapt their agriculture to use these kind of climate smart and more sustainable techniques.

Q126 Simon Wright: What about genetic modification? How significant is GM in increasing some of the risk?

Professor Sir John Beddington: I think there is scope for it. I have spoken both to this Committee and to others on this, but the basic question, “Is GM a good idea or a bad idea?” is fatuous. The answer is it depends on which genetically modified organism you are looking at, what problem it solves, can that problem be solved better than any other solution and can it be solved while addressing risks to human health and the environment? Now, in those contexts, the obvious thing is that you should be using those genetically modified organisms if they meet the criteria of not being harmful to human health or the environment and they are the best way of solving it but that is an individual organism. When the Foresight report came out, predictably others were saying that we were advocating GM as a silver bullet and, in fact, the report explicitly stated GM is not a silver bullet, but that is the way of the world. What I think is clear though is that we need to be thinking about biotechnology more generally, not just GM and that there is vast amounts of knowledge of the plant genome that is being developed in the UK at places like the John Innes, which means techniques like marker breeding are, in fact, going to be extraordinarily valuable as we move into the future. I would be reticent to ever get involved in thinking that the issues for the world are whether we have GM or not, manifestly that is not so, but it can solve certain problems.

Q127 Peter Aldous: Yes. Who, in your opinion, should be pioneering or taking the lead into research on GM and biotechnology? Should it be Government? Should it be independent research establishments, the customers, the farmers or the suppliers?

Professor Sir John Beddington: I don't think there is any straightforward answer to that. It would depend on which organisms and which society they are operating in. For example, there is a lot of GM based research in Africa at the moment that is a partnership between major charities like Gates, the commercial companies like Syngenta and Monsanto and some of the aid money coming in via Government, and that seems to me to be a sensible way of dealing with it. Sandy knows more about this and might expand in a moment. We have a problem I think in terms of Europe and UK is that the regulatory system is such that it's pretty much impossible to imagine a smaller or medium sized enterprise being able to have sufficient funding to get an organism accepted. But that is, in a sense, beyond my brief as Chief Scientific Adviser. That is the regulatory structure we work within. I think that there is sufficiently no—

Q128 Chair: Sorry; the regulatory system isn't separate from what Government does, is it?

Professor Sir John Beddington: No, and thank you, Madam Chair, but I think the point I was making here is that we have a system, a regulatory system in Europe which has problems in terms of the time it takes to assess organisms and so on and I think everybody's fairly well aware of that. I think the

consequence of that in the regulatory system is that it is hard to envisage a system whereby research on GM organisms is conducted by small enterprises, so it is either Government or large ones; that is the consequences. One could advise that the regulatory—and indeed I have—regulatory system should be relooked at and thought about in a more efficient way but that is what we are dealing with at the moment. So in answer to Mr Aldous' question, that indeed is the answer. If you look elsewhere in the world, where the regulatory regime is much less, you are seeing a number of developments of small scale companies developing technology in this area.

Q129 Zac Goldsmith: Can I quickly come in on this point? The questions you asked in relation to GM, is it the right solution to the problem and so on, are obviously the right questions but I do not see any mechanism where those questions are being asked or can be asked. So my question is what is that mechanism? If those questions are not asked, if we just see the market rushing ahead of the science, do you see that as a risk? Is that a problem? In other words, without the proper regulatory system, without the proper questions being asked by the proper people in the right place and time, is GM, in your view, a potential risk for danger?

Professor Sir John Beddington: Well, I think if you look outside Europe, GM has been adopted in something of the order of 25 countries now in different ways. Take GM soya, which does seem to solve a number of problems which can't be solved with conventionally breeding soya. You use less pesticide, you have less damage, the crop yields are higher. Those are, as it were, problems that have been posed by the market, which is essentially the same questions, the same issues to do with the regulation of it. Different sorts of regulation of course apply in different areas, but there is no indication, for example, that there has been any problem of human health from genetically modified soya.

Q130 Zac Goldsmith: Is anybody looking for evidence of products?

Professor Sir John Beddington: Oh yes, I think the regulatory regimes in Brazil, in America are very strong.

Chair: Sorry, I think Professor Godfray wanted to come in.

Professor Charles Godfray: Yes, can I just come in there?

Professor Sir John Beddington: Yes, please.

Professor Charles Godfray: I don't have the exact figures in my brain, but I think now approximately 55% of maize worldwide is GM and I think 45% of soya, it is of that order, and there has been substantial monitoring now to look at both environmental and health effects, and this must continue, it must be intensified, but so far major problems have not arisen. I think one of the frustrations in the GM debate is frequently people are arguing past each other, because many of the concerns about GM, where health and environment are sometimes used as proxy arguments, is over the intellectual property and over GM, which as John explained, is almost now purely developed by

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big companies and locks in the IP. The report it is very explicit about that, and that in deciding when GM is an appropriate technology, it needs to take in not only the health environment but also the structural economic issues, how it affects the market. And I think the report argues that if there is a more explicit identification of the concerns that people have with GM, it will make deciding when and where it isn't used—

Q131 Zac Goldsmith: I think that is wrong, with respect. I think the principal concern people have with GM—and very few people reject GM outright—is that there is no clear process of assessing the safety, and it is all very well saying millions of people eat the stuff every day, but who is checking to see whether or not there is impact? If, for example, over the next 10 years we see a tenfold increase in anaphylactic shock, who is trying to work out what the cause of that increased problem is? There are hundreds of examples of health problems going in the wrong direction, possibly absolutely nothing to do with GM, it might be something to do something we have not even considered, but unless we look for evidence that GM is potentially a problem, we are not going to find it. I think most people look at the regulatory system and they think that it is at best hopeless, possibly worse, and I think that is a concern people have, necessarily because the money comes from industry, not Government, necessarily the market is going to rush ahead of the science. You are never going to find a GM company promoting a non-GM solution to a food security issue. It is just not going to happen. So my critique of your report is that it assumes we live in a perfect world where the regulatory system is up to the task, when clearly we do not.

Professor Sir John Beddington: I would be very interested to hear your detailed criticism of the regulatory system both in the USA and Brazil and indeed Europe more generally—

Professor Godfray: China.

Professor Sir John Beddington:—because all the analysis and all the evidence that I have seen would indicate that pretty much all experts—and by that I mean scientific experts who have looked at risk assessment—suggests that the regimes, certainly in Europe, in the USA, in Brazil and in parts of Africa are extremely robust, both to human health effects and to environmental effects. So I would be very interested to hear the detailed analysis of that, but it does go against what is almost ubiquitous advice among experts.

Professor Godfray: I come from the academic sector, and certainly there is intensive research in this, and if anyone could find that information exactly as you said, then there would be huge interest in that.

Q132 Zac Goldsmith: Who would look for it, though? That is the question. Where is most of the money coming from?

Professor Sir John Beddington: Well, health authorities check all the time.

Professor Godfray: Yes.

Q133 Zac Goldsmith: How many studies have been conducted with public money in Britain into the health effects of GM products?

Professor Sir John Beddington: Well, nobody is eating GM products in Britain, so the health authorities would not be doing it.

Zac Goldsmith: I guarantee everyone in this room has eaten some kind of GM product today, on our cereal this morning. It is in our food system, absolutely.

Professor Charles Godfray: The Chinese Academy of Science have sponsored—and I can give you some references to it—a vast number of studies about this, the Food and Drug Administration in the States have done similar, so I do think that there is a good evidence base out there. I think that there are very strong incentives pushing people to look for the sort of—to use a cliché—the black swan events. Certainly if you are a young academic, that would be the way to make your career. So it is not that all the incentives are pointing to—

Zac Goldsmith: So you think a young academic's career would be improved by pointing the finger at the industry that is likely to be providing them with grants in the rest of their career?

Professor Godfray: Certainly if I was sitting on his or her promotion board in Oxford, it would.

Q134 Chair: Okay, just before we round off this section on GM, can I just ask one question? Before Zac Goldsmith came in on this point, you said that there are various questions that need to be asked about what was the right thing. Do you see that there could be some kind of sequential way of dealing with this? So would you see GM, for example, at the very bottom of the list of things that needed to be considered before that would be looked at as a preferred option, or would you see it at the top of the list?

Professor Sir John Beddington: It depends on the problem. We have a potential problem in wheat or reed rust, which I am sure you have been told about by others. I am not certain that that is going to be solved by conventional breeding, for example. There are many others.

Professor Godfray: If I could perhaps give another example, certain of the major grains used in Africa are of poor nutritional quality and if you wanted to improve the nutritional quality of maize, then it makes great sense to use traditional breeding. If you want to improve the nutritional quality of sorghum or millet, there is no genetic variation segregating in populations, and one would have to use the GM. So whether you use conventional breeding or adopt a more high-tech solution would depend on the crop and on the biology.

Q135 Simon Wright: Professor Beddington, you mentioned earlier the Foresight report had misreported as suggesting that GM was a silver bullet. I think we recognise that GM is certainly not sufficient to address the challenges ahead, but to what extent is GM technology now unavoidable if we are moving towards this more intensive way of farming? It may

not be sufficient, but is it necessary for this vision of intensive farming ahead of us?

Professor Sir John Beddington: I think it will depend on the geographical area, the individual crop grown and so on. I do not think it is essential. You can look at sustainable intensification in different types of crops, in different type of geographical areas where GM does not solve a problem. It will be very difficult to think about food production, growing a whole series of cereal crops in very harsh environments with high saline content and susceptible to drought, and indeed, susceptible to particular diseases, of which rusts are the greater one, without thinking about plant breeding, whether marker breeding or GM. That would be done a case by case basis.

Q136 Peter Aldous: I will just move on. Neil Carmichael talked about the Common Agricultural Policy and what it has done in the past, but looking to the future, the CAP is up for review. From a UK context, how do you see the CAP contributing to alleviating the food crisis?

Professor Sir John Beddington: I think there are a lot of issues that go beyond my brief as Chief Scientific Adviser in any revisions of the Common Agricultural Policy. To address food security issue, you need to think about a Common Agricultural Policy that produces surpluses which are available on the world market. I think that we need to be thinking about not just the Common Agricultural Policy, but trade policy more generally, which encourages high productivity in areas of the developing world, in which they can gain benefit from exporting. So there are some general issues. As I said earlier, the indications are that Europe in particular will have a relatively benign environment in the future, so there may be a potential for the production of quite significant surpluses in Northern Europe more generally, and, as Charles emphasised, obviously Eastern Europe has really substantial potential for such production. I think that in a joined-up world, it is quite likely 10 years, even 20 years ahead, there is going to be substantial exports from Northern Europe. That will be dependent on the vagaries of climate change, which are of course quite difficult to predict. But we do have an efficient agricultural system. We do have an agricultural system which can provide surpluses, whether in grains or in livestock, and I would expect that to grow, but that is more a bet than a scientific prediction, I would say.

Professor Godfray: Just very briefly, in response to Mr Wright's question about sustainable intensification and the difficulties of trying to reduce the externalities, using the pillar 2 of the CAP gives an opportunity. There is money there that can be aligned to get the incentives right for food producers to push towards sustainable agriculture. If I can speak in a personal capacity rather than as a member of the Foresight team, some of the moves at the moment to remove money from pillar 2 and put it in pillar 1 worry me, and I am worried about the narrative of greening pillar 1. But I should also say I am not an expert in this.

Q137 Neil Carmichael: Can I just go back to Sir John's point about the CAP increasing production in Northern Europe, because I think he is absolutely right, but I would like to probe on the mechanisms you have in mind, because obviously there is a potential conflict between protecting the environment and increasing productivity. The mechanism for productivity was in the past the price floor. The mechanism for the environment is basically paying farmers to look after the environment. Now, how do we manage to achieve both at the same time— increase productivity and also protect the environment—particularly in the area of Northern Europe, where that is obviously the greatest challenge, given the history of agriculture in parts of Eastern Europe?

Professor Sir John Beddington: I do not think there is a straightforward trick I could offer. Hopefully one will be first of all examining what are the trade-offs in terms of production and the environmental impacts, and that would be part of the job. There are a whole number of ways that one can think about changing agricultural practice to produce gains in productivity without environmental consequences—they are legion. I think in general terms, one has to understand the agro-ecosystem in a different way. This is Charles's area of expertise, do you to expand on that?

Professor Godfray: You have absolutely put your finger on the nub of the challenge ahead, and there are some ideas of how to do it, but it is still at the sort of technical level, both in the agronomy and the economics, but I think that is a real challenge of future CAP. I am afraid, like Sir John, I don't have any—

Q138 Neil Carmichael: But now is the time to be thinking about it.

Professor Godfray: Absolutely, absolutely.

Neil Carmichael: We are entering a period of reform in the CAP and by 2013, we will have a new CAP. It will not be the same as the current one and it will be different in lots of ways, so what we have to do is start factoring in the very issues you have raised. What do you think those issues and details are?

Professor Godfray: At a very high level it is trying to internalise some of the environmental externalities, and then you get down to the technical issues of exactly how do you get, for example, a carbon trading scheme to work in agriculture; how do you do it with nitrogen? It gets even harder when you go into biodiversity. So those are really technical issues at the moment where there is work going on, and in my view is it should be a real research priority, a very interdisciplinary programme.

Q139 Chair: Yet, as we speak, I am not sure that there has been any announcement about the new pillar 2 in the CAP budget. Presumably there has to be a lot of influence from the UK in terms of the European Commission's stance on all of this, and is that being sufficiently fed into the representations that are being made in terms of policies that come out?

Professor Sir John Beddington: Obviously the organisation to quiz is DEFRA. It was one of the sponsors of this report: from all conversations I have had with the departmental chief scientific adviser, the

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Secretary of State and other Ministers of State in DEFRA, they accept the Foresight report as being extraordinarily important. The current pillars of the challenges that DEFRA is now considering—sustainability of food, trying to address environmental impacts and the recent study that it published on the ecosystem services—all point to a recognition of the report's importance. In terms of its detailed plans, I would suggest that you talk to their chief scientific adviser or the Secretary of State, but I don't have—

Chair: Do you talk to him?

Professor Sir John Beddington: Watson?

Chair: Yes.

Professor Sir John Beddington: Bob Watson, yes. He has been in to talk to you already, has he?

Chair: No, what I was trying to get at was what the level of communication was between you and him.

Professor Sir John Beddington: Oh, I see. Sorry. Well, we have breakfast together every Wednesday, along with a—

Chair: Enough said. Okay.

Professor Godfray: By coincidence, I have just travelled down to Oxford with Bob Watson, who was at a meeting with me, and I know that DEFRA's input into CAP reform is a major issue on his plate at the moment.

Professor Thomas: May I add that DEFRA was an extremely enthusiastic sponsor of this report. The Foresight teams and a lot of officials in DEFRA worked very closely so that we could share the evidence base from an early stage, so in terms of impact of this evidence base and the analysis from it, that has been something that has been happening across several policy fronts in DEFRA over the last two years, even before this report was launched, so the connections have been excellent in terms of how this is informing a whole range of DEFRA's policy, including reform.

Q140 Martin Caton: If we could look at the food strategy, is the Government providing the strategy needed to join up the policies and incentives to move to more sustainable food production?

Professor Sir John Beddington: I think it is work in progress. Basically there is the background of what DEFRA is doing, and perhaps rather than read you five separate paragraphs, I will try and summarise those. Basically, on the receipt of our report, DEFRA has been championing a more integrated approach by governments and international institutions to global food security and linked with climate change, poverty, biodiversity, energy and other policies; it is playing an active role in the G20 and FAO; it is continuing to press for reform of the CAP and CFP so they are better focused on long-term environmental sustainability, as well as food security, and to avoid harmful subsidies; it is supporting the EU negotiating a pro-poor conclusion to the Doha development round; it is trying to disseminate good practice on waste; and basically working with the whole food chain, including consumers, to try to lead the way on sustainable intensification of agriculture. That was its formal response, as it were, to the report, and that is part of its policy. But I think, as we have indicated, this is policy that is currently developing, and I am

sure the inputs into CAP and so on are actively being undertaken at the moment. But I think you probably should quiz DEFRA in more detail on how far that has gone forward.

Q141 Martin Caton: The previous Government had its 2030 food strategy, which as I understand it this Government endorses, in principle at any rate.

Professor Sir John Beddington: Yes.

Martin Caton: Is that the foundation of any food strategy now then?

Professor Sir John Beddington: I think in terms of the detail, the previous Government produced a report, the *Road to 2030*, was it?

Professor Godfray: Something like that.

Professor Sir John Beddington: There is that, and I have not seen any particular change in any policy to imply there was a change. I had not seen it formally endorsed by Cabinet or anything like that. What there is is the Food Research Strategy, which I developed with a cross-government, and it is still the basis of developing a food research strategy for the UK.

The other thing is that a little while ago—I have not explored it with this Committee—I set up an organisation called the Food Research Partnership, which involves everything through the food chain from the, as it were, NFU through to the major retailers and producers, but also includes the research councils and Government departments, and that produces a whole series of reports and working group findings on where we need to be going in terms of research on the food security issues.

The other thing that has happened of course is that albeit the research councils are, under the Haldane principle, independent from Government, the BBSRC has been in the lead of a cross-research council and cross-government strategy on food security, which is putting £100 million into it.³ In addition, the Technology Strategy Board has launched some programmes to look at food security issues with closer links into industry and into the research councils and universities. There is quite a lot going on. In total, in terms of food research, current spend—or spend to April last year—was a little over £400 million on research in general areas of agriculture and food security, so that includes—

Q142 Martin Caton: Do you see food research as the aspect of strategy, if you like, that is going to have the biggest, quickest impact?

Professor Sir John Beddington: I think it will have, but as I emphasised—I think in my response to an earlier question—that it is investment now, because the returns, as it were, at the farm gate, are several years away, depending on the technology, typically about 10 years. It would have been better if that had been investing 10 years ago, but it wasn't.

Martin Caton: Thank you very much.

Q143 Neil Carmichael: The Global Food and Farming Futures Project, do you have any examples of influence that you have had on Government policy?

³ Witness correction: the figures are £104 million per year from 2011–2014

Professor Sir John Beddington: On our Government policy?

Neil Carmichael: Yes.

Professor Sir John Beddington: I think what I have just read out really is the fact that DEFRA, having accepted this, have taken forward six or seven key bullet points from the report. I know that the Secretary of State was taking forward a number of the report's proposals to the G20 Agricultural Ministers, and I know there has been engagement. I have met with the Secretary of State, who was part of the sponsorship of the report, and she has spoken enthusiastically about it. I have linked in with Bob Watson, as Charles has said, and I do meet with all my chief scientific advisers every week.

Neil Carmichael: For breakfast?

Professor Sir John Beddington: So I am fairly au fait with how things are developing within DEFRA, and it is very largely positive and the messages are accepted.

Q144 Neil Carmichael: Yes, because those links are really important, formal and informal in policy making, absolutely critical. Other Foresight projects, like, for example, on land use and obesity, do you have any thoughts on those?

Professor Sir John Beddington: Sandy, do you want to answer that?

Professor Thomas: Yes, perhaps I could talk about obesity first of all. This project was reported in 2007. We worked very closely before the launch with particularly the Department of Health, because they were beginning to see the need for a new strategy, so we were able to share the analysis and evidence with that department and also the Department for Education at that time. So four months after the launch, the Government published a new strategy, *Healthy Weight, Healthy Lives*, with which some of you might be familiar, and that committed around £300 million over a four-year period to a number of new initiatives.⁴ I think what was quite rewarding with that report in some ways is that the evidence base showed very clearly that it was going to take decades rather than years to sort out obesity and that there were many determinants of obesity, not terribly well understood, and therefore not tractable to policy responses that could be easily put in place. So quite a lot has happened since that report was launched, and certainly in the next two to three years, a lot of different initiatives like *Change for Life* and many other activities around the UK followed in the wake of that report and then—

Q145 Chair: Is that still being followed through?

Professor Thomas: Some of those things are. I mean, you would want to talk to the Department of Health to get a clearer picture, because obviously there has been a number of changes but, for example, the Expert Advisory Group that advised the Minister in the previous Administration have been kept on and they are still feeding in their advice to the Department of Health on obesity. I think the *Change for Life* programme is still current. Some other aspects that were associated with some of those ideas, for

example, free swimming for the over-60s, are no longer with us. But I think there is a recognition that there is a serious problem with children particularly, and a lot of that evidence is still very much in the minds of the Department of Health officials.

Q146 Neil Carmichael: Okay, thank you. Moving on to international trade—because Sir John touched upon that in your answer about the CAP and other instruments to promote sustainable food—do you think currently institutions are geared up in the right way to promote the issues that we are talking about?

Professor Sir John Beddington: I suppose the first thing is that I think if you are talking internationally, at the highest level from the World Bank, the FAO and I believe the G20 with a Focus on Food, all will be providing leadership. I think the area that is interesting, which has the potential for being quite exciting, is the recognition that agriculture has been rather behind in discussions of climate change and in the general international negotiations on climate change. One of the areas where I think there is real potential for, in a sense, a win win is the way in which you can be looking at agriculture as a way in which you can mitigate greenhouse gas emissions, not just adapt to them. I referred to earlier some of the agricultural practices, particularly agro-forestry, which can involve sequestration of carbon dioxide. There has been big progress on forestry in terms of the REDD Programme, but in terms of the progress on agriculture, it had been quite slim.

Now, one of the things that I would hope to see at the Durban meeting or perhaps subsequent meetings is a focus on encouraging climate-smart agriculture, which is arguably a better way of achieving mitigation of greenhouse gases. Agriculture produces between 13% and 14% of greenhouse gas emissions in its basic practice;⁵ land use change puts that up to about 30%. So there is a lot to play for, unlike in forestry, where the developed world community is saying, "Please don't chop down your trees and get a benefit from it, we will pay you in order that you don't do that". That is the basis of the REDD, in very simplistic terms. In the case of agriculture, encouraging agricultural practice which both increases yields, increases profitability and at the same time involves mitigating carbon dioxide and other greenhouse gases—and indeed, in some cases sequestering carbon dioxide—is very much a win-win. The potential for that is extremely high.

One of the things that I have been doing since the report was commissioned, but not in my capacity as Chief Scientific Adviser, is to chair an international commission on climate change and agriculture and food security for the funders' forum for the CGIAR system. We have had two meetings, one in Washington, one in Brazil, a third is planned for South Africa in the autumn and that will be inputting into the IPCC process and also in the Rio Plus 20 process this time next year. So I think there is a lot of buy-in at the high level in terms of the importance of agriculture, the importance of food security from the President of the World Bank downwards, so I think I

⁴ Witness correction: the exact figure is £372 million between 2008 and 2011.

⁵ Witness correction: between 10% and 12%

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am encouraged. There is a lot to do, but I think the mood music is good.

Q147 Neil Carmichael: Yes, because of course in recent years, the big challenge has really been about Governments and areas giving subsidies and so on, the argument between Europe and America, the American food bill and our CAP, and whether or not we are going to have a fair playing field. Should we therefore be applying the same sort of logic to try to create a fair playing field in terms of CO₂ in agriculture?

Professor Sir John Beddington: It is an interesting question. I don't know that I can answer it. I have not thought very carefully about it in terms of a level playing field. I suppose that what one is looking to do is to ask about the mechanisms for greenhouse gas reductions, and in a way, at the moment, the REDD process has a fund from the developed world, which will pay those in the developing world not to chop down forests. I suppose what one might be envisaging is something similar, to look to a change of agricultural practice, which would mitigate greenhouse gas emissions in the developing world, but there would be some cross-payment for so doing. But that is a sort of juvenile guide to how that would be done. The technical detail will be extraordinarily complex, but I think raising the issue is important. Do you have any more to add on it?

Professor Godfray: If I can just come back quickly on the issue of trade that you brought up, in the report we discussed trade and how international trade can be worked, the governance that is needed so that the trade works in favour of food security that we talked about a bit earlier. Reducing the distorting subsidies is clearly one of the issues, and we considered the importance generally of liberalisation. We did not go down to the details, because at the time it was very unclear what was happening at Doha or what was not happening at Doha.

If I might briefly comment personally beyond the report, we have seen, as John mentioned earlier, in response to the 2008 food price spike a series of bilateral and phase 1 multilateral trade agreements in South-East Asia, which meant that in the 2010 spike, there was not a problem with rice exports. We are entering a phase of the food system where many of the major policy issues upon which the Doha round was predicated—excess production in high-income countries—have changed, not to mention the fact that the BRIC countries were still, when Doha began, generally low-income countries. What comes next after Doha needs a real radical rethinking of international trade in food commodity, for food security. Again, as John says, one of the real challenges is how do you bring in issues of sustainability? Doha was avowedly pro-poor, although whether it will achieve that, it needs to be pro-poor plus pro-sustainability and designing sustainability issues that cannot be hijacked as cryptic protectionism.

Q148 Neil Carmichael: It is interesting, isn't it, because there are huge firms now being developed in the commodity trading market. That is obviously showing there is a huge global market underway and

perhaps that is something which needs to be considered in the context of CO₂ reduction as well, because of course their activities are not necessarily in line with the objectives that we have just discussed. Coming back to the UK, our production costs are probably higher than some of our competitors, certainly in the developed world, and so one has to pose the question: how do we expect our farmers to become more sustainable and more sort of CO₂-orientated given the inbuilt disadvantage that they have?

Professor Sir John Beddington: Well, I think it is an economic and a research question. We have seen ways in which the research effort that Government has put in has enhanced productivity on farms and enhanced profitability on farms and I think that it has also done things to seriously mitigate losses. You know, the work that was being done on blue tongue, which was costing probably of the order of £1 million, managed to save something of the order of £500 million because we did not get blue tongue disease here when we had those first initial outbreaks. So I think there is a lot of stuff that we can do.

What worries me a lot are the changes in regulation that are mooted in Europe to move to a hazard-based assessment of agricultural chemicals rather than a risk-based assessment. If that is implemented and followed through at a substantial level, it has the potential to remove agricultural chemicals that enhance productivity and protect from disease. There is a programme that the Technology Strategy Board is looking at to seek to address ways that we can do that via research.

I think the other aspect though, which Charles referred to early on, is that although we have a very, very high-quality research base, the extension services systems that we had some 20 years ago are no longer there to pass the results of that research base down the chain so that you get enhanced productivity in the farms. Our key mission is to address that lack. A couple of studies from the Food Research Partnership, which, as I have explained, involves everything from the NFU through to the main retailers, have indicated that that is one of the real requirements. Some things are happening, but I think that that is one of the areas that I am concerned about. I gave a speech at Duchy College in Cornwall last week, and that was very much the message that was coming from the farming community: that they understand that good quality research is happening, but they are looking for that research to be disseminated down at the farmer level. I think some of the rural development colleges are doing just that, which is a good first.

Q149 Neil Carmichael: One of the fascinating things about agriculture is how so many different policies collide and produce outcomes, and I will give you a really good example, and that is, funnily enough, inheritance laws in Germany. In one half of Germany, a family has to split up the farm equally between children, and in the other half of Germany, you can put the whole lot to one side. There is a really clear difference, and you can see the impact. If you are flying over Germany, you see huge farms at one end and very small farms at another end, and clearly that

has an impact on output, efficiency and all the rest. So how do we overcome that kind of policy difference? I suppose we can assume you cannot impact on the kind of policy areas we have just been discussing?

Professor Sir John Beddington: I think that takes you out of the domain of scientific advice, really.

Chair: I think Professor Godfray wanted to come in on some specific—

Neil Carmichael: But it is interesting, isn't it?

Professor Godfray: I would comment that some explanation has been given for why France had a revolution with inheritance law and why we are sitting in the mother of parliaments here.

Chair: Hold on, hold on, I think we need to move on to some specific research bits.

Q150 Zac Goldsmith: Well, much of the research questions I was going to ask have already been addressed. I know of some more specific areas of research where we should be putting emphasis, so I will still ask you that general question, but before I do, can I just follow up on something that Neil was saying in relation to tariffs and protections and so on? Is there any case in any circumstance for any protectionist policies in relation to food and farming in this country? Can you see any areas where protectionism, in your view, would be justified?

Professor Sir John Beddington: I don't think I can.

Zac Goldsmith: Would you agree with that?

Professor s Godfray: I would agree with that.

Zac Goldsmith: That is a huge topic, so I am not going to pursue that, so I am going to leave it at that and go back to my research questions.

Professor Sir John Beddington: I think waste is the area, and I would like to Charles to expand on that, which I think has been neglected and needs some thought.

Q151 Peter Aldous: Have we not spent an hour and a half talking about intensification? Aren't we barking up the wrong tree? Should we not be eliminating waste before we come on to intensification?

Professor Sir John Beddington: I think it is low-hanging fruit in the developing world. It has arguably potentially changed, but I think the problem is so serious generally—I said in my initial comments that we are talking about a 40% increase in demand for food in 19 years, and I haven't done my long division as to work out what percentage increase, but saying, "Oh, let's deal with waste first and then let us deal with other issues of plant productivity or pest and disease control" I don't think we should think about that. In terms of waste, I think the report does categorise two areas which I think are worth exploring. Do you want to expand on this?

Professor Godfray: Yes, if I could just preface it by saying that probably, in my view, the single strongest message that the report tries to get across is that action is needed in all parts of the food chain, so it is not just increasing production, it is thinking about demand, it is thinking about waste and it is thinking about the governance of the food system. On the demand, and going right back to Mr Goldsmith's question, we talked a bit earlier about the more high-tech stuff, but I would set a very high priority on research in some

of the more neglected subjects, such as agronomy, soil sciences and such things. That needs as much research as high-tech. On waste, there are some really hard issues to tackle. We do not know, or really understand some of the behavioural psychology behind some of the behavioural economics of how people react to waste. There is interesting work going on, especially in the Netherlands. There might be some opportunities for some high-tech solutions, for example, sensors that help tell you when food goes off, rather than relying on fairly algorithmic sell-by dates. The report worries about the level of food literacy. I suspect that we as a nation know less about how we process and store food probably than our parents' generation, certainly than our grandparents' generation, and I think that is a challenge for Government to address.

Q152 Peter Aldous: Just picking up one point, you said there was a need perhaps for refocusing on soil science. Would you say the fact we no longer have ADAS makes that more difficult?

Professor Sir John Beddington: Yes, I think that there is an issue there. Since I have been Chief Scientific Adviser, I have been going around a whole series of universities and talking to departments of biology, of agricultural sciences and so on, and I think that there is a feeling that, having been neglected, soil sciences is now starting to see it. I think the work that the BBSRC is doing to fund food security research is putting significant money into departments dealing with soil science, so I think direction of travel has significantly improved, Mr Aldous. Sandy?

Professor Thomas: Yes, can I just add some of the other areas that the report highlights, particularly in relation to climate smart agriculture and the need for more research on making our applications of fertiliser more precise, and particularly for organic and inorganic fertilisers. Breeding cattle to reduce greenhouse gas emissions is also something that is going to make an important contribution, as well as more plant breeding to improve tolerance to drought in particular, and the use of nitrogen in the soil and new approaches to managing various kinds of pests. So there is a whole area within the report that really looks at those factors in some detail.

Q153 Zac Goldsmith: Can I just add one point, because I don't want us to lose this issue of waste; I think it is absolutely crucial. I know you came up with a figure of 30% of all the food that is created doesn't make it to the plate, but others said 50%. If that is correct, then by not wasting that food, you are potentially increasing production, availability of food by up to 100%, which goes way beyond the 40% that you are talking about in the next 20 years. I am not suggesting you can eliminate all that waste, but surely that has to be the absolute number one priority? Eliminating waste has to be easier than increasing productivity.

Professor Sir John Beddington: I am not so sure it is, particularly in the developing world, because a lot of waste in the developing world is involving infrastructure development, you know, the reason it is wasted is you don't have appropriate storage, you don't have appropriate transport and so on, and that is

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a big problem. There is an issue to do with how you deal with plant losses due to pests and diseases in the developing world and I think the simple answer of just using vastly more insecticides and so on is not the correct one. One needs to be thinking about smarter ways of doing that, and particularly understanding the agro-ecology of systems, and I think there is a lot of work that needs to be done there. So I would certainly accept that in the developing world, waste is one of the problems that we should be addressing, very importantly, but it does involve doing research into areas that do not prima facie stop waste. In the developed world, it really is a terribly difficult problem to produce behavioural change, and that is what is required. One can think about some degree of Government intervention to think about a more appropriate way of dealing with sell-by dates and two for one offers and so on, but they are cutting at the surface, and the waste figures that are published in the report indicate a very, very substantial amount of food is just being bought and not consumed. I think the report quotes a figure that it is costing each family something of the order of £700 or £800 just throwing food away when it is usable. But getting behaviour change is very, very time-consuming. I suppose the most successful behaviour change we have seen in our society is smoking, where there is still residual pockets of it, but that was a 40 or 50-year campaign. I think getting consumers not to waste food or drink after purchase is a long-term campaign, albeit your sums are exactly correct, Mr Goldsmith—say 50% and you hit the low hanging fruit. But both of these things are quite difficult, and so that is why I advocate for going for all of these things; I am not trying to prioritise particularly between them.

Q154 Martin Caton: You were talking about behavioural change in terms of waste. Can we look at it in terms of consumers and consumption? To what extent is consumer behaviour driving unsustainable food?

Professor Sir John Beddington: I am not sure I understand the question, but if I may, I think the consumer behaviour is people—

Chair: I think it is a predict and provide kind of model almost.

Professor Sir John Beddington: Sorry, could you explain? I am sorry, the acoustics got me there.

Chair: Sorry, I think it is more to do with the predict and provide approach that was being referred to by Martin Caton, that people will do what they wish to do.

Martin Caton: If the easiest way to meet that demand is for non-sustainable intensive production, then the consumer, we could argue, has some responsibility. To follow on from that, are there ways that we, at a policy level, can change consumers' demands?

Professor Sir John Beddington: You have thought about that, Charles.

Professor Godfray: It goes back to what I was saying about food literacy. I think you are right that consumers are giving market signals that are leading to some unsustainable practice. I think there is good news. We see from Rainforest Alliance, fair trade, marine stewardship certification—I may have the

terms wrong—that consumers are pushing in the right direction. I think John's analogy with cigarette smoking is very accurate; we are a long way from having the sophisticated debate as a population about some of the issues associated with food that will both begin to enable behavioural change within individuals in the population and also enable Governments to take actions, as we have seen happening in tobacco, and I concur completely with Sir John that is probably a 40 or 50-year programme.

Q155 Martin Caton: That is interesting, the tobacco analogy, because what we saw with tobacco was the industry, the producers, resisting very strongly and very strongly trying to influence consumption behaviour. Do you think there is any danger of that, even if, as you say, there is some good evidence that people are changing their practices towards fair trade and more sustainable products? Is there a danger of the producers, because they think they can make more profit out of the way things have always been, trying to influence consumer practices?

Professor Thomas: Well, I would just like to say that during the project we worked quite closely with senior people from the private sector, and what came over very clearly from some of our supply chain workshops was that industry would really welcome leadership from Government in terms of helping to create a level playing field for sustainability metrics and very much see that they have a role to play here in helping to shape the considerable potential in adjusting consumer demand towards a more sustainable food system.

Q156 Martin Caton: A last question, do you think British consumers could affect sustainability in worldwide products?

Professor Godfray: I think they are already. I think with fair trade and with Rainforest Alliance that choices made by individual consumers in this country are having positive effects in low-income countries and I hope that will continue and spread more internationally.

Professor Thomas: May I just add there, though, that there is also a need to think about the demand from consumers over the coming decades, essentially in relation to particularly consumption of meat, and there we are likely to have less influence, and obviously the demand for grain in global terms is something that would not be sustainable if current rates of increase continue, so that is something that the report thinks about in some detail.

Martin Caton: Thank you very much.

Q157 Neil Carmichael: I was going to say, I am not quite sure it will take 50 years to change people's habits, because my mother, who was born just before the Second World War, still today will eat anything she thinks is going to be wasted. She has that sort of mentality. I draw your attention to the change from leaded fuel to unleaded fuel, a simple tax change. That was at the end of the 1990s, wasn't it?

Chair: It was indeed.

Neil Carmichael: The consumers switched over really very quickly from one to the other.

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Chair: But I think that it is perhaps worth noting that on the change to lead-free petrol, there was a lot of negotiation and a lot of pressure, and perhaps the regulation had a role in it as well, so I think it is all about the different things which produce the behavioural change and—

Neil Carmichael: Different policy mechanisms.

Chair: It is a question of where the line is drawn, what changes are made.

Look, we have come to the end of the session. Thank you very much indeed, all three of you. This inquiry is raising a lot of issues.

Wednesday 19 October 2011

Members present:

Joan Walley (Chair)

Peter Aldous
Martin Caton
Zac Goldsmith
Simon Kirby

Mark Lazarowicz
Caroline Lucas
Sheryll Murray
Simon Wright

Examination of Witnesses

Witnesses: **Laura Davis**, Strategic Development Manager for Health and Well-Being, Ideal for All, **Jeanette Longfield**, Co-ordinator of Sustain, and **Angela Blair**, Food Access Manager, Public Health, Sandwell Primary Care Trust, gave evidence.

Q158 Chair: I think everyone is settled. Can I give all three of you a really warm welcome to the Environmental Audit session this afternoon? We appreciate that some of you have travelled a good distance to come down, so thank you for that. We are conducting an inquiry into food, and we are particularly interested in the issue of sustainable food and food procurement, and also in well-being generally. We want to try and get the different perspectives on it. It would help the Committee if I could invite each of you to very briefly give two or three sentences on why it is important. Perhaps to start off with you could give us some idea of what the cost would be of not changing behaviour, attitudes and systems in relation to food. Who wants to go first? Ms Davis?

Laura Davis: Yes. Can you repeat the first part of the question?

Q159 Chair: Just briefly say who you are in your organisation so that the Committee has the sense of where you are coming from as far as this agenda is concerned.

Laura Davis: My name is Laura Davis and I have worked in food systems all my life as a farmer and food producer. I then made the transition to Sandwell. My current position is Strategic Director for Health and Well-Being in a user-led voluntary sector organisation. We have been responsible for delivering Sandwell's community or urban agriculture programme for the last long decade, so very grounded in local and neighbourhood and re-generation and food issues. Because Angela and I are from the same area, we had agreed that Angela was going to address the second part of the question if that is okay, otherwise we will just repeat each other.

Q160 Chair: We wanted to get your perspectives from the outset. Then we can home in on the specifics. Do you want to introduce yourself then, please.

Jeanette Longfield: My name is Jeanette Longfield and I am the co-ordinator of Sustain, the alliance for better food and farming, which is an alliance of about 90 or so national organisations, some of which are household names like the Women's Institute, Friends of the Earth and WWF-UK and some of which are much smaller specialised organisations. Our common thread is sustainable food farming. For us the cost of not having a sustainable food and farming system can

be measured in monetary terms and there are lots and lots of reports showing how many billions obesity and related diseases cost the health service. Government has just come out with a recent report on the cost of losing biodiversity, and I am sure you could put monetary values on just about all the other costs as well, but I am not sure they are the main costs. These days, when everybody is talking about trillions and financial crises, if it hasn't got a trillion after it, people think it sounds a bit like petty cash. I think the real costs are to do with bad food making us feel ill and dying sooner and producing rather rubbish jobs that are low paid and insecure and sometimes even downright dangerous and the kind of mental unease you get from knowing—or finding out, usually—that your food has been produced by unspeakable cruelty to animals or destroying biodiversity or that it is bad for your health. I think they are the real costs. They are just really bad for the quality of life all round, even though you can put a monetary figure on it.

Angela Blair: Thank you for inviting us here today. I am Angela Blair. I am a public health nutritionist, but I work within food policy for Sandwell Primary Care Trust in public health.

We have no illusion about the cost on health. I will just read a few figures. Sandwell is in the West Midlands, right in the heart of the Black Country. In our borough of 280,000 people, 4.8% of people—that is 16,188—have diabetes; 3.6%—that is 12,077 people—have heart disease; 14.6%—that is nearly 50,000—have high blood pressure; 25% of Reception—that is four to five-year-olds—are already overweight and obese. That is from the National Child Measurement Programme. 38.3% of our Year 6 children are overweight and obese. Of those, nearly 25% are already obese. The national average for that is 18.6%. So we have no illusions about those costs. Also within our borough a large proportion of the budget is spent on older people—70%, the Department of Health quoted. So if you imagine that rippling through to old age, this is absolutely critical.

Q161 Chair: Do you get a sense that the local authority or the NHS in that area is really aware of the need to count in those costs in health when planning their health initiatives?

Angela Blair: They can't ignore those figures, but it is a complex and deep problem looking at preventive measures of which healthy eating has to be key.

Q162 Chair: It is easy to say that they cannot ignore those figures, but when the local authorities are drawing up their budgets, which they are doing now for the next year, will they be counting in the costs of not using sustainable food or healthy food? Is that something that is appraised on the balance sheet when these decisions are made?

Laura Davis: It certainly is at the moment within the NHS because the NHS cannot afford to ignore the impending costs of these time bombs. But because it is such a critical period with the dissolution of the PCTs and the migration of the public health function to the local authority, I would say the local authority, no, is not counting those costs currently. However, once the public health function has migrated to the local authority, I would imagine that there will be much more awareness and consideration of the kinds of cost that you have outlined. At the moment it is not majorly on the agenda.

Jeanette Longfield: To be honest, I am not even sure it will happen then because the costs of doing work to prevent a problem arise now; the benefits come later. So, if you are trying to do that kind of cost-benefit analysis, all the cost is upfront and all the benefits later. So it doesn't work in those terms, which I guess is why most local authorities do not do what we would want them to do.

Angela Blair: What I can say is, in the environment now, with budgets not announced and final decisions in public health, what we have developed as best we can in our borough is factored in through the hard work of all those working within those areas across the board. So we are ready, as best we can be, but we need some leadership and an accountable stream to get the support to justify those costs.

Q163 Chair: Would you say that the tools exist to enable this kind of cost-benefit analysis to take place?

Laura Davis: Not entirely, no. There have been some moves, but in terms of functional tools that can be applied I would say no, they don't exist.

Q164 Chair: Whose job should it be to develop that?

Laura Davis: I think that is a very good question. Obviously it requires political leadership, but I don't think that should be necessarily just the job of politicians. I think there is a collective responsibility here. Those tools and those measures should be developed through consultative processes so that in a sense there is a knowledge transfer taking place between those who are out in the field and with the experience through to the policy levels locally. I do think there has to be national vision and leadership around this.

Q165 Mark Lazarowicz: I wonder if you would answer a couple of questions about local food networks and the degree to which they can provide a sustainable solution to producing food. I know the benefits of local food networks in terms of what they can do for local shops and farmers up in Leicester, but in terms of the impact they can make, how far—particularly in somewhere like the UK—can they make a substantial impact or must it be doomed to

always be a niche exercise? For example, in the West Midlands area with a 2 million population or so, it is hard to see how, on the face of it, local food networks could ever really start meeting the food needs of a substantial part of the population. So can you answer my fears there or give me some confidence that it can be more than just a niche exercise?

Laura Davis: I think we need to understand what we mean by local food networks. There has been tremendous work around local food networks in certain areas, but from the point of view of Sandwell and where it sits in the West Midlands with our very deprived population, I think what is popularly understood at the moment as a local food network is less relevant. What we need to be concerned about is the availability of good food locally. So for us good food is more important. It is not the kind of area where you can have specialist local food shops. Farmers' markets don't work in areas like that. The point I would like to make is that while there has been really good work around local food networks, these are often in more affluent areas. The benefit of those local food networks and participation in them and access to the food tends to be captured by the more wealthy. If we are thinking about local food networks in areas of deprivation that exist in the West Midlands and elsewhere, I think we have to be thinking about a different model. Angela will at some point contribute on our thinking around food systems, which, in a sense, transcends the popular perception of a few local farmers supplying farmers' markets and it's all jolly nice but not relevant to deprived populations.

Jeanette Longfield: I think "local food" has become a bit of a shorthand for "sustainable" because "sustainable" is such an ugly word and nobody knows what it means. So I don't think anybody in what we can roughly call the local food movement is arguing for a siege economy where we don't import anything, we don't export anything. Let's be honest, there are only so many tantalising things you can do with a turnip. And, you know, pot noodle factories are local to somebody. It doesn't mean that they are sustainable. So "local" is just a shorthand. But what localised food systems can do at their best is provide the majority of our food. That is what always used to happen and can happen again, and I think should happen again with appropriate imports and exports—in and out of a region, in and out of the country—of the right products at the right time, under the right circumstances. So it is not, "Should it be local or should it not?" It is, "What kinds of local, at what time of year, under what circumstances?"

Q166 Sheryll Murray: Going on from that question on local food networks, what tools do local authorities have at their disposal to improve local food networks?

Angela Blair: I am going to say, not many. I think that is significant because the work requires a collaboration; working on food systems is a dynamic process. I think at the moment most of the food projects, the pieces of work, have tended to be things that were bid for, and for maybe up to three years in length of time. We need tools that last at least 10 years, and certainly to be integrated within existing policy and strategy. When I think of local food

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networks, I am thinking of the food sector; I am thinking of the economy; I am thinking of trade and investment. That is what we need to think about. What tools do we have, not just to join up the projects and things that have been developmental work, although they need time and space within a food system to bring the diversity and the life and the links to the community? No, we don't have the right tools to strategically embed these things in policy and everyday work.

Jeanette Longfield: I think that what can happen is that local authorities can sort out their own public sector, their own schools and hospitals, but they can't do national standards. They can do stuff about stopping fast-food outlets opening up in vast numbers around schools, but they can't do anything about junk-food advertising of multinationals. They can help to promote better retail diversity in their local shops and shopping centres and town centres, but they can't do anything about the grocery market ombudsman. And on and on and on. So each issue that you look at, they can do a bit, but the big stuff, by definition, they can't do.

Laura Davis: I would also like to add that I think local authorities could demonstrate their intent through their procurement practice. That is a really powerful and available tool. Also, local authorities can enable development through using food to look at planning policy, the public health function and economic development as a whole, and also look at ways of supporting communities at neighbourhood level. All those things actually have to happen. But one significant step back for us in the work that we do in Sandwell around food systems development has been the demise of the regional development agencies and regional governance. It is now much more difficult because a local authority can't have a policy or procedure and actions in isolation. You need a regional development approach, and that is a difficulty for us now.

Angela Blair: I slightly changed my mind. There are not many tools, but there are many ways that we have been learning to work without tools. We found some. I am part of a healthy urban development unit based on London's model, but the Sandwell version. For example, we look at the planning applications every week. We see where new hot food takeaways are coming up, any opportunities, new housing developments and so on. We then use health impact assessments, screening checklists for opportunities, and within that there is one on food access, there are things about agriculture production processing, community voluntary sector enterprise. We look at how to integrate the preventive health services within the food policy work and we work with trading standards, environmental health, food safety, planning, housing, transport on accessibility planning. We found wonderful ways to work, but we have nowhere to feed it up to. I think that is what we would request. With the loss of things like the national indicators—NI175 was the only indicator that had a spatial element to the greater whole about services, including food and, for example, with the loss of some of the NICE guidance on spatial planning and health

and whole-systems approaches, we have nothing to feed these efforts into.

Q167 Sheryll Murray: Why do you think more local authorities have not developed strategies to promote local food networks? Can you identify any barriers that should be removed to help them to do this?

Jeanette Longfield: The obvious one—money. If a local authority doesn't get money for doing something or isn't penalised for not doing something, frankly, why should they do it? I am not just saying this—it is only when you have inspirational and extraordinary people in particular places where stuff happens, and because they are by definition extraordinary, in the ordinary places it doesn't happen. This applies to anybody. It needs money and/or some legal rules laid down that mean that you have to. Otherwise you are in trouble.

Q168 Chair: I was just going to carry on from that point. If you look at the Government's procurement policy or if you look at the Government's localism agenda, in a way it is leaving it to each local authority to take its own initiative and in the absence of any ring-fencing and at a time of severe reduction in local authority money coming through the DCLG, coupled with uncertainty about where the public health functions come to bear, how do you see there being support for local food networks or for more sustainable food being available locally?

Jeanette Longfield: It is very hard indeed, frankly, to see where it is going to come from. A lot of it comes from the Lottery, bless it, but that lump of £50 million cash is all but spent. There will be other charitable trusts and foundations of course who support that kind of work, but it is hard to see any systematic source of cash that will support that kind of thing.

Q169 Zac Goldsmith: Just on that point, if that is the case then it seems that the campaign that you are part of is hopeless—just in the terms that there are limited funds. Any campaign that requires increased expenditure at the moment is a really difficult campaign to fight and probably destined not to succeed. I would question the basis of that point just on the information that I have had of local authorities up and down the country and hospital trusts and so on that have managed to radically improve the quality of the food, the culture of food that they engage in in the broadest possible fashion but without increasing budgets. There is a Royal Cornwall Hospitals Trust, which I understand has managed to come in at about 10% under budget. Merton Council, I think without increasing per capita expenditure, has radically improved. My own borough, Richmond, intends to do that under budget, or without going over. So I would just question that point and say that, given that there are authorities and organisations doing this without increasing expenditure, surely the answer is to try and learn from those organisations and work out what it is that is making them do it.

Jeanette Longfield: I can tell you exactly what it is—extraordinary individuals. It is extraordinary individuals and one thing I have learnt from being

longer than I care to admit in campaigning and charities and this kind of work is that good practice does not spread. It relies on extraordinary people and anything that relies on extraordinary people is destined not to spread. You have to make it normal and ordinary, and frankly a bit routine and dull—just part of the normal thing. That only comes when it is part of ordinary people's job descriptions and something that you absolutely have to do.

Laura Davis: Can I add to that? From a Sandwell perspective, we have looked at these various different models and I can give you an example—the Royal Brompton Hospital initiative: one delivery point, big budget; Sandwell, multiple delivery points, small budget. Sometimes the models are not transferable. Although you get innovation in certain areas because the conditions and the extraordinary people enable that innovation to take place, that doesn't mean that you can simply transfer those models of innovation to other areas. We still need to work to develop many models of innovation and find out where they are applicable.

Q170 Zac Goldsmith: Our job is to report back to Government and hold the Government to account and encourage Government to improve in this area. I am going to withhold my next question on the sheet and say that the question really then is, if it is not about money, and I really hope it is not otherwise we may all as well go home, what can the national Government do from a legislative point of view to make sure that—in the absence of money and in the absence of inspired people in each and every local authority—what you are describing becomes the norm and not just an exception?

Jeanette Longfield: Government buying standards. Thanks heavens we've got them, but they are a bit feeble. The fish one is great and no unsustainable fish should now be bought in any part of central Government. That was brought about by huge amounts of dedicated campaigning by a wide range of organisations. I am not going to list them all; the list is too long and I'll forget somebody and upset someone. And that does come at a marginal cost, so I don't accept the premise that it has to be lower cost or zero increase. Money can be found if it is important enough. But we are not talking about huge amounts of money and again the problem is about it being upfront investments to save costs in the long term. And the dreadful internalising the externalities. If anybody needs me to explain that I will.

Laura Davis: Can I make a point about Europe and the CAP please, because I don't think that we can talk about things in an entirely local context? If you want sustainable food to become normal practice—healthy, affordable available food—then to a certain extent you have to look to Europe and the CAP. I understand that in the latest round of discussions about CAP reform interest in coupled payments has come back again. While environmental payments are necessary, they are not sufficient to enable the sustainable food systems that we aspire to and that you have to report back to Government on. I would say one thing that Government can do, if it comes to the table, is to support the reintroduction of coupled payments in the

CAP for the production of healthy, nutritious food. That more than anything—I think together with the environmental payments—would drive a sea change in production and hence availability. It would empower all us individuals working at local level and it would help to drive through the normalisation of food that is produced environmentally sensitively because of the environmental payments but with a coupled payments base of production—fruit and vegetables, for example.

Chair: Angela, you wanted to come in.

Angela Blair: Carrying on from those two points, I absolutely agree with that, even though I do not fully understand the macro-macro picture. But following on from that is also the thinking about what we have and working with it. It is fascinating to look at things like trade and investment for the UK food industry, looking at what goes in, and then you start to link what Laura says; health appears in here many times. When you start to think of the food sector, the economy, that's what we can do. Locally we can see many things that we can share, but that needs to ripple right through and feed back to up top. For example, we are working with buyers and economic development teams. We have food sector economic action plans. We see where the planning changes and regulation changes. I disagree with Zac; I don't think that campaigning for sustainability should ever be considered hopeless. That is in fact the heart of what people are talking about and seeing within their local areas. One thing that the Government can do is advocate a food system planning approach.

Q171 Caroline Lucas: I want to go back to the macro picture because it seems to me that there are a huge number of things that Government could do that would allow local food networks to flourish, and I don't want to lose the moment just to capture some of them.

I don't know if you still agree with some of the things that I was looking at years ago; things like EU procurement policy are not terribly helpful. Yes, you can get round it, but again you need the extraordinary people to take the risk, to think, "I could probably find a way around the procurement policy," instead of having a procurement policy that allowed you to put local first rather than last, as it were. That would be one thing—I would be interested to know if you would agree. You mentioned the internalisation of external costs, and yes it is a mouthful but absolutely essential to all this. If you have a food system where the price signals are completely wrong, it is not surprising that we end up with very perverse results. So why is it that healthy food often costs more than less healthy food? That is to do with the fact that we do not choose to tax fertilisers and those sorts of impact. We do like to tax employment, for example. It is not beyond the wit of the Government that chose to do it to change some of those price signals so that employment was cheaper as it were and inputs like fertiliser were more expensive. I do think it is important to capture the idea that there is quite a lot Government could do that would make a real difference to this. At the moment it feels to me as if we have a lot of lip service about the nice little local

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economy over there and it can go and do a bit of flourishing on its own and we will go on with business as usual. That just is not going to work, I don't think.

Laura Davis: Very local food economies of the sort that you are referring to will never be able to feed dense urban populations without serious innovation. One of the things that we are talking to our local authority about at the moment—because there is so much contaminated land—is that urban agriculture will never be able to produce significant amounts of food, but local authorities have vast amount of vacant building space and car parks and things like that and there is some real innovation that could take place in food production there. The problem is that innovation in a contracting economy is not something—people won't take risks. So if you want this kind of innovation to take place—real innovation—and if we are really looking at the long term and we bring in food-security thinking to this, we need that innovation in the food sector. Although it is important, it is not just about reconnecting people in cities with farmers and things like that. We need real innovation around how to feed urban populations. That is not going to happen in a contracting economy unless there is political will and possibly incentives such as rate rebates and real incentives that enable and drive innovation. On the one hand, if you have changes at European level, policy that is driving change at the same time as local authorities are looking at what is possible and driving change, then we get somewhere.

Jeanette Longfield: I agree completely about procurement law and completely about taxes. Interestingly, food tax is an issue that is completely off limits to discuss. It is now starting to come up on people's agenda with the soft drink taxes in the USA and various other places; the Danish fat tax has attracted a lot of attention. I am starting to think that maybe the issue of internalising externalities might be an area where we can do some more work as part of the movement. You are right; unless that changes everything else is going to be a lot more difficult—not impossible, but difficult.

Q172 Martin Caton: You have mentioned planning as at least a potential tool to move in the right direction. Are you aware of any local authorities that have provision for sustainable food as part of their local development plan?

Jeanette Longfield: Gosh, yes. They are flowering all over the place. London has a sustainable food plan. Bristol has just launched a new one. Stuff is going on in Manchester. There is a flowering of food strategies and plans all over the place.

Q173 Martin Caton: So there is some best practice being spread?

Jeanette Longfield: There are loads of isolated cases—I think Professor Kevin Morgan put it as something like “sparkling diamonds of good practice in a sea of darkness”. They are always like that and they are subject to political ebbs and flows. They have political support at one moment and then they lose it so the sparkly diamond goes out. Then it pops up again somewhere else, but what it doesn't become is

a sea of light unless and until you have central Government support and also change at the EU level.

Q174 Martin Caton: So, for instance, if planning guidance included this sort of provision that would be a step forward?

Jeanette Longfield: It would definitely help, yes.

Laura Davis: The loss of the regional spatial strategies is significant in this respect because what they did is give a joined up mechanism. As you have said, local authorities now have to tackle this individually. There was a food access indicator that was being fed into the regional spatial strategy and it has just gone.

Jeanette Longfield: You will also know that people are really worried about the National Planning Policy Framework, the danger that agricultural land will get built on, that precious green spaces in cities will get built on, that there won't be the protection of town centres that there was. People are really scared about that stuff.

Angela Blair: If I can just follow on from that, we do have a housing indicator in the Black Country core strategy; I don't know if other core strategies have. HOU2 is an indicator that does relate down to food; high, low and medium impact for a new housing development. Obviously we have to think of what is existing, as well as the new development coming in. So there is an indicator that can be monitored and that will be a help. We did respond to the National Planning Policy Framework by Monday, 5 pm, and in that one of the key things we were saying is about a food systems approach being advocated. In America, the understanding is that it does, with food, work best at a regional level, the way that food systems are set up. There are real opportunities with planning—we see positive opportunities—but I think there are two mentions in the National Planning Policy Framework: one is about supporting growth with the food production processing and the other is about local shops. So unless those other things—the tools and the indicators and standards—exist, it is not enough. But, yes, there is good opportunity, and especially of accessibility planning. I think that is a real opportunity as to the spatial element, because the whole problem is that, even with localism and all the changes happening, we don't in health look at food spatially at each scale. We think of it in health terms, but what you need to do is something in the middle between the spatial element and the activities going on across the board.

Q175 Sheryll Murray: You have mentioned planning a few times and the National Planning Policy Framework, but surely if you give local authorities the power to be able to grant planning permission for things like allotments then you are, in a time of austerity, encouraging people to perhaps grow healthy food and at a lot less cost than they would normally find that they would have to spend on perhaps less healthy food. I would just like to know what you think about that because at the moment the planning policy does preclude some areas from being able to use land for allotments.

Jeanette Longfield: I think there is absolutely no doubt that the growing of food in towns and cities is an absolutely brilliant idea and anything that can be done to not just encourage but make local authorities—because some do and some don't—do that for their local communities would be absolutely fantastic. But however fantastic local food growing is, as Laura has already said, it is not actually going to feed us adequately. It is great for a gazillion reasons—for reconnection, for education, for sociability, for a bit of extra fruit and veg, for greening the cities, blah, blah, blah. But it is not actually going to fill your shopping basket every week.

Q176 Sheryll Murray: But it would certainly contribute. Do you agree?

Jeanette Longfield: Absolutely.

Laura Davis: Can I make a very small point please?

Chair: Very quickly.

Laura Davis: One of our problems in Sandwell is land contamination. So in very deprived ex-industrial urban communities the guidance might be there, but actually—this is our experience in Sandwell—there is no clean land and there are huge swathes of land that the state of them is unsafe. We can't put people with spades and forks on to them and tell them to grow healthy food.

Q177 Sheryll Murray: But you could put raised beds and rent them out.

Laura Davis: It does cost a lot of money. You need capital investment and the problem at the moment is there is no capital for regeneration. Regeneration funding has disappeared.

Q178 Martin Caton: Continuing with local authority functions, what about the environmental health departments? Do they have a role to play? Are they playing it?

Jeanette Longfield: Absolutely—environmental health, trading standards and public analysts. There are hardly any public analysts left. This is really scary. The whole area of food law enforcement, protecting the public interest and also using the expertise that the food law professionals have, including environmental health, is really important and is also getting squeezed because each one of those professionals—environmental health, trading standards, public analysts—has a load of other stuff to do as well as food and they have less money to do it with. So yes, they are fantastically important and, again, great examples of good practice sprinkled about the place, but it is not routine yet.

Angela Blair: Can I add another point? We have a very good working relationship with the local authority and with trading standards and environmental health and food safety and what is interesting when you are looking at a food systems approach or working together in healthy urban development, you see the enhanced services that can be provided in terms of trading standards. Trading Standards did some nutritional analyses of fast food to get better evidence for then developing the SPDs—supplementary planning documents—on limiting fast food around schools. Also, environmental health

already visits premises, so they have opportunities not only to look at the safety and hygiene, but also to think solution-focused about the business and the food sector and what else they might need. Very quickly, one other thing is that in terms of monitoring and measuring access to food the problem always comes full circle to, where is the data? Who is going to measure it? Unless you are doing an academic study, which has been done and which we learnt a great deal from, there are ways—for example, food safety databases, the Healthy Start database. It has proxy indicators in terms of fruit and veg and so on. But you could enhance that. When a check has been made—someone is physically going into a business—they could be looking with solution eyes as to the food sector itself.

Q179 Martin Caton: You have already mentioned the transfer of public health responsibility to local councils. Does that provide an opportunity to promote a healthy food agenda by those local councils?

Jeanette Longfield: It does if there are some suitable incentives to do it and some penalties for not doing it. They don't have to be financial, but that would help, and if they can't be financial then they need to be legislative, ideally both. Otherwise it is just going to be sparkly diamonds of good practice again. So yes, there is an opportunity there, but not all the areas will be able to take it because they have other stuff to do.

Laura Davis: The public health budget, we are told, is going to be ring-fenced. I think there is to be a certain amount of moving deckchairs around as to what is public health, so that budget might not be as safe as we think it is. Another issue, when you look at the Department of Health guidance, where there is an expectation that Directors of Public Health will report to the Chief Executive, the guidance says that individual local authorities will be able to decide what is best for them. So in effect what we might see is that directors of public health in some local authorities will not be reporting directly to the Chief Executive and they will not be holding a budget; that will be held by somebody else. I think what can happen is we are going to get a very mixed picture, with more opportunities in some places than others depending on the individual arrangements of local authorities in relation to the public health function and how it fits within the local authority. At the moment that picture is not yet clear.

Angela Blair: Personally, I see every opportunity. I understand the threats, but at a time when it is hard to be creative, it is hard to collaborate and so on, this work with the economic regeneration, with spatial planning and with our colleagues in environmental health food safety and so on—simply by being close and being able to sit with them and develop ideas that in the past were on bids and projects—now is the time to root it directly into the mainstream as a lifeline to central Government. Every opportunity is there for a food-system planning approach and to meet the targets on sustainable foods.

Martin Caton: Thank you very much.

Chair: Let us move on to the role of supermarkets.

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Q180 Simon Wright: I would like to ask about the role of supermarkets and whether they are contributing in any way to the development of local food networks and whether you can come up with any good examples of good practice involving supermarkets.

Jeanette Longfield: There are loads of examples of good-ish practice. There is Marks & Spencer's Plan A; there's the new Sainsbury thing. The Co-operatives, frankly, have been doing it for longer than anybody else, but they are smaller, so they don't get to shout about it so loudly. They all want to do their unique selling point, blah, blah, so some bits are covered more than others. To be honest, I think that the best thing that I have heard anybody connected with a supermarket say in recent years is Justin King—the boss of Sainsbury's—say that what he wants in certain areas is a legal level playing field—basically because he is fed up with being undercut by Tesco. It is really refreshing and helpful to get successful leaders in industry like him saying that legislation sometimes is the right thing to do. It avoids good practice being undercut by bad practice.

Laura Davis: As an ex-farmer as well, there have been some improvements in terms and conditions for the suppliers of supermarkets, and I was one at some point, but it is still a very big picture and the power of the supermarket buying desks is immense. When you look at a European level it is absolutely immense, and I am not sure that the people who are making the decisions on the buying desks are plugged into and being directed by the agenda of Sainsbury's around sustainable food.

There is one other Sandwell perspective as well that I would like to bring to this. Yes, it would be great, what Marks & Spencer does is great, what Sainsbury's are talking about is great, but those are not the operators in areas of deprivation. We have to be talking about the Aldis, the Lidl's and the convenience stores. That is a danger with a supermarket-led development—that again the benefits will be captured by the wealthy, and that probably if they start producing foods sustainably it will be badged and labelled and priced up and therefore in terms of that mass availability it will remain limited. It will become another niche product that is unaffordable to people living in deprivation.

Angela Blair: But there are all these sorts of things that can be done and the reality is about 80% of people do use a supermarket. But we are very clear on that. We are at saturation point within our borough with the new largest Tesco that is just being built. It just started on Tuesday, yesterday. But there are useful things that they can do because of their visibility and the fact that people visit them. We use them as best we can and have good relationships with the four big players in our borough. We do supermarket tours as part of lifestyle services. We, for example, potentially could work on promoting Healthy Start much more widely. So with their visibility and with their everydayness they can do wonderful things. But only as part of a wider food system approach that recognises that diversity and independent retail are absolutely equally important to the larger suppliers. That is where it goes back to the planning regulation.

If you are doing a health impact assessment or using a screening checklist it will advise the planners and say, if there is a monopoly in this area what could you do? And it will say things that check those points and give us some advice, and I think rightly you could then sit at pre-application stage with different developers, including the big ones, and say this is a whole borough. What is best for the whole borough? And they are a part of it. I think again it is part of the wide approach.

Q181 Simon Wright: Are there any areas of policy that need to change in order to help the supermarkets better co-operate, better engage?

Jeanette Longfield: Well, it would be nice to have a grocery trade adjudicator with some teeth and some money. I know that there are difficulties in competition law that the Food Ethics Council has done a paper on, which I am afraid I am not as familiar with as I should be. It would be helpful to have some changes in competition law so that they can collaborate in the public interest rather than collude against the public interest, which is what competition law was designed to stop them doing. They do do things of their own volition as Angela was saying and they can do some really helpful choice editing. For example, both the Co-op and Sainsbury's have done things where they have said, "Right we will just do Fair Trade chocolate, we're just doing Fair Trade bananas. If you come in our shop, you can't have non-Fair Trade whatever it is." And frankly, that's fantastic. There has been no consumer revolt. People haven't said, "Where are the non-Fair Trade bananas? I really liked them." People trust the retailers to make those kinds of choice for them and sometimes they do make those choices for them. That's great. Sometimes they don't and people think they have already done it and that's not helpful.

Q182 Caroline Lucas: I just want to push a little bit further on the sheer amount of power that those supermarkets have. The very few of them have an enormous amount of power and I wonder if you think that until we break them down in some way by having some limit to their market share then they may well have a nice range of Fair Trade bananas but essentially they are not going to change their model when they are just so enormously powerful in the market place. How significant is that?

Jeanette Longfield: It is hugely significant. I am not an economist, but it looks like an oligopoly to me and I thought that we weren't supposed to have them so I don't quite know why we have one and nobody is doing anything about it.

Angela Blair: If I can add on as well, some of the initial research in Sandwell was measuring access to healthy food, looking at the spatial element and affordability for healthy eating, and in that you realise the diversity that still exists, not only in Sandwell but across the country. If you were to add up the sums of all the independent food retailers it would be greater than the largest food retailers and in fact represent better those communities in which they live. A real strength of our borough is the diversity of different cultures and foods. So we want to keep that. That is

where the economics—the food sector side—could help with the power relationship. But for a systematic and practical way I don't think that some of the—we need the Competition Commission, we need the adjudicator, but actually we just need some practical facts laid in front of us to systematically go through and maybe localism could help that, but we need support structures in an area like Sandwell to do it. A couple of facts that I didn't read out at the beginning were that 30.8% of our children in our borough—22,500—live in relative poverty and we have heard recently that will be increasing nationally. Also, 19.4% of our population aged between 16 and 64 have no qualifications. So localism, big society and so on, there are some ideas in there that we need to move towards but without the support and sensitivity we see the gap widening.

Laura Davis: I just wanted to say that land-banking, long-term land-banking, by supermarkets should not be allowed.

Chair: I think in terms of the areas of deprivation, which is the particular theme that is coming through what you are saying, if there are things that we have not discussed in the session that you want to bring further to our attention we are very happy to receive those. Zac, did you want to come in?

Q183 Zac Goldsmith: A very quick point, probably along the same lines. I was hoping to be able to press you more on the point that Simon made about specific policies the Government can introduce that would put the supermarkets into a position where they are more supportive of the local food economy generally. Also, specifically areas where Government can help the supermarkets, whether it is by addressing the procurement laws that Caroline talked about earlier—areas where you think Government could help supermarkets, areas where you think the Government can require supermarkets. It is possible that you should answer that in writing later because I know that Joan is worrying about time, but I think it would be nice if you could elaborate on that at some point.

Jeanette Longfield: I am not sure the supermarkets need any help from Government. I think they might need to be broken up by Government. I am not convinced that oligopolies are good for anything in any sector. I don't think the food sector is unusual in that sense and I think a sustainable and diverse and good system is—

Q184 Zac Goldsmith: I just want to interrupt there. I totally agree with you. Tesco is already far too big. I think the points that Caroline made are absolutely right. But there is no appetite at all as far as I can see in Government to break up the big supermarkets now. So I am not suggesting you should not talk about that or push that, but in the absence of it, what specifically can Government do to ensure that supermarkets have a more positive contribution to make than they do at the moment?

Angela Blair: Community infrastructure levy. We haven't heard the final arrangements yet, but there is one mechanism by which things could be redistributed. For example, here opens our new massive Tesco so how will we do that redistribution?

I know section 106 for example, but they were decided long ago. It has been 10 years coming. Community infrastructure levies should be the way that things like sustainable foods are systematically worked through with community involvement and some vision of what they want. It can link things about growing food to make things more visible for that area, but actually linked to health and linked to infrastructure for that area that relates to food. So there is one attempt.

Chair: I am just conscious of our time because we have already overrun this session, but there are further questions. Simon, do you just want to keep on with that?

Q185 Simon Wright: We have had evidence from a number of producers that there is a failure in some parts of the chain to pass on financial returns fairly. I just wonder in relation to local food networks, what is preventing farmers and other producers from greater involvement in these networks?

Jeanette Longfield: The farmers that are linked up to the big supermarkets are locked in in various ways so they have invested heavily in equipment, systems, labour and so on, and once you have invested in thousands of pounds worth of dairy kit or whatever it is, it is quite hard to get out of it, so they are kind of stuck and locked into the big contracts with the big buyers. So getting from where very many of the larger farmers are to where they might like to be in a more diverse system—selling to a wider range of buyers that might include a supermarket but not only that—will need some kind of transitional help. I don't quite see how they can get from where they are to where they might like to be. Also, it is a bit scary. If you are a producer and you are not really a marketing person, you are going to need a bit of training or you are going to need some marketing help. I was in a meeting only yesterday where a Welsh farmer said, "We've just got into a community-supported agriculture scheme because we are fed up with dealing with the supermarkets. It's the best thing I've done in 20 years," and it has taken him 20 years to pluck up the courage to do it, so training, money, support.

Laura Davis: As an ex-producer, I can tell you absolutely that people do not innovate when their back is against the wall. Really, your question relates to innovation and how that innovation can be seeded and encouraged to move it forward. I can tell you that if you leave producers alone, just alone, and you can say anything you like about innovation, again you will only get the exceptional people who will do it. Again, I think it relates to what I said about CAP reform. You can drive things through that will support farmers to innovate towards these more healthy and sustainable agricultural and food production systems, but the way things are at the moment in the economy people feel threatened, and you will not get that innovation unless it is driven in some way. So I think CAP and a sound, comprehensive Government policy, perhaps linked to certain types of incentive, and knowledge transfer, are your only hope. But you will not get sufficient innovation in the current economic climate, except from exceptional individuals, and that is not enough.

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Q186 Simon Wright: There is a certain assurance by being in those contractual relationships, though, with the supermarkets. What would be the motivation to pluck up the courage to make a transition to engaging more in local food networks and moving away from the supermarkets on the part of the producer?

Jeanette Longfield: The main motivation is going to be financial and the difficulty is of course that the alternative food supply systems are quite small and not that lucrative at the moment. But that is one of the things I have never understood about farming—that the industry that brought us the phrase “don’t put all your eggs in one basket” seems to routinely put all its eggs in one basket and not to diversify. So maybe some might be motivated not only by business reasons, but maybe by feeling more secure, by having more diverse systems, having seen some of their colleagues go under by having invested too heavily in just one supplier.

Angela Blair: Can I just add on something very quickly to that? The fact is that those that exist now are the exceptional ones, the fact that they are still there. So it is the ideal time, like Laura is saying, to root policy in some kind of systematic structure with targets that can support that innovation, and we can see locally how that could happen, but timing is very difficult, managing all those different things that happen.

Laura Davis: I think, to sound positive, you have to implement it. I think that with the periodic changes of Government administration, there is no continuity, and transforming farming systems to more biological farming systems—as I said, I am an organic food producer—takes time, it takes investment, it takes commitment, it takes innovation. The constant changes in policy and direction are acting against what we want to see happen.

Q187 Peter Aldous: Does it automatically follow that where you have more local and more sustainable foods customers have to pay more?

Jeanette Longfield: No. Sometimes you do, and sometimes there is a very good reason to pay more. I am very often asked, “The problem with sustainable food is it always costs more. What about people on low incomes? You need to make food cheap so people on low incomes can afford it.” Frankly, that way lies madness. You get into a downward spiral where food is cheap, so the people who produce it get bad wages, so they have low wages, so they can’t afford food, and down and down you go. The problem of food pricing is not that food is too expensive; it is that wages are too low and benefit levels are too low. So we need to get into a virtuous upward spiral. There are possibilities for buying local and good and sustainable food more cheaply through bulk schemes, direct sales, food co-operatives and so on and so forth, but that is more difficult to organise. Obviously, most people want to go to a shop or to a market, like everybody else.

Angela Blair: I think both Laura and I agree with the point about the minimum income standards. The minimum income standards show that you are not able to have a healthy and sustainable diet. We would also

say that benefit levels are not sufficient. But I do think there is a real opportunity, for example—I know I am drumming on about diversifying the food sector—to look at jobs. In our borough 13% of people are employed within production, processing, retail or catering. So you could be looking at jobs within that, and skills. The market garden, for example, is not just about the three acres it is on; it is about the web of skills and training that could be the future food producers, retailers, distributors and so on.

Laura Davis: Again, I think you are talking about innovation within—I localised my production and distribution on my farm and totally transformed the farm economy by doing local distribution and cutting out—even then, in those days—the huge overheads. Innovative ways of cutting out the overhead costs of transport, distribution, packaging, supermarket requirements that lead to 50% of my crop being rejected. Again, you are talking about innovation. It can be done. It can be done, but it needs a lot more work and a lot more investment and a lot more development. So I encourage everybody again, be brave individually.

Angela Blair: Local enterprise partnerships may be a way. I do not yet see evidence of that. But at a higher level than local, whatever that level is, there does need to be something in between national and local. But that is maybe a way that could give the confidence to our economic development department and then right through.

Chair: We really are almost out of time. I am really sorry.

Q188 Peter Aldous: Just one more; Jeanette actually touched on it. As well as price, how do you improve accessibility to sustainable food to local communities and to local people?

Jeanette Longfield: It is about making food affordable, available, and attractive. So the right price is not necessarily the cheapest available, so in a wide variety of different kinds of shop, market, catering outlet, but attractive, to be honest, is the most important bit. At the moment, sustainable food—which I hardly ever call it; I prefer to call it good food, because sustainable food, either people don’t know what it means, or they think they know what it means and they think it means lettuce and lentils, so not nice. People will pay for food that they think is worth paying for. Most people will happily pay £2 for a coffee and then if you ask them to pay £2 for a chicken, they will go, “Oh”. That is because the chicken producers do not have the marketing budget that the coffee people have. So if you make things attractive, people will happily pay.

Q189 Peter Aldous: And what do you mean by attractive?

Jeanette Longfield: Tasty, delicious—

Laura Davis: Visible.

Jeanette Longfield: Aspirational. All the things that the people who market junk foods know how to do, but not marketing junk food—marketing good food instead.

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Q190 Peter Aldous: Do you think there is a situation that some marketers of junk food are very skilled at creating the impression that they are providing sustainable food?

Jeanette Longfield: Oh, yes, absolutely.

Q191 Peter Aldous: How do you address that?

Jeanette Longfield: There is a huge amount of green-wash going on, and partly it is not tackled because the few law enforcement officers—environmental health, trading standards, public analysts—do not have the money to nick them, basically. The Advertising Standards Authority is funded by the advertising industry, so in the main they don't do terribly much. So they get away with it.

Laura Davis: I know there is a framework for preventing people from making biased or inaccurate health claims on food products, so maybe there is a way of looking at to see if it is transferable. I do not know, it may not be, but there is that at least as an example to look at.

Angela Blair: Our first attempt was what Change for Life tried to do in the health field, even though it was pretty shy compared to Marks & Spencer's saucy adverts. But Change for Life did get on before "The Simpsons", so there was an attempt with them and their retail convenience store, getting visible, accessible, fruit and veg, and so on before "The Simpsons". It was a shy beginning, but if those companies—they can sell anything, and I think that is the thing. In health we are always the poor cousin when we are trying to do something, and I think that Change for Life was a brave attempt. But it was again a project that needs to be rooted in the national policies and in an approach that spans all the elements.

Jeanette Longfield: That is apparently "gently sparkling" and that is "delightfully still".¹

Chair: I think that that is something the Committee is very well aware of, and we shall not be overlooking it in the course of this inquiry I can assure you, but just talking about food and sustainable procurement issues, I want to hand you over to Zac Goldsmith to ask you a very quick series of questions.

Q192 Zac Goldsmith: Jeanette has already touched on the Government buying standards. I think it would be useful to start off by hearing what you think is wrong with the standards—where they can be strengthened, specifically.

Jeanette Longfield: To be honest, it is quicker to say what is right. What is right is that they exist, and what is right is that all fish have to be from sustainable sources. Everything else is feeble. The egg standards are rubbish; they have not included Red Tractor even as a basic minimum, which is unspeakably ridiculous. They have not set high enough aspirational standards for organic and LEAF certified. Fair trade is pathetic; that should be much higher than it is.

Q193 Zac Goldsmith: Do you think we would be able to find anyone in sustainable food, in the movement, who would contradict what you are

saying? Is that a view that is held by anyone involved in the broader campaign?

Laura Davis: It is very widespread.

Jeanette Longfield: I think even people who do not normally agree with Sustain and its members agree that it is feeble. I do not know of anybody who is going, "Woohoo, Government buying standards!"

Q194 Zac Goldsmith: As I understand it, even the NFU backed a much stronger line than this.

Jeanette Longfield: Absolutely right, yes.

Q195 Zac Goldsmith: Why do you think it is that what exists is so far away from what pretty much everyone in the sustainable food and farming movement is calling for? Why do you think that is?

Jeanette Longfield: Somebody, who is either a fool or a knave, or maybe there is more than one person, told the responsible Government Minister or Ministers that this was not possible under EU procurement laws, and that is wrong. They either know it is wrong and they were misleading their Minister or they should be sacked because they should have known that EU procurement law does not prohibit this kind of thing.

Q196 Zac Goldsmith: I know we are out of time. Just one question. Let us hope that at some point we can improve these standards, and we will talk to you again and perhaps you will have a different impression, but given that these are the standards that exist, what scope is there, do you think, for expanding the area of the public sector that they could be imposed upon? Do you believe it is possible to have the buying standards imposed on local authorities?

Jeanette Longfield: I always believe it is possible; that is why I get up every day. Yes, I think there is a lot of scope, because they now exist and they should, as a matter of urgency, next be applied to hospitals, because they are one of the few areas of the public sector that are not governed by anything, apart from the basic food safety, which is scandalous. There is an appetite among some local authorities and some caterers to go further and faster, which is fantastic, but the minimum needs to be brought up so that the really keen ones can go even further and even faster. Yes, I think there is potential, because people are quite rightly angry. This is our money—our taxes—and it is being spent on this stuff and it should be right.

Q197 Chair: Can I just come in on that? What do you say to those councils, when they have looked at the standards and they have looked to see whether or not in their own schools, through the catering, they could perhaps meet those standards, but to do so would entail an extra cost, which is just not available in the current climate?

Jeanette Longfield: It is a horrible decision to have to make, and I can't say to a local authority, "Oh yes, shut the library, spend it on school food." That is not a decision that any council should have to make. There are savings that could be made. You can do things like change recipes and build on the examples that Zac has already mentioned, where you can cut down on one thing to spend more money on another, but it does require extraordinary effort and

¹ Note by witness: Witness is referring to two bottles of House of Commons water

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imagination. It can be done with less money; it is just harder.

Q198 Zac Goldsmith: My last question is topical, given the news over the last couple of days. If the standards have been so badly watered down, do you believe that is the consequence of lobbying? If so, who do you think has been lobbying the Government to reduce the standards to such an appalling extent?

Jeanette Longfield: I think it has been the result of lobbying and my guess, although I do not know it for a fact, is that it would be some of the companies that supply the low-quality stuff to public sector caterers,

who do not want to improve their standards. Some of the big caterers are very good and they do want to improve their standards, and that's great, but they do not all, and they would have been lobbying, I am quite sure, to say, "Look, this is a bit of a pain for us, can we not have to bother?"

Chair: I think we must leave it there, but thank you so much. I am sorry that the time has run out and we did not have enough time for each of you, but thank you very much indeed. If you do have more that you want to give us on particularly the issues of deprivation, we would be very pleased to hear it. Thank you very much.

Examination of Witnesses

Witnesses: **Clare Devereux**, Director, Food Matters, and **Vic Borrill**, Brighton and Hove Food Partnership, gave evidence.

Q199 Chair: If I can start the second lot of proceedings and apologise to you for the late start. It is difficult when you have a very far-ranging inquiry to fit in all the witnesses and all the people who want to do interviews, so apologies for the late start. I think you have sat in and heard some of the previous session. I would like to ask each of you to introduce yourselves briefly, and your perspective, and then we will get straight into the issue of local food networks with Caroline Lucas.

Clare Devereux: My name is Clare Devereux. I work for Food Matters. We are an organisation that supports organisations, communities and individuals to create more sustainable food systems. We work nationally, but we are based in Brighton and Hove, and I think, for relevance to the conversation today, the point I would like to make, and I hope we will be able to talk about this in more detail, is that since we started about eight or nine years ago, we wanted to look at how a local sustainable food system in our own city, our own community of Brighton and Hove, would look. Eight or nine years ago, it was a fairly barren territory; food was not on the agenda the way it is now. Some of the issues that have already been talked about—the tools that are needed, what local authorities can do—is the work that we set about addressing, and to do that we wanted to create a strategic structure that could hopefully deliver a sustainable food system. We established a food partnership, developed a food strategy and created an architecture that now has given us a really good foundation to do some, hopefully, fairly innovative and pioneering work around creating sustainable food systems. I am going to hand over to Vic to drill down a little bit.

Vic Borrill: I am Vic Borrill and, as Clare said, I work for the food partnership. I have been the director there since 2008. We are a combined organisation because we deliver services, so we are very much in the front line. We deliver weight management services, cookery advice and a project that is about growing food. We also support about 100 community food projects across the city. But our other role is to lobby and try and keep food issues on the agenda locally, so a lot of the work—I am trying to get our local authority to think about food in different ways and to look at food

in its broadest context, so education, economic, social. So I feel like I am coming here right at the very end and the edge of some of this food policy work, because we have spent an awful lot of time talking face to face with residents about what their issues are too.

Chair: I assure you that there are at least two Members of Parliament local to you who care very much about the work that you do. I am going to hand over first to Caroline Lucas.

Q200 Caroline Lucas: Thanks very much, and it is great that you are here. You have already summarised a little bit about what you do in terms of improving people's access to sustainable and healthy food in Brighton and Hove, but I wonder if you could say a little bit more about it, and in particular, what real evidence is there that it is bringing real benefits to people? How can they be quantified?

Clare Devereux: That is a tricky one to answer, because one of the points that we want to make is that that work has not been done—to quantify the value of the work that we have been doing for three or four years or longer. It is quite hard for us to evaluate that, because we do not have the resources and capacity. We can see benefits, we have projects that are being evaluated—say, by the university—for funding purposes, but really to take that information and understand the difference we are making for sustainable food systems, it is hard to see. I would say myself that in terms of a sustainable food system we are making marginal encroachment really. But what we would like to see is the evidence, and we need someone to do that evidence for us, because we are not capable, we do not have capacity or resources, to do the necessary evidence gathering. We think that is something that should be being done nationally that then can help us strategically focus the work that we need to do.

Vic Borrill: Yes. A practical thing that came up from earlier is, I guess, the benefit of teaching somebody to cook—and we reckon that our five-week course, which teaches people who truly do not have cooking skills, can be delivered for about £90 a person. Our weight management interventions perhaps come in at

about £400 a person; I don't know what heart disease costs, or diabetes, but I think the research on looking at the benefit of investing yourself way back in the start of these systems around food is not really there and it would be really helpful for us because it would help us attract funding. It would help us attract public health funding, it would help us attract external funding. But also it would help us to be able to compare where we are spending our money locally with where other people are doing it. So I think some quite practical stuff on that would be useful.

Q201 Caroline Lucas: I wanted to ask as well, how transferable is the model that you have developed in Brighton and Hove to other local authorities? Is there something specific about our wonderful city?

Clare Devereux: It is something that we are engaging in, and we do get approached by other cities, other towns, who are seeing the work that we are doing and the model that we have created, to understand how it could be transferable. I think it is fair to say that there is no one size that fits all, that every city, town and community does have particular issues and problems. But we feel that we have been doing the work long enough to identify key components of the model that actually are transferable. Just having that strategic framework that unites different sectors in the food system, whether it is statutory agencies, community voluntary sector, businesses—a mechanism that brings those sectors together, because food in some way or other will play a role in all those sectors—bringing them together is of course a transferable model. The partnership working model is obviously a model that you find in other issues, whether it is transport or housing, across towns and cities, and it is an accepted form of partnership working. So to us it is a completely transferable model, but it has to be developed individually by each city and town so that it is appropriate to the needs and situation of those communities.

Vic Borrill: The only thing I would add is a side issue. I think one of the reasons it works well for places perhaps like Brighton or Plymouth or Bristol is that you have reasonably compact cities. London has done fantastic food work; it had to have a slightly different model. Manchester has a slightly different model to other cities. The other thing I would say is that the advantage of food partnerships is that you can do some of that clever stuff with budgets whereby you can achieve a lot more with your money, because you are putting some health money together with some money around food waste and enabling work to happen across different food issues. So that is something I think we would be really happy to see replicated in other places.

Clare Devereux: And it also enables more money to be drawn in, because in our case the food partnership stands slightly independent of the local authority but works very closely with the local authority and the statutory agencies; we are able to draw down funds through private foundations or Government schemes, whatever it might be, that perhaps would not be accessible otherwise by the local authority alone or the primary care trust alone. So for a small investment in terms of supporting partnerships, one can generate

more money coming into the city or town through that model.

Q202 Caroline Lucas: Given that that is an attractive prospect, what do you think is preventing those local authorities that are not doing this from doing it? Is it lack of awareness of what might be possible, or is there something more structural that is getting in the way?

Clare Devereux: For the sake of repeating what went before, we have done a little bit of research in this for a funding application; we needed to ascertain what it was that was stopping, and what kind of level of activity around strategic work, food work, partnership strategies was happening in other local authorities. So we have spoken to about 20 or 30 local authorities. And the point about inspirational people and people who get it and who work on these issues that was made earlier; definitely it is a reason why it happens in some places and it does not—perhaps you should say that it is completely patchy across the country, and it should not really be like that. I think the other obstacle is that, historically, particular areas come at food from a particular angle. So if you are a rural town or an agricultural area, you are coming specifically from a production driver and that is what subsumes the work; perhaps they were a bit closer to bringing in all the other elements that we try to do—the integrated three pillars of sustainability, the economy, the health, and so on. So you will get pockets of good practice in particular areas, but not that strategic approach across the country. It is a bit of a top-down direction from Government. It may come up later, but the idea of having a national food strategy, a strategic approach to food nationally, Food 2030—that was started in the previous Government. Having that kind of message coming down is something that will help address the reasons why other local authorities are not taking that strategic approach.

Q203 Simon Kirby: Welcome. It is a great pleasure to see you here today. Can I come back to the evidence again? You mentioned it in your written submission, but you have also mentioned it today. Can you be specific about the areas of research and development that are particularly lacking, and if you were to suggest to the Government specifically what needs to be done, could you do so?

Vic Borrill: Some quite practical ones, if you are looking particularly at sustainable diets and consumer behaviour around sustainable diets. Where will the biggest differences be made if you are looking at helping people to eat diets that are more—either greenhouse gases or carbon or whatever—friendly, and it is where the biggest impact will happen, understanding what is stopping those behaviours at the moment, and I know some research is beginning to be done on behaviours around that. I am going to give you an example of where it has worked really well, which is the Love Food Hate Waste campaign. That is backed by some brilliant research, both on what people do and on what you can do locally in order to help people change habits. We deliver that in Brighton and Hove. We deliver it by going out to the

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supermarkets and talking to people. But it is all based on what the further-up-the-chain research did. And then we can talk to other towns about what they are doing. So for me, sustainable diets is the one that springs to mind.

Clare Devereux: The other thing that again was discussed earlier, if you are talking specifically about local sustainable food, and Brighton and Hove, as you probably know, has 11,000 acres of farmland around its borders, so there is a capacity to produce a certain amount more food locally than we are. It is being able to quantify that, to make the case for the economic value of—we talk about local food and we talk about economic value and how good it is, but I do not think the figures are there for us to draw on. We have been discussing our economic strategies coming up for renewal in Brighton and Hove, and that is an example of if we had some hard figures that could make the case for the value of local food, literally in our vicinity, but also the jobs that are created. We have done a little bit of research to try and gather that information from other areas and it just does not exist in a way that is useful to us.

Q204 Simon Kirby: I agree almost entirely with you, and what is needed is hard figures, and you mentioned that the take-up is patchy up and down the country. But would you agree that it is difficult perhaps to have a coherent national food strategy, or some top-down direction, without that research, without those facts, because I think Brighton and Hove in many ways punches well above its weight, and I think there is a good job going on as we speak, but it is a matter of how the Government can roll out that good work elsewhere, and I come back to the evidence again—is it possible to provide incentives without the evidence?

Clare Devereux: Yes. To do the right thing, sometimes you do not need evidence that it is the right thing to do. We can all draw on what we know is right and what is working. But I think the reason it is patchy across the country is because there are people who are not convinced, who do not know it is the right thing. Where people do know it is the right thing, where there are individuals who do it, it is happening, and where it isn't, evidence is needed. It has been started in patches, and DEFRA did do, about six or seven years ago, research into the value of the local food sector, but that was seven or eight years ago. We are in a completely different economic situation now. I do think that kind of underpinning evidence does need to be undertaken nationally.

Q205 Chair: How do you think we should actually get that evidence? Who do you think it should be?

Clare Devereux: Who should do it? Well, I do think it should be a responsibility of national Government, of DEFRA, the Department of Health, in association with research institutions within the academic sectors. There is a lot of good work being done in academia and linking that back to national policy and then back down to communities like ours.

Q206 Peter Aldous: How can local authorities' social planning, town planning, be used to deliver more sustainable food systems at a local level?

Clare Devereux: Well, we have done that; we started that process in Brighton. Our core strategy, which is—I suppose I should say that the core strategy that we have developed over the last couple of years has now just been withdrawn for various reasons—but sticking with the core strategy that has been developed over the last couple of years, we, the Food Partnership, lobbied very hard, and we were able to do that because we had that infrastructure to do it, for the core strategy to include reference to sustainable food production on the peri-urban fringe of the city where there is potential for it. So that is the first thing, as a policy direction if you like, to get it in the core strategy. Vic, you have worked on that. Do you want to say anything?

Vic Borrill: The only thing I would say is that that was done back in 2008, so some of these things take quite a long time.

Clare Devereux: That was the first point: having that direction of travel in our core strategy has enabled us to go a little bit further. We produced planning advice, which you might be aware of, to encourage new developments to include potentially food growing spaces, whether it is allotments or green walls. The planning department have a sustainability check list that requires developers to tick what they are doing in sustainability terms—a big leap, but it does include food growing, planting nut trees and little things that developers can do within the planning system now. Just on that point, that was introduced at the beginning of the summer. Research into all the applications that have come through so far in that, as a result of using the sustainability check list, 50% of applications have now included food-growing opportunities within their new development. So that is working. The planning advisory notice has only just come out, so we do not know yet how that is going to work, but developers are already coming forward with plans to include food growing. We have to work very closely, and again, it is as a result of the partnership that we have created over the years between ourselves and the local authority and the planning department that we have been able to work closely with them to achieve some of these. The other thing I would say is that there is a sustainability officer within the planning team who has a food remit, which I think is quite unique, so they are embedding food within their planning thinking, if you like.

Q207 Peter Aldous: That is very kind. Now, of course, the planning system is undergoing quite a lot of change at the moment. Do you regard this as an opportunity to do more, or a threat to what you are doing? Or is it a bit of both?

Vic Borrill: A bit of both. Again, one of the things we have here is that we do not really know what it is going to look like when it comes to it—this is why I say, by the time you have trickled all the way to somebody who is working in a neighbourhood, it does not yet make a lot of sense. I think there are opportunities through the idea of being able to do some neighbourhood plans and what your

neighbourhood wants to see happen. However, it is important that that is supported by local authorities because it is that idea of, “Well actually, I really care about that park and I really care about the variety of shops and I do not mind if you are building some houses.” My experience on the ground is that it is not there yet, so there is possibly an opportunity there. I think the other big thing is the opportunity to access land for community groups and whether or not the through planning with the right-to-buy take on assets such as buildings will include land or not. It isn’t very clear to me and I do not know if there is any development on that because that might also provide opportunities for the communities come together to do things locally.

Clare Devereux: I think I would add to that. I would like to think, and I hope it is going to be an opportunity, but I think for us, we will be able to turn it into an opportunity perhaps because of the foundation we have already in this area and the work we have already done. My concern is for other areas where perhaps that—

Peter Aldous: You have got an infrastructure already, which means you may be able to take advantage. Other places that have not could be less—

Clare Devereux: Yes, possibly, yes.

Q208 Martin Caton: I heard what you said about needing more research on consumer behaviour, but you are clearly in the front line, if you like, in helping people change their behaviour when it comes to healthier and more environmentally friendly foods, so can you share with us your experience and say what needs to be done? Also, your thoughts about what Government, at different levels, could contribute to ensuring this happens?

Vic Borrill: One of the biggest barriers we find, and this can be on both health, so it can be people who are trying to reduce their weight, or trying to reduce their risk of heart disease, or it can be on confidence—people trying to leave to move into independent living if they have got learning difficulties, it is people who cannot cook. It is very, very hard to make the changes that you might need to make to your diet, be that being able to cook, make your food go further or love your leftovers, or any of those other magic messages that come out there, if you do not know how to cook. I think there is a real imperative to ensure that children in schools have a real experiential experience of food, they learn about cooking and growing, but we have to do something about the massive amount of adults who actually cannot cook at the moment. I think that that, to me, is the plea. I do not think we should underestimate quite how many people for whom that is a real issue.

Q209 Martin Caton: At the moment cooking tends to be coming along with design and technology and, this is just what I have heard, a lot of the design and technology teachers actually regard cooking as the less important—they want to get on the computers, they want to—some of the children feel the same, so do we have to harden up the cooking bit of the design and technology?

Clare Devereux: Yes. I think we need to harden it up, but I also think you have got such an opportunity with cooking and food work to hook on so many other curriculum activities as well because if you are learning to cook you are also practicing numeracy, literacy, various other skills and I think, actually, just picking up the value that cookery can bring across the curriculum is an important thing.

Q210 Chair: Where does cooking fit in terms of the Government’s advice in terms of the curriculum?

Clare Devereux: Well I am not an expert on the curriculum. I actually do not know the answer to that.

Vic Borrill: There has been an increase in the number of hours and, again, I am not an education person that you get at primary school level, but that still is not enough to teach you to cook. At secondary level it comes in again, and it is often designing a pizza box; those are the sorts of lesson that you get as opposed to even learning to make your own pizza. Again, there is good practice in a lot of places. Some schools, Moulsecoomb Primary I am going use as an example—two people in the room will be aware of it—is a primary school in a really deprived area of Brighton. They have the most amazing approach towards food in the school, so every single child leaves there feeling confident about making food choices and having tried cooking and having tried growing and that is an amazing skill to go to secondary school with.

Clare Devereux: At the moment it is costing money to do that; it is costing funding to do it rather it being a core part of the school day.

Q211 Martin Caton: Do we need Government spending? Obviously the carrots are very good, especially if you are on a healthy diet, but we need sticks as well. Should there be financial incentives or disincentives? Should there even be choice editing?

Vic Borrill: At what level?

Martin Caton: The Government has set it and we are doing polls. For instance, you heard in the previous evidence—the fat tax that has been introduced, things that happen in the United States. That would be a financial disincentive and that would obviously be produced by Government.

Clare Devereux: From where we sit, working locally on these issues, there is a lot of hard effort, a lot of funding, a lot of money going into it and I think if that is not matched by those top-down incentives, carrots, fat taxes—we are not experts in what those should be, but I think we need to be looking more at what from that range of tools is appropriate. The work that we are doing locally has to be matched by action by Government, otherwise I am worried—particularly as we move forward into more straitened times financially and our funding and our capacity to do work are perhaps compromised—that we are going to take steps backwards from some of the gains that we have made over the last years and that will be true for other areas for us.

Q212 Martin Caton: In your work, effectively you are presumably working with individuals, are you actually able to impact at the community level? Are

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you actually seeing community-wide change in behaviour?

Vic Borrill: Some of our projects are delivered individually, but a lot of what we try to do is work within the community that already exists there, so one of the programmes we run, and I am rather creating a bit of a message here, is actually around training people within different organisations to become community cookery leaders. We have been doing work with staff who work in learning disability centres or who work with people who are leaving care to train them to teach people to cook so that the skills are being passed on. On the community food growing project, several of them are really established and we can support them to be better at what they do by helping them with full grant schemes. We give out a small grant of £1,000 that can actually mean that people can pay for their insurance and some of their volunteer expenses in order to last for a year, so those are lasting projects that are within the communities of a city, and they very much stay there.

Q213 Martin Caton: Thank you. Do you think the Government's recently announced calorie reduction challenge is going to take us forward as far as sustainable food goes?

Vic Borrill: The same day that you were told that the guidance amount has gone up and that we were all lying so we had to eat less? Calories are actually a really difficult message because the work we do on calories—particularly with people who are above their ideal weight—is not very helpful. Calories are not very helpful, because you could have your 2,075, or whatever it is women are now allowed, and actually have all those on the sort of foods that are just made of sugar. We do not usually advocate teaching very much about calories; we teach about a balance of health. However, they are useful when you come to going around and making choices in a supermarket, if they are comparable. So we come back to the idea of traffic lights on packaging that makes sense of the products. Again, one of the problems we have when we try to teach people—they understand about healthy and unhealthy and so on—is that to make it a bit easier and possible to make those choices, to give them tools that actually make some sense, is much more helpful than saying, “If you are in this supermarket you are looking for this diagram, and if you are looking at that product you are looking for that one, and if you are in a big retailer you might get this and if you are in a small one, by the way they will not have it so you need to do this.” There are so many different messages to try to get across. I think any national initiative to talk to people about calories and about what they eat has to be very intelligently done. It goes back to your marketing: don't just say we eat too many calories, because people will probably go, “Yeah, I know.”

Q214 Zac Goldsmith: A lot of issues that I wanted to raise have been already been addressed so I am going to pick and choose. One of them relates to the food strategy. The current Government has said that it broadly agrees with the 2030 strategy left by the previous Government, but they are not currently

planning to replace it. I think you have already said that we ought to replace it. If it is replaced, what with? Where would the emphasis be in your view? What would be different about it?

Clare Devereux: Well, I think it was a very good start. **Chair:** Sorry, what was a very good start?

Clare Devereux: The strategy that was written, the 2030. It had that integrated, comprehensive approach and it brought the different components of the food supply chain and the issues together. So, in the sense that these things do incrementally grow and develop, that needs to be built on for starters. Now, from our perspective, what we would like to see in that, however, is more mechanisms that enable us and the local communities to deliver on that. It was quite top-down and focusing on industry, which is brilliant, but widen it—we would say this, wouldn't we. For example, support and advocate mechanisms locally, such as food partnerships, and the development of local strategies would support the work that we do and bring more consistency, as we were discussing before, around the country because we are only going to tackle sustainable food from the top-down and bottom-up and there has to be equal weight given to those actions.

Q215 Zac Goldsmith: I have one last question. We have all talked a little about varying points in early years education, but if we are going to shape our food consumption patterns and our behaviour, it seems to me that early years education is key. We talked a bit about improving the standard of food through procurement contracts and so on, but what are the tools that we can use? What are the tools Government can use to ensure that some of the best-case examples where schools really teach food literacy—what are the best mechanisms the Government has to ensure that those examples become law? What is it, apart from the procurement contracts, what is it? Is it the national curriculum or is it something more local?

Vic Borrill: I think a bit of both, again. I think that one of the things we tend to find with people who do food work in schools is that often there is one teacher or one teaching assistant or one parent who starts it. If we can then meet that individual teacher, we talk about getting Heads on board, and I am again going back—I don't know much about education—how you can get Heads to realise that it helps them meet all their other education targets and what else it helps them to achieve, I think is very important. The national curriculum obviously is a bit of a stick that can go with it. I also think, just to go back one stage earlier to the really early years, that we have been doing quite a lot of work lately with nurseries as the place at which that starts, and introducing some minimum standards around food that gets served in nurseries as well would be quite an important step that could happen nationally, building on the practice that is happening locally.

Clare Devereux: It would be boring not to come back to produce evidence of our research, the connection between a good diet, particularly in early years with breakfast clubs and so forth, make the link between educational attainment—we hear about that and the Food for Life programmes have worked in lots of

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schools, and there is evidence that good food very early on in life is very important, whether it is through the school meals service or through education, and obviously complimented by activities at home, which is always very important; it can't stop at the school gates. We have to work to ensure that it is in the home as well, but evidence of the link between good diet, educational attainment and behaviour is an area where we could do more research and have more evidence. I think then we would be able to make a financial case for that investment and, if they really believed that the children were going to behave better and achieve more through good diet, then they would probably embrace it. Food for Life has shown that their schools do better in Ofsted inspections than non-Food for Life schools. Now, that is a very simple thing; I think if you shared it amongst the head teachers you would start to get more buying into it.

Q216 Simon Kirby: Just a very brief comment. You mentioned Moulsecoomb Primary School; it is a great school and I was struck by the fact of how it was important for the kids to understand where the food they ate came from and the ability to make jam out of cherries that grow in the school grounds. I thought that was important, but also in deprived areas across the city, up and down the country, just understanding where food comes from, because we all know about the different vegetables and fruit, but often young children have no concept at all where our bread or the food they eat comes from or where it is supplied from. Anything we can do to help educate them has to be a good thing, has it not?

Vic Borrill: Yes.

Clare Devereux: I think we have an opportunity in Brighton and Hove, and quite a few other cities do too, because we do have fields—as long as the green belt survives. We have those farms around our periphery that, if there was more small-scale farming

in those, edging onto the kind of communities you are talking about, the Moulsecoombs and the Whitehawks in Brighton, there would be a much more visible presence of food and food production as a part of these children's everyday lives. That is one of our aspirations—that we do have more small-scale mixed farming around the edge of the city so that we can make those connections.

Q217 Chair: I think that is a very positive note on which to end. There is just one issue that has not come up at all—your evidence from the previous one. I know we are going to run out of time, but can I just ask you about what you were saying about the planning guidance that you had at Brighton and Hove, whether or not that designated person who has a remit for sustainability and food, whether or not that linked to a policy on takeaways as unhealthy food?

Vic Borrill: It tried. Basically what happened was that there was a planning application process that went through about unhealthy foods around the school gates, and what happened was that there was some research done that basically involved following secondary school children around at lunchtime, which was quite interesting, and it showed that one of the biggest problems was that they were going into shops—for example, Tesco and local shops—to buy unhealthy junk as well as the takeaways, so there was a bit of a balance going on. We are trying to do some sort of responsibility work locally with Tesco on what they serve, what food goes into the school, and also with some of the retailers about what times they are open. It will be interesting to see because responsibility sounds like it should be right up the street on this, but we know we have probably got quite a battle.

Chair: Thank you both very much indeed for coming along. We appreciate your time.

Wednesday 26 October 2011

Members present:

Joan Walley (Chair)

Peter Aldous
Martin Caton
Katy Clark

Zac Goldsmith
Simon Kirby
Sheryll Murray

Examination of Witnesses

Witnesses: **Jane Bevis**, Director of Public Affairs, British Retail Consortium, and **Bob Gordon**, Environment Policy Advisor, British Retail Consortium, gave evidence.

Q218 Chair: I welcome each of you to our Select Committee this afternoon. As you are aware, we are doing this inquiry into all aspects of food, and we are really interested to get your perspective. We do anticipate votes coming just before 4.00pm, so we are slightly time-limited, so perhaps we could bear that in mind for the questions.

If I could just start by asking you where you feel the biggest impacts of an unsustainable food system occurring are. We are interested to perhaps find out from you where your members feel that the biggest difference could be made, looking at the whole supply chain, looking at the whole food agenda.

Jane Bevis: Thank you very much for inviting us in. We thought it would be useful to open the discussion with five big ideas, which I think really answer the point that you have just raised. We think it is very important to focus and sustain the focus on the areas where there is genuine potential to develop a sustainable food supply chain through transformational change, rather than being distracted by some of the smaller, perhaps more popular, eye-catching measures. Underpinning these, we need cross-departmental co-ordination and policy alignment with the devolved administrations. So it is not an English issue; it is a UK-wide issue.

The five factors that we think could have the biggest impact are around a solid understanding of resource efficiency, environmental, economic, health and social factors and their trade-offs, leading to consistent and sustained Government intervention based on sound evidence that outlives the lifetime of a parliament or a government and focuses on product life-cycle hotspots.

Secondly, action at the appropriate policy level through the development of an EU sustainable food strategy, distinct from but engaging with the Common Agricultural Policy and the Common Fisheries Policy. The UK is among the leaders in Europe on this issue, and we think the UK Government should raise it at Council and push this agenda forward.

Thirdly, we need to achieve action at scale, embedding sustainability into mainstream products sold by mainstream retailers and caterers to the whole population, regardless of their household budget.

Fourthly, we think that radically reducing food waste in the supply chain, distribution processes and, most importantly, the home is crucial. Around a quarter of our current footprint could be eradicated simply by cutting out waste.

Finally, by investment by both the public and private sectors in sustainability infrastructure, encouraged by consistent policies, supportive planning processes and incentives for communities to accept and adopt change. That is the way that we will make major shifts, rather than fiddling around the edges, and I think that is very important.

Bob Gordon: If I can add something to that to maybe more directly answer the question, I think there are a number of things going on. John Beddington referred to it as the “perfect storm”, with rising global populations, increased demand for higher-quality food that will place greater demands on land, water, energy, and on top of that, climate change. The agriculture sector contributes 30% of global greenhouse gas emissions, so the sector will have to radically reduce its emissions as well as adapting to more unpredictable weather patterns and more extreme weather patterns. There are lots of things on the table there driving the sector to require very significant change.

Where do we think we can see biggest wins there? I would refer to a number of collaborative pieces of work that are being done at a global, European and national level: for example, the Sustainability Consortium, the EU roundtable on sustainable consumption and production of food, the Global Consumer Goods Forum, and in the UK, the Product Research Forum, which follows on from a previous responsibility to deal with the Courtauld Commitment with WRAP, which is looking at hotspots across five environmental impacts, and they are water, energy use, greenhouse gas emissions, waste and resource use, and looking at products rather than just looking at packaging. What that piece of work is doing is trying to identify which products are highest impact, based on volumes as well, what those impacts are and where we can reduce those, so it is taking a life-cycle thinking approach, looking at hotspots, and we increasingly refer to warm spots, so we are going to intervene in places where we can see the greatest change.

Q219 Chair: I think that is really interesting, and you mentioned collaboration. How much are your members involved in collaboration at either local, regional or European level? Is that something that you—

Bob Gordon: It is huge, yes, really, really big. The Courtauld Commitment is a very, very good example, and the Product Research Forum now, which follows

on. This is something where, with some responsibility deals and certain discourses, it is led maybe by the Government thinking or by the delivery body. Certainly in the case of the Product Research Forum, it feels like it is being led by the brands and the retailers who sit on the steering group and the working groups. There is a genuine desire to move forward collectively. Where collaboration is powerful is that you can talk the same language. If all of the big retailers are asking for a similar thing from suppliers, there is a reason for them to do something about it, but if they are all asking slightly different questions at different times in different ways, it is much more fragmented and far harder to get that momentum.

Q220 Chair: Where do you see the leadership that will be needed for that kind of collaboration to be coming from?

Bob Gordon: Again, to my mind it is joint, and we are getting some leadership from Government and from delivery bodies. We are also getting leadership from the companies, so in the case of the Sustainability Consortium, that was seed funded by Walmart and there is now a contribution from over 30 global corporations. So there is leadership in that sense, but then it is a shared responsibility to meet collective targets.

Q221 Chair: Can I just move on? Many of our Members of the Committee represent perhaps more deprived areas, and what about the smaller retailers in deprived areas? How much are they engaged with this whole agenda? Is it not the case that there are kind of different agendas here? I am just interested to know how much your members are involved with those sorts of deprived neighbourhood agendas.

Jane Bevis: It is certainly true that most or many deprived neighbourhoods don't have direct access to the major supermarket fascia in the same way, and that the small independent retailers don't have the same ability to influence their supply chain in terms of things readily available on the shelves. It partly depends on what aspect of sustainability you look at, so if it is something like healthy eating, quite a lot of small, independent retailers can do quite a lot to make fruit and vegetables available at reasonable prices. If it is making sure that the sausages that you stock have come from an environmentally low-impact system, that is not something that that sort of retailer could influence in the same way.

Q222 Chair: Looking at it from the other perspective, how much do you think there should be a requirement for the bigger retailers to perhaps look in a different light at the more deprived areas, where perhaps they might not be interested in investing at the moment?

Jane Bevis: We are seeing a slowdown in investment by retail because of the current economic circumstances. They have been responsible for helping deliver retail-led regeneration programmes in a number of more deprived communities, so they can help to a degree with that, but it is certainly much more of a challenge. One of the things that they can help do is by influencing and normalising thinking

within supply chains. That then sort of leaks out into other people's supply chains as well.

Q223 Sheryll Murray: I want to go on to changing people's behaviour. How can we influence behaviour of people so that they do buy more sustainable food?

Bob Gordon: I would phrase the question a different way. I would say, "How can we make sure that more sustainable food is consumed?" I think you can do that in one of two ways. One is to rely on the consumer to buy more of it; the other is to revolutionise the way that you produce it and put it on the shelves so that they are forced to buy more sustainable food because it is the only thing on offer. The business drivers are much stronger on the second option there. Consumers very often make choices based on price, quality and brand. Sustainability is quite often lower down the list in terms of their priorities, and where they do make decisions that they think are sustainable, they are quite often not very well-informed. You hear things like the carbon footprint of a free-range chicken is higher than an intensively-reared chicken; if you buy a free-range chicken, are you making a more sustainable choice? You might believe that you are, whereas if you look at the hotspots of chicken production and reduce the carbon footprint of all chickens, then you will produce a more sustainable food supply chain.

Q224 Sheryll Murray: Do you think we could look at things like restricting choice?

Bob Gordon: That is happening already, and I think it is an interesting question, but what do we mean by that? That might be perceived in public discourse as, say, not selling strawberries in January—that might be the restricted choice—whereas where I believe we will see much more fundamental change and transformative change is if you look at the kind of things that retailers are doing already. For example, one of them says it has reduced the carbon footprint of its beef by 30%. It hasn't told its consumers about that, it has just worked in the supply chain to lower the footprint of that product. The only product it now offers is beef that has a 30% lower carbon footprint than it did. So they have edited the choice, they just haven't engaged with the consumer on it in that very proactive, "make sustainable choices" way.

Q225 Sheryll Murray: Should we be thinking about financial incentives and how might that work?

Bob Gordon: The first thing to think about there is, financial incentives for what? So what are the sustainable criteria that we want to incentivise? Why is that the right thing to incentivise? Again, the chicken offers a very good example of exactly what it is that we want to achieve. The second thing I would say is that the incentives need to be incentives, so I would not propose any kind of intervention that raises the price of food. It must be something that makes more sustainable food less expensive, if it is currently more expensive.

Q226 Sheryll Murray: Just moving back to the example that you gave me about beef, what sort of role do you think retailers could play in educating people to make better choices and provide them with

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the skills to eat more healthily, and can you give me any examples?

Bob Gordon: If I can just start on the environmental sustainability issue—and I'll ask Jane to comment on the health side of it—labelling is part of the mix, but it is not the solution. There are lots of products on supermarket shelves that carry a label, but very often it is a single-issue label, so you would have MSC or FSC, Fair Trade, the carbon label, but there's a question of whether that is the right thing, whether that is the sustainable option, and there is also a question of whether or not the consumer understands that. There is a label in Europe, the EU Eco Flower, which covers a whole range of things, but there is no real understanding from the consumer of what that means. I think labelling will play its part, and it will play it much more effectively once we know exactly what it is that we want to label and how we can communicate that with the customer most effectively so that it does come on to the criteria when they are making their choices.

Q227 Sheryll Murray: Do you think that it is a good idea perhaps for retailers to advertise that they have reduced the carbon footprint of their products or they are sourcing locally? From my own personal area, fisheries, for example, I know that a lot of my local supermarkets buy their fresh fish at the local fish market, but you don't see a huge sign. Do you think that could help people?

Bob Gordon: The answer is different, firstly for different retailers, who will have a different market, different customer base and a different way of building the relationship with that customer base. The other thing is to say that retailers very often perceive that customers will make their choices based on whether or not they think they are going to a sustainable retailer, rather than making choices on individual products, so the dialogue with the customer is very much, "We have taken care of a lot of this. We are working on a lot of things." It is not necessarily a communication about a particular product. That said, there is lots of stuff on local and seasonal. They will make communications. Sustainable fish is one that they are obviously doing a lot on at the moment, so where it is right, they will make direct communications, but generally they are trying to communicate with the customer that they are working on all the issues.

Jane Bevis: Some of the most effective areas have been where there has been a joint Government and retail approach on things like Change for Life or 5 a day, where there is an established campaign that the retailers can make contributions to as well.

Q228 Zac Goldsmith: Do you think that the size of the big supermarkets means that they are structurally unable to properly support the local food economy?

Jane Bevis: What I think they are doing is adapting to develop local networks in order to source those local products. To be a successful retailer, you have to be incredibly responsive to what your customers tell you that they want, and there is a very definite demand for local products and therefore supermarkets are responding and finding ways to do that.

Bob Gordon: Many of them have specific ways of doing that. They have different contract terms with local suppliers, they have developed mechanisms for those local suppliers to deliver direct to stores in the local area, and they have shorter payment terms. Many of them even have targets to increase the proportion of local food they are selling, so they are taking this issue very seriously because, as Jane says, there is customer demand for it.

Q229 Zac Goldsmith: Yes, I have no doubt that that is the case, but can you identify which of the big supermarkets is engaging most positively in the manner you just suggested, and can you also tell us which supermarket is failing to adapt to the demand for local food?

Jane Bevis: We represent the whole sector, so it is not for us to make choices in that way, but I am sure if you ask the supermarkets individually, they would be delighted to tell you of the efforts that they are putting in place.

Bob Gordon: The other answer to that is they will all be approaching it differently, so it would be very hard for us to make a judgment decision of the value of the interventions they are making.

Q230 Zac Goldsmith: Yes, okay. We will move on. We have had a lot of pretty compelling evidence that the supermarkets, as they continue to expand and take more and more market share, are crowding out diversity on the high street. Do you think that is a concern?

Jane Bevis: First of all, 99.6% of retailers, retail businesses, are still small and medium-sized businesses. Secondly, the most successful high streets have key anchor stores on them, usually one or two supermarkets, which help pull in the footfall to the advantage of the neighbouring retailers, so they help provide a hub to that community of retailers, if you like.

Q231 Zac Goldsmith: So you do not think the growth of the supermarkets is happening at all at the expense of independent retailers on the high street? Can you see any correlation?

Jane Bevis: I am not saying "at all". What I am saying is there is still a very healthy independent sector out there, and where independents do very well is where they offer something completely different to the customer, but ultimately customers choose where they want to spend their money, and very often that is in a supermarket.

Q232 Zac Goldsmith: I hope this is not a tangent—please interrupt me, Chair, if it is—but one of the areas we have been looking into separate to this one is the planning reforms, and one of the main critiques of the current planning system is that it has a very, very strong bias in favour of the supermarkets, so really no matter how much people oppose an application for a new Tesco or Sainsbury's or whatever it is, even where you have almost complete unanimity among the community and councillors, elected local representatives, you will almost invariably lose that battle because of the nature of the

planning system. My question to you is, do you accept that criticism of the planning system? Do you believe the reforms that are being brought in are going to add more balance to the planning system, or are we not going to see any significant shift?

Jane Bevis: There is no point in a supermarket opening a store where they don't think they are going to have any customers, so there is clearly going to be a substantial proportion of the population who support the opening of that store, and indeed, patronise it once it is open.

Q233 Zac Goldsmith: But that is not backed up by the stats. There are countless examples. I organised a referendum myself in Barnes, where we had a bigger turnout than in the previous three general elections, and nearly 90% of the people answered the referendum saying they didn't want a supermarket in the area that the application was for, and yet that result was ignored; in that case, it was Sainsbury's. So, yes, it is the case that once a supermarket establishes itself, people do tend to use them, regardless of the impact on the rest of the high street, but in terms of the decision-making process, it seems to me that people have no power or say at all. My question really is, do you think we are going to see an improvement in the current system, or does that even matter? Is that an issue of concern to you?

Jane Bevis: Clearly, the planning system is there to get a balance between the commercial interests of businesses and the local communities, and that is why elected representatives are involved on planning committees.

Q234 Zac Goldsmith: Do you think there should be a more balanced system, in that case? I say it lightly, we are not going to get—

Jane Bevis: I think that is the function of the system.

Chair: This is a point that has been raised by Zac Goldsmith about where sustainable development fits and what priority is given to that when weighing the decisions up as to where supermarkets should or shouldn't be sited.

Bob Gordon: I am going to once again come back to you on the overarching objective here, which is to talk about sustainable food, and I would ask the question, is that part of a sustainable food future? What hotspot does that address? Why is that something that will necessarily bring us a more sustainable food supply chain?

Q235 Zac Goldsmith: Yes. I think there is a link, and I will come to that in my final question, but I think there are broader issues, and sustainability as a concept does not just relate to food. It relates to our communities, our high streets and so on, and I think it is inarguable that the supermarkets have the planners, whether they are elected or otherwise, in an arm-lock, and that is a situation that is almost impossible to contest. I was really asking whether you think the current proposals are going to shift things further in favour of the supermarkets or back to the community. But you are right. It is not directly relevant to what we are talking about the moment, but where it is relevant is that the more permissive the planning

system, the more we allow the supermarkets to take over our high streets and displace other forms of retail, the greater the market share those supermarkets will enjoy, and the bigger the supermarkets become, the less bargaining power the producers have.

My final question to you relates to the producers, to the farmers, and we have endless critiques of the various supermarkets, some more than others, that they do not engage in fair play with the producers and they don't pay a fair price, and I think this is something that I am hoping you will be able to address now. I will come up with a follow-up question in a second.

Bob Gordon: Supermarkets have no interest in putting their suppliers out of business. Increasingly, as resilience to climate change is an important factor for a supplier, supermarkets are working with their suppliers to develop more resilient ways of producing the food that they put on their shelves, while reducing the emissions of that food produced because we expect to have to reduce our carbon emissions so radically and because we expect such challenging weather conditions moving forwards. We are seeing a change in that relationship, and you see it very, very strongly in the dairy supply chain, where all of the supermarkets have dedicated dairy supply chains, where they pay more for their milk. We talk about dairy farmers going out of business. As I understand it, they are not the dairy farmers supplying the supermarkets, so that relationship has gone well for those suppliers to those supermarkets. They are building sustainable food supply chains for their businesses so that they will offer competitively priced quality food in 2050.

Jane Bevis: And they are helping invest with their suppliers in innovations that help make that a more sustainable production.

Q236 Zac Goldsmith: How do you answer the calls for a strengthened code of conduct? I forget which of our experts have suggested this, but it is a theme that has cropped up, that unless there is a strengthened and enforced code of conduct governing the relationship between the big supermarkets and the providers, this imbalance will always exist to the detriment of the small producers.

Jane Bevis: Of course we have the GSCOP. It hasn't yet been in place for two years. We are still learning how effective it is. There have been relatively few complaints under the code at the moment. Our preference would be to understand how that code is working and how effective it is. The Government has made it clear that it intends to legislate for a supermarket adjudicator, and on that basis, we accept that and just want a system that will work properly for all involved.

Zac Goldsmith: I think I have taken up too much time. I am going to stop for the moment.

Chair: If you want to just pursue that briefly, that is fine.

Zac Goldsmith: I think I will come back to it.

Q237 Katy Clark: Moving on to some of the issues about food producers and buying power, do you think at the moment that customers are paying a fair price

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for food, and do you think that the environmental impact of producing that food is taken into account in the price that we are paying?

Jane Bevis: Customers are sending very clear signals to us that price—which is one part of value, because obviously quality is another important factor—in the current economic situation is extremely important to them and they are shopping around, and therefore it is a very competitive market at the moment. On average, about 40% of supermarket lines are on offer precisely because customers follow those offers and those promotions. It is a very competitive situation. A lot of households are facing difficulties in managing their budgets, and supermarkets have to source in a way that enables them to deliver those goods at the price the customer is prepared to pay.

Q238 Katy Clark: Given that, do you think that the price that the retailers are currently getting therefore enables the capacity to move towards more sustainable production? Is there the financial space in there to do that?

Jane Bevis: Of course, one major aspect of that is that it drives efficiency within the supply chain, and in particular resource efficiency, which is a key part of sustainability. Perhaps the challenge is where you need some major upfront investment in order to make a shift, and that is where we feel, particularly if there is some sort of infrastructure that needs to sit behind that, for example, in the waste area, that we perhaps have to look to some slightly more innovative solutions in order to achieve some of that.

Q239 Katy Clark: Have you got any examples of that that you can think of where there is a need for investment?

Jane Bevis: In terms of the way that we handle our food waste, a lot of the supermarkets now have invested with suppliers to produce anaerobic digestion facilities. We need to look at how the household waste feeds into all of that, and the broader recycling and reuse of materials and handling of waste.

Bob Gordon: There are other things there, for example, renewable energy generation, where it will be a big upfront investment or investment in technology that will enable you to capture rainwater or use the water that you have more efficiently. All of this technological investment—the kit, the costs—sometimes the payback will be sufficient that it is worth making an investment and realising that over one, two, three years, but if the payback is over 25 years, then that becomes too significant.

Q240 Katy Clark: Do you think the Grocery Code Adjudicator is going to have any role in this? What influence do you think they could bring?

Jane Bevis: As far as I understand, and we will come back with some further information if this is wrong, it is not an issue that is within the remit of the adjudicator.

Q241 Katy Clark: Do you think it should be?

Bob Gordon: Not to talk about the adjudicator, but there is a really interesting question here about how we put any kind of framework in place that facilitates

investment in technology that will reduce the cost of producing sustainable food over the longer term. It will be a challenge as we move forwards.

Q242 Katy Clark: I may get a similar response that you gave to Zac when he asked you to comment on different retailers before, but to what extent do you see the buyers in the major retailers taking into account sustainability considerations? Do not choose between retailers, because we do not want to do that, but do you think they are taking this on board?

Jane Bevis: Oh, absolutely, because apart from anything else, there can be a competitive advantage in being able to demonstrate that you are addressing a number of these issues. There are other areas where, as we started out, you need some collaborative action to produce a sufficient degree of demand. For example, on palm oil, retailers are the minority buyers of palm oil. They can't really influence the supply chain individually, but working through a group at the BRC, they have been able to get to a point where they have secured a more sustainable supply of palm oil that they can use in their products, and that is the buyers driving that process.

Bob Gordon: Let me give you an example, and I will name the supermarket, because I think it is impossible to give you the example without doing so. Marks & Spencer said that by 2020, every one of their products they sell will have at least one Plan A attribute, so that necessarily involves the buyers understanding what those Plan A attributes are and factoring that into the conversations that they have. On a more generic level, retailers are looking at how they can introduce sustainability as a key performance indicator for their buyers. The challenge is, what do we mean by sustainability?

The Sustainability Consortium, I believe, has looked at giving a score of 1 to 5 in terms of sustainability, but how do you rate carbon against water, against waste, against resource efficiency? Some of those issues are very complex. Even water is a local issue and a seasonal issue, so you can't even compare water in terms of litres—it is a very complex argument—let alone boil that down with all other elements of sustainability, and then beyond the environmental sustainability, welfare and health. You can't then create a score from 1 to 5 for a particular product. Again, you would need to go into some very, very in-depth life-cycle analyses for each of those products. The answer is they are looking at it; they are introducing more and more. Some of them have explicitly set it as a target for them over the longer term, but the challenge is better understanding what we mean by sustainable food so that we can start factoring specific things into those decisions.

Q243 Zac Goldsmith: Just on the point of competitiveness, could you give us some specific examples of where supermarkets enjoy a competitive advantage for having done the right thing?

Bob Gordon: You have put me on the spot, so maybe I will come back to you in a couple of minutes when my brain has caught up, but it is part of that—sorry, Jane.

Jane Bevis: Yes, but there are contrasts. For example, Asda made a major feature in its advertising a year or two ago about cutting out waste and the way they were handling waste in the business; Tesco have highlighted the way that they have started carbon-footprinting a number of products; Sainsbury's had the first sustainable palm oil and sustainable fish finger on the market. They all have found aspects—

Bob Gordon: I think the answer is you wouldn't necessarily put a product on the market and expect customers to start shopping in your shop because of it. It is part of the earlier dialogue about building a relationship with your customer, so Fair Trade bananas, free-range eggs, all of the examples Jane has given, where you are building a relationship as a responsible retailer.

Q244 Zac Goldsmith: All the examples that you have given, both of you, relate to public relations competitive advantage. In other words, you are improving your relationship with your customer. If you later on perhaps can think of any examples of where a supermarket enjoys a financial competitive advantage, a direct financial advantage from doing the right thing from investing in sustainability—

Jane Bevis: Marks & Spencer have been very upfront that in rolling out Plan A, they were surprised at the level of savings that they made, and they were able to take that forward more rapidly than they had originally anticipated precisely because it gave them a commercial advantage.

Bob Gordon: The figure they put on it is £70 million a year through Plan A.

Q245 Katy Clark: Is this happening at all ends of the market, and do the buyers currently have the skills to put this in place?

Jane Bevis: Yes. In terms of the supermarkets, it is not just the Waitroses that are doing this. It is happening across the full scale. Even at the discount end of the market, while they might concentrate on different things, they have a lot of incentive to cut out waste and therefore be as resource-efficient as possible.

Bob Gordon: The skills gap is an issue across all businesses at all levels of the business, not just in retail and not just in suppliers. This is quite a new area for us all to be talking about in the level of depth that we are currently talking about it. Skills is definitely an issue and something that our members are looking at, and indeed, the people within Government are looking at at the moment.

Q246 Katy Clark: The Food Ethics Council said that competition law may be preventing co-operation among the major supermarkets to use their buying power to support more sustainable products being developed. Do you recognise that as a problem?

Jane Bevis: Certainly in terms of their impact on the supply chain, supermarkets do need to be very cognisant of competition law and be careful about the way they go about things. In areas where they have relatively little influence, then coming together and agreeing with other partners in the supply chain that there is a better way of doing things and moving

forward so that everybody feels this is a win-win situation, you can still make progress, but yes, there will be times where they feel they can't come together to do something precisely because they would risk being in breach of competition law.

Bob Gordon: I would just add that I sit on the steering group of the Product Research Forum with a number of retailers, brands, WRAP and Defra. We talk very openly about what the issues are, what potential opportunities there are, and we talk about that in a pre-competitive context, so we are understanding the context and then, if any voluntary commitment is established as a result of those conversations, the individual businesses that sign up to that commitment will compete vigorously to achieve it in a way that not only gets them to achieve those sustainability goals, but also improves their market share.

Q247 Chair: Just before I move on, you mentioned about the skills training. Are you sufficiently engaged with the Sector Skills Councils to get that capacity that you need in respect to training and skills?

Jane Bevis: We have a very good relationship with Skillsmart Retail, which is our own Sector Skills Council. I suspect part of the problem is that in some cases, the sorts of skills we are looking at is refrigeration engineers or something, which is sort of outside of—

Q248 Chair: So you would not say that sustainability issues were flagged up within the Sector Skills Councils?

Jane Bevis: They are issues that we have flagged up with BIS and other relevant departments to get them to engage in those discussions where it is beyond our normal range of contacts.

Q249 Peter Aldous: We did touch upon waste; if we could just probe a little bit more on that. To what extent do you think the waste arising from retailers and customers contributes to the overall food waste problem?

Bob Gordon: The figures from WRAP say that—off the top of my head—around two-thirds of the waste produced in the UK is in the household and 5% is out of store and around 30% is in the supply chain. They are the kinds of figures that we are looking at. Retailers are doing an awful lot to manage their own waste, so I think of the large grocery retailers. They are either currently sending zero to landfill or are on track to do so by 2013. They are also doing an awful lot to engage with customers to help them reduce their food waste, and that is predominantly done in conjunction with WRAP, with their Love Food Hate Waste campaign, so lots of communications on how to use leftovers, storage advice, portion sizes and so on.

Q250 Peter Aldous: Is there any feedback as to whether that campaign has been successful?

Bob Gordon: Yes, there is, and we are expecting figures to be published by WRAP on 15 November and they look very good. We are very, very pleased with the progress that we are making on this, and significant reductions in food waste in the home over the last three years.

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Jane Bevis: Which could in part be driven by economic circumstances, of course.

Q251 Peter Aldous: We talked about the waste from the suppliers. Do you think that there is any way the situation could be improved by not producing wasted food in the first place?

Jane Bevis: Certainly in terms of the food manufacturers, a lot of them also have programmes in place to try to minimise the impact of their waste, but again, they have a very strong economic incentive to minimise waste, because that is cost for which they get no return.

Bob Gordon: Yes, absolutely. The business case tells its own story: that you try to minimise the waste in your business because an efficient business is a profitable business. What has changed, I think, over the last five years or so is the way in which we have managed to make the most out of that unavoidable waste, so much more of it is now going to Fair Share or going animal feed or going to anaerobic digestion, as I say, pretty much avoiding landfill now.

Q252 Zac Goldsmith: On that point, there is no doubt there has been progress on that, but because of the pressure from the buyers for superficial perfection, the perfect apple, the perfect vegetable and so on, the figure that we had quoted to us—I hope this is correct, or I hope it is not correct, but I don't want to mislead the Committee—is that two-thirds of all fruit and vegetables are wasted before they even reach the shop. If that is the case, or even if the figure is an exaggeration, and I will go back and check it, you could not rightly or legitimately put the blame on the shoulders of the producers. It would have to come from the pressure for that superficial perfection. Is that something that the supermarkets are willing to address? Are there any signs that they are addressing it?

Bob Gordon: Yes, they are addressing it, and I would be extremely surprised if that figure is true. We hear stories of where fruit and vegetables that are cosmetically challenged, shall we say, get used in other products, so it gets put in ready meals, it gets put in soups, it gets used. You would be a fool not to use it, because it would be a cost, it would be waste, whereas if you use it, you are reducing your cost, and you are becoming an efficient business.

Q253 Zac Goldsmith: Whether it was two-thirds or a third—and I accept there is a big difference between the two; the figure that I was quoted was two-thirds—even if you lop 60% off that, it is still a staggering figure, an enormous amount of waste as a result of this pressure for perfection. There is a project at the moment that Innocent Smoothies is running where they are collecting fruit that would otherwise be thrown away and they are teaching children how to turn it into smoothies, and they are doing it at school after school after school. They calculate that they have enough fruit, let alone vegetables, to provide smoothies for every primary school in the country, so we are generating an enormous amount of waste, whether or not the two-thirds is an exaggeration.

Jane Bevis: But, for example, Tesco did start marketing ugly fruit and vegetables. Ultimately, it is whether customers take these things off the shelves, isn't it?

Bob Gordon: And not just Tesco. You have a number of retailers now, one of them says their value range is not as attractive but just as tasty and it is at a good price, so we are doing that.

Q254 Peter Aldous: Just touching on food we use—that is, wasted food—for animal feed, there was, leading on from foot and mouth, a reaction against putting it into pig swill. Does that in any limit the amount of wasted food you can recycle and use in animals?

Bob Gordon: Yes. It is not my policy area. I am sorry if I can't go into too much detail, but as I understand it, any animal byproducts don't go into that animal feed, so there is that restriction and there is that limitation.

Q255 Peter Aldous: We touched upon alternative uses, whether that is biomass, anaerobic digestion or animal feed. Are there any barriers, do you feel, that prevent one really making better use of that and maximising the reuse of food in that way?

Bob Gordon: It is infrastructure. We have seen a lot of anaerobic digestion come onstream in the last couple of years, but I believe that less than a third of local councils, for example, are collecting food waste separately, and again, that has risen very, very fast in the last few years, but the infrastructure that underpins that collection doesn't exist, so retailers have found ways in which to build relationships with anaerobic digestion providers in areas of the country where that exists, but there are still some areas of the country where they can't do that.

Q256 Peter Aldous: What are the constraints preventing that infrastructure?

Bob Gordon: Without going into the detail on it, planning, return on investments, finding suitable places, so you need to minimise your food waste miles, because the energy that you recover from the food isn't as big as you might hope, so you need to restrict your journey times. There are a few things that will limit you, but things are moving very quickly in that area.

Q257 Martin Caton: Do we need a Government strategy to provide a vision and join up policy for sustainable food supply?

Jane Bevis: Yes, and we were moving towards having one prior to the election, and I think we felt that an awful lot of good work had been done in terms of the 2030 strategy and it would be a shame to lose that good work and not pick it up again and build on it.

Q258 Martin Caton: Are you aware of the present Government taking any action to develop such a strategy?

Bob Gordon: I'm aware of some projects. There is the Green Food Project, which is currently just starting with Defra and some of the players in the supply chain, but in Jane's opening remarks we talked

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about a strategy beyond the UK. We need a much stronger definition of what we mean by sustainable food and we need buy-in at least at a European level of how we achieve that. But supply chains are global, and to operate just as the UK might miss some of the opportunities to get some really big wins.

Q259 Martin Caton: Are you in discussions with Defra to develop an overlying strategy?

Jane Bevis: Yes. We would like to have a coherent food policy and work with Defra on that.

Q260 Martin Caton: Would that build on the 2030 strategy or do you think you need to start again?

Bob Gordon: That is what we would like to see, yes.

Q261 Chair: Do you think that is what you are likely to get?

Jane Bevis: We have regular meetings with Defra, the NFU, the FDF and ourselves all in the room together as the whole of the food supply chain, and we would like those conversations to lead on into those areas.

Bob Gordon: I also think it is happening in a slightly different way, so at the Product Research Forum, that is the conversation that we are having, having moved away from—the first agreement was about weight of packaging, then on to the carbon impact of packaging. Now we are talking about the environmental impacts of products, starting with food, so we have essentially come to it, but we haven't come to it from sitting down to design a food strategy. We're just working through as we become more sophisticated in the way we understand the impacts of food and the opportunities for us to reduce that.

Q262 Martin Caton: Does that obviate the need for a strategy, then?

Bob Gordon: No, I don't think it does. It's about 80 organisations, including Government, NGOs, third parties like ourselves, retailers and brands, so it is not an all-encompassing group. It certainly doesn't involve some of these smaller retailers that we've been talking about. Some strategies, some directions and some support there for other players is necessary, yes.

Q263 Chair: Finally on this point, when we have met with some retailers in the course of our inquiry, the issue of waste has come up, and one of the points that has been made to us is that the localism agenda could end up with different local authorities with different waste collection regimes and that could impact quite a lot in food procurement and food policy. Do you have any concerns about that?

Jane Bevis: I think we were in that quite disparate area in terms of policies before localism was invented, if you like. That was what was happening in reality. To a certain extent, we have begun to see a number of local authorities coming together to provide these sorts of services so, for example, in North London, it is not on a single borough basis. It does cover a number of boroughs and that is helpful. We think, on things like recycling and reusing waste, unless you can give a coherent and consistent message to people, it is confusing. We have developed the On-Pack Recycling Label to help customers dispose of their packaging, but there is a big band in the middle that says "Check locally" because there just is not consistent behaviour across local authorities.

Bob Gordon: What we would like to see in terms of local authority collection is consistency of materials collected, but local approaches as to how those collections take place, so there is local freedom to do it in a way that is appropriate for the area, but we have consistency across the UK to facilitate messages, certainly through the On-Pack Recycling Label and through other messages that the retailers give out.

Chair: Okay. I am very conscious that we do have a break coming up shortly, so if I may, on that point I would like to leave it. Can I thank each of you for coming along this afternoon and giving evidence? I hope that you will take an active interest in our report when it is finally published.

Zac Goldsmith: I just wanted to add for the record, the figure is not two-thirds. The figure that I received is 30% to 40%. Apologies for texting—I was determined to get the figure—30% to 40%. I hope you will take that back to the supermarkets and get them to buck up.

Chair: Okay. On that point of qualification, I will close the meeting, so thank you very much indeed.

Wednesday 9 November 2011

Members present:

Joan Walley (Chair)

Peter Aldous
Neil Carmichael
Martin Caton
Zac Goldsmith
Simon Kirby

Mark Lazarowicz
Caroline Lucas
Mr Mark Spencer
Dr Alan Whitehead
Simon Wright

Examination of Witness

Witness: **Dr Helen Wallace**, Director, GeneWatch, gave evidence.

Q264 Chair: Dr Wallace, can I welcome you this afternoon, thank you for coming along and say how sorry we are that you are not going to be joined in the witness seats by Mark Buckingham, who is the Deputy Chair of the Agricultural Biotechnology Council? We ask you to bear with us because what we had wanted to do was to get the two sides of the argument. We shall proceed with both sides, asking you to give your perspective. You may feel able to play devil's advocate as well, I don't know. That is entirely up to you. If we can go straight into the questions. As part of our food inquiry, we wanted to try to get some feel as to what extent genetically modified crops could be seen as a solution to providing sustainably produced food for the world and to hear your perspective on that.

Dr Wallace: There have been quite significant public concerns about genetically modified crops and quite a lot of controversy, so I would start by saying that to me one of the underlying reasons for that controversy is the shift in power, in terms of control over seeds and control over the food chain. The kind of integral properties of genetically modified crops and food mean that the companies involved gain patents that allow them greater control over the use of seed on the farm, which has significant impacts for farmers. It also means that the food itself can be changed in a way that is not immediately obvious to the consumer, so the consumer becomes dependent on risk assessments and regulation, for example, to tell them whether what they eat is safe.

Chair: My concern is to find out to what extent GM food may be a solution to the problems that we face.

Dr Wallace: Along with many other organisations, GeneWatch would be very sceptical that GM has a role to play. In terms of what is happening globally with GM crops today, we have seen some very significant problems arising; for example, in the United States and in South America, with herbicide-tolerant crops, where there has been a significant growth in so-called super weeds, resistant weeds, many different weed species that farmers are finding it very difficult to tackle, therefore needing to use additional, more expensive chemicals and in some cases even having to bring in hand labour. You are seeing a system where farmers are becoming trapped into paying for increasing seed price hikes, increasing chemicals, and also having these very significant problems impacting on their farming. If you apply that system in developing countries, then you have some

very significant concerns about farmers potentially becoming trapped into a cycle of poverty where those kinds of hikes in prices for seeds, and so on, actually have a very detrimental effect on their livelihoods.

Q265 Chair: Before I bring in other Members of the Committee, there seems to be pressures that are driving the whole GM agenda so that it becomes almost inevitable or some people perceive it to be almost inevitable. Could you describe for us what those pressures are that lead people to see this as the only solution?

Dr Wallace: Yes. I don't see the GM agenda as inevitable. Obviously, there have been considerable pressures and promotion of that agenda. We are currently talking about 10% of arable land or about 2.5% of agricultural land being planted with GM crops, mainly in North and South America, with also GM cotton grown in India and China. But recently, for example, you have seen rejection of Bt brinjal or aubergine in India, and also a slowdown in China where the Government has announced that it is going to have a go-slow on GM crops, partly because public concerns about eating GM foods are not restricted to Europe but do occur significantly in other continents. The main use of GM grown today is not in food; it is in feed for animals or in biofuels. About half of the GM maize grown in the United States goes into subsidised biofuels and most of the rest into animal feed.

Chair: I want to understand what pressures there are, which are moving the agenda towards more use of GM in the UK or people wanting to have greater use of GM.

Dr Wallace: There are a couple of different pressures. Obviously, the companies involved; Monsanto, which is still the leading company in the United States, is actively involved in lobbying to expand its markets. In some of the recent Wikileaks cables we have seen evidence that the United States Government has strongly supported that in many ways. We also see the issue of animal feed, which is the main way that GM enters Europe at the moment, where we have to some extent become dependent on imports of animal feed for grain-fed meat, much of which is GM. The costs of non-GM are actually being borne by the non-GM producer, for example, the costs of segregation, which does exert some pressure on the food chain in that sense.

Q266 Chair: Presumably, you would say that the solutions are solutions other than GM. If you could summarise those for us?

Dr Wallace: Yes. The solution is to go back to thinking more broadly about how we create a more resilient and diverse food chain with more local food systems, more agroecology, for example, in terms of a way to improve the resilience of systems. In the United Kingdom, in particular, we can also look at a shift back towards more pasture-fed meat, which is also healthier and much more sustainable than reliance on grain-fed meat.

Q267 Mr Spencer: I am struggling to understand the difference, because you talked about regulation, control and monitoring of food that was GM. Conventional food today is fairly highly regulated and the Food Standards Agency keep a very close eye on whether our food is safe. I don't see the difference between what might happen and that conventional monitoring system. Then you mentioned about the cost of those imports. Today conventionally produced food in Europe is fairly highly dominated by BASF and Syngenta, who control pretty much all of those agrichemicals and imports, so I am struggling to see the difference between conventionally produced food and the GM model you talk about.

Dr Wallace: Yes. First, on the regulation issue, we do have specific regulation for GM in Europe whether you agree with that or not. The underlying reason for that is that genetic modification does allow you to introduce properties into crops that have not previously been in the food chain. At one extreme you can engineer pharmaceuticals or production of industrial chemicals, things that we would all agree should not be in the food chain. Also that process of genetic modification introduces different changes in gene expression, where there is a lot of controversy about whether that can introduce other health impacts, issues of potentially new allergies, and so on. Those effects do at least have to be assessed, although there may be a wide range of views of the extent to which that is necessary. There is essential regulation and also regulation if you agree in principle with the idea of choice; in other words, with the idea that people should be able to continue to eat non-GM either conventional or organic food if they choose to do so. If you agree with that principle, then for example you do have to have a system of segregation, a system of labelling and a system of separation distances if anything is commercially grown. Currently—

Q268 Mr Spencer: To cut in there, just like you do have between the organic sector and conventional food today?

Dr Wallace: What we see with the GM sector is there have been a large number of contamination incidents. Even in the US, which is growing a lot of GM food, there have been incidents that have cost conventional farmers very significant sums of money. When an unapproved experimental variety, or a variety grown just for feed for animals, has ended up in the food chain you get costs to conventional farmers. You also get loss of markets, whether you agree with that or not. For example, with the Canadian flax

contamination incident, organic farmers and conventional farmers lost markets as a result of that contamination. If we did grow GM here that would be a cost to both conventional and organic farmers.

In terms of your second question about control and control over pesticides, the key difference is that we have moved from a system of control on plant varieties to this idea that you can actually patent the seeds. That has given companies like Monsanto much greater control over how those seeds can be used; for example, within their licensing agreements, preventing replanting of those seeds by farmers. That means that, in both Canada and the US, there have been many lawsuits where those companies have tried to accuse farmers of illegally planting seeds, in some cases presumably rightly but in other cases there have been farmers who have pleaded innocence but could not afford to pay the costs. So one of the big concerns for developing countries is that, of course, farm-saved seed is a much bigger part of what they grow on their farms. If you restrict farm-saved seeds, then you can trap farmers into this system where the only seed they can get is much more expensive. In India, for example, cotton seed prices have increased very significantly with GM.

Q269 Zac Goldsmith: Going back to the first question that the Chair asked—which I would love to have been able to put to Monsanto, had they turned up—and that is on the potential benefits of GM. If Monsanto were here now, at a stretch what would they describe or list as the biggest successes in the GM story so far?

Dr Wallace: One of the interesting things about the GM industry, including Monsanto, is they very much like to focus on future benefits of products that they don't yet have. They will tend to talk about salt-tolerant, drought-tolerant crops; for example, nitrogen fixing crops that they aim to develop in the future. These kinds of developments were promised 30 years ago in a report to the US Office of Technology Assessment. They are not on the market. Monsanto's recent drought-tolerant GM variety, on which there is a draft assessment from the USTA that makes it very clear that it is not any more drought-tolerant than conventionally bred varieties that have been created for that purpose. A lot of the hype we have seen and claims of benefits simply do not stack up when you look at what is actually on the market.

Q270 Zac Goldsmith: I am asking you in a sense to play devil's advocate. If Monsanto were here, knowing that you are sitting next to them, knowing that you have access to the information you have just provided, what would be one or two examples that they would be able to confidently put forward? Not futuristic technologies but things that have happened so far over the last 10 to 20 years?

Dr Wallace: Monsanto would argue that farmers in the United States have been planting their herbicide-tolerant crops—for example, their biggest product, the Round-up Ready crops that are tolerant to their own herbicides—and that they would not do so unless there was some benefit to them as farmers. Certainly, there were benefits to large-scale US farmers in the

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short term, in that they did simplify the herbicide regime. It was kind of a one-spray, less labour—therefore, although you paid more for the seeds, you did cut costs in management. But what we are seeing now in the United States is that technology is failing so that farmers have to spray multiple times. You have multiple resistant weeds and so any benefits that they saw in the short term are disappearing. That means they have become locked into a system that appeared good to them in the early days but is now backfiring. You are seeing more and more comments in the US farming press, where farmers are saying, “Perhaps we should go back to conventional breeding, maybe this has been a mistake.”

Q271 Zac Goldsmith: Our inquiry at the moment is that we are looking at food security, sustainability on a very broad scale in Britain and the world. You think the only contribution the GM sector can promise, in dealing with these huge issues, has to be based on futuristic hopes and there is nothing in what we have seen over the last few years that would allow them legitimately to claim a role in the sustainability agenda. I am paraphrasing what you are saying but I am asking a question.

Dr Wallace: Yes. If you look at the market, it is completely dominated by herbicide-tolerant and insect-resistant crops in the main commodity crops, and both of those types of crops have had some short-term benefits for some farmers in some circumstances. But you are also seeing insect resistance being eroded now with the development of insect resistant—

Q272 Zac Goldsmith: Presumably, those things you have just described were designed principally in order to help the companies involved take more control of more of the market, nothing to do with food production in real terms or food security?

Dr Wallace: The whole driver for the innovation system was that desire to patent the products and to gain that increased monopoly control. As a result of that decision, you have seen a very great consolidation within the seed industry where many smaller companies, which would have provided competition in the seed market in the US and in India, for example, have been wiped out of business or taken over. Yes, they have gained that monopoly control and that is a very significant benefit to them.

Q273 Caroline Lucas: Following up on that further. To the extent that there is growing concern about the degree to which industrialised agriculture is dependent on fossil fuel inputs, where does that put the whole GM revolution in terms of the future, presumably looking at rising costs of oil and other inputs?

Dr Wallace: There are many other ways to look at reducing inputs. Hopefully, local food systems is one, and systems that work with nature, in terms of agroecology, and trying to use techniques such as rotations and co-planting, and so on. There are many different methods in which you can reduce inputs without resorting to GM. Further, GM is not a technology that has successfully reduced inputs in any way. In fact, in a great sense its main application has been harmful. Monsanto’s core business is selling

soya and maize to the animal feed industry and for biofuels and, as I am sure you have been looking at the issue in detail, both of those businesses are not sustainable in the longer term.

Q274 Mr Spencer: I wonder to what extent you feel the UK could act unilaterally in trying to put the cork back in the genie’s bottle.

Dr Wallace: I don’t think the UK can act unilaterally. Obviously we are part of a global world, but there are many decisions that we can take in the interests of Britain and many decisions we can take in co-operation with other countries; for example, shifting back towards more pasture-fed meat as I have mentioned. That is not something that is going to happen overnight, but it is certainly a step that we could take to make the whole system more sustainable and also more self-reliant.

To some extent I would also dispute the idea that there is this rollercoaster that is going to take over the rest of the world and make our system unviable, that it is inevitable that GM is going to spread elsewhere. It is a significant problem in the animal feed sector but there is still plenty of non-GM animal feed available. There is no shortage of supply. It is simply an issue of cost around segregation costs.

Q275 Mr Spencer: I wonder if you would acknowledge then that if meat consumption stayed at the same level it is today, and we moved to a pasture-based production system, that would lead to a greater importation of meat products. If that was coming from, say, reclaimed Amazon rainforest, and shipped round the world with aviation fuel, it would not be as sustainable as a more intensive system in the UK.

Dr Wallace: That is a very good question. It highlights that you do have these very difficult pros and cons, balancing and weighing up between these different factors that potentially affect the system right across the globe because of our globalised system now. That is why in my evidence I talk more about the idea of local food systems, of entrusting people involved in those systems to try and make them more sustainable using their own initiatives and using support from policy and Government. I don’t think there is a single answer. I don’t think you can simply say, “Cut food miles,” for example. That is too simplistic a measure. I don’t think you can simply say, “Let’s not have any grain imports anymore.” That obviously would not work. But you can see where the problems are and you can try and develop more resilient, better systems that do reduce dependency, for example, on imported feed.

Q276 Mr Spencer: Would you acknowledge that, in terms of what we have done over the last 10 years in reducing the amount we are importing, we are doing pretty poorly and we are importing a lot more? Those meat products that we are importing are much more likely to have been fed on GM-produced grain than the ones that we are producing in the UK.

Dr Wallace: Both are an issue. So certainly, yes, imported meat products are likely to be fed on GM. But a lot of the meat products are produced here and there are also ways to try and turn that around. One

method we would strongly support, which is being used in other European countries, is the idea of a GM-free-fed label that farmers can use to gain the added value from using GM-free feed, which many farmers want to do and certainly want to have the option to do. That would allow them to gain the market value for making those kinds of choices. The idea of using labelling as a way to drive standards upwards and also to enable farmers to capture that added value would be something that we would advocate.

Q277 Mr Spencer: Can I ask about the social aspect? There is more to this than just environment; there is a social aspect. I wonder where you thought GMOs could contribute socially, or can they?

Dr Wallace: One of the big problems with the industry is the extent to which it can undermine some of the social and economic systems that are in place at the moment. I have already mentioned the added cost to conventional and organic farmers if a neighbouring farmer started to grow GM commercially. If you talk about developing countries, there are all sorts of issues in terms of industrial agriculture moving in and taking over areas of land and people losing their livelihoods and losing their access to land. Finally, GM as part of a highly industrialised system can contribute to this feeling that most farmers and most members of the public are concerned about, about people losing touch with where their food has come from and how their food is being grown.

Q278 Peter Aldous: I have a very specific question and this seems the appropriate slot to put it in. Is the bumblebee a threat with GM in your opinion? I have had that put to me by others.

Dr Wallace: Nobody knows the full reasons for the problems with the bees. It probably seems to be more likely linked to pesticide use, but nobody has a definitive answer at the moment so I don't think anyone can say.

Q279 Zac Goldsmith: Some of the issues I was going to raise have already been answered, so I am going to be brief. Historically, people in Britain and Europe generally have not warmed to GM food. That is one of the reasons, and probably the main reason, why supermarkets have taken quite a tough line. In the evidence that we have been sent by the ABC—the Agricultural Biotechnology Council, for those who do not know it—we had an opinion poll here cited that says that 52% of UK consumers consider GM to be a means of tackling global food shortages. Only 13% disagree, and 47% say GM crops would help farmers deal with increasingly extreme weather conditions—very positive from the point of view of the biotech sector. Are you aware of the polls that they are using and do you have a comment on that?

Dr Wallace: I am not aware of that specific poll, so it is quite difficult to comment without seeing the exact questions that have been asked. Having said that, of course the industry has been involved in a very big PR push to try to convince members of the public that GM is necessary to feed the world.

Q280 Zac Goldsmith: Do you think they are winning in that?

Dr Wallace: I don't think they are winning. They made a lot of headway with getting a lot of newspaper articles, but there is still very considerable scepticism and, for example, if products were put back on supermarket shelves tomorrow, there would be considerable public opposition to that.

Q281 Zac Goldsmith: I am assuming that you believe that there should be a much broader public discussion and debate around this issue than we have had so far and, from the work that you have done, that people do need to be more informed. Is it your view that the current British Government remains sufficiently open-minded on this issue, or do you think that they have been too susceptible—overly susceptible—to the call of the vested-interest lobby groups?

Dr Wallace: That is quite a difficult question to answer at the moment. We had many years with the previous Government where there were repeated attempts to convince the public that they did need to eat GM and that it was the future of agriculture. I would hope that the current Government is going to look more broadly at other options. I am particularly optimistic about the localism agenda and the idea that people can get involved more in growing their own food and in more direct farmer-to-consumer marketing, for example, and that will reintroduce different voices into the debate.

Q282 Zac Goldsmith: Because we are about to move on from GM, one question on that. I am also a strong believer in localism but, as you described earlier, the concern is the problem of cross-contamination. GM is not a local issue, it is not a national issue; it has to be a transnational issue. On that basis, are you worried about the moves towards localisation of the regulatory approach in relation to EU? Is that a concern or not?

Dr Wallace: It is quite a complicated debate, but there have been proposals from the European Union to devolve decision-making on commercial growing to national governments. Those have been very contentious, mainly because they have been linked with proposals to speed up the approvals process centrally and, therefore, to decide centrally that these crops are safe, healthy and environmentally undamaging, which would actually leave member states with no legal recourse were they taken to court by companies or under the WTO. The system very much depends on what powers countries have to make decisions of this kind and to be able to refuse to grow GM crops commercially, should they wish to do so.

Chair: We will move on in terms of research.

Q283 Peter Aldous: How well is food research in the UK and in Europe co-ordinated in order to produce sustainable benefits?

Dr Wallace: There have been some recent improvements. But we have looked in detail about how the agenda promoting biotechnology has tended to lead the research agenda, both in health and in agriculture, beginning way back in the 1980s with decisions taken in the United States but then copied

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in other OECD countries including the UK and also in the European Union. We have seen a system that has privileged the idea that biotechnology would deliver solutions, and you have seen a big shift of research in agriculture into the laboratory, away from farmers' fields, very much focused on genetics, particularly GM but also other genetic technologies, some of which may contribute but which have left enormous gaps in skills, for example, and in investment. For example, you have seen very little investment in agroecology. You have seen the closure of farm extension services. You have lost large numbers of botanists, soil scientists, plant pathologists and experts in all those other fields. We think the system needs significant reforming back the other way so that, for example, farmland management is treated just as seriously as issues like producing a new type of seed.

Q284 Peter Aldous: Should this research be looking to deliver more than the Foresight report's idea of sustainable intensification?

Dr Wallace: Sustainable intensification has been interpreted in a number of different ways. I have a journal paper here, provided by Les Levidow, from the Open University, who is one of the partners who worked with us on the research project that I mentioned in my evidence. You can look at two completely different paradigms—two completely different ways of talking about the future of agriculture. Sustainable intensification has been used to promote the idea that you do need this very significant industrialisation and intensification of agriculture to deliver increased food supplies. In my view, that neglects very important issues about the use of land, about people's control over their own land and their own food supplies, and takes a rather top-down approach. On the other hand, some people have reinterpreted sustainable intensification to mean that you can look at local food systems and that you can take that to mean agroecology and other things. That report was obviously very extensive and it had a lot of very good information in it. But the idea about sustainable intensification came from a computer model that was looking at how much land the world does have and how much land can the world use. We can't make those kinds of decisions top down sitting here in London. It is a decision about land politics, land use and all the different options that are going to vary in very different habitats, different environments and different social environments around the world.

Q285 Peter Aldous: Finally, what is the role for Governments in food research?

Dr Wallace: Governments have a very important role to play. Obviously, in the UK we have direct funding from DEFRA for some research. We also have research councils—mainly the BBSRC now—funding some agricultural research. Government is responsible, both for the projects it decides to fund for itself and how it sets the agenda for those projects, but also for the entire structure of the research funding system. For example, we used to have an Agriculture and Food Research Council. That has been changed to one that is led by biotechnology, so I—

Q286 Peter Aldous: Is that a retrograde step in your opinion?

Dr Wallace: In many ways it was a mistake to make that change. It did coincide with this very significant shift into the laboratory and away from the fields that I have mentioned. How you should change the system to try and recapture some of the value that has been lost is a slightly more complicated question of course, but it does involve looking at whether we have the right institutions, whether we have the right funding structures, whether we have the right patenting system, for example, and trying to change that so it delivers sustainable food rather than a particular kind of technology.

Q287 Mr Spencer: So we are clear, would you condemn those who sabotage field-size experiments, who go out and actually stop those field experiments from happening?

Dr Wallace: I am not going to condemn those individuals. GeneWatch is not involved in that kind of activity, but we do understand why those people feel that they have no other way of intervening in the system.

Q288 Mr Spencer: I wonder how you rectify that, or how you can criticise the industry for moving to the laboratory but then not criticise those who deliberately sabotage field-scale trials when they take place.

Dr Wallace: My criticism about moving to the laboratory was not in relation to whether you do field trials or not. It was in relation to where the innovation is driven, so for example, whether it is about engineering something in a lab compared to changing farmland management systems. That was a slightly different point. I am not sure if that was clear.

Q289 Simon Kirby: You mentioned steps that could be taken in the UK. How do the current European regulations restrict the ability of the UK to take those steps?

Dr Wallace: Sorry, do you mean in terms of innovation or local food?

Simon Kirby: In any way you like, really.

Dr Wallace: In terms of innovation first, we have seen a system in Europe where there has been a very strong push towards biotechnology as a driver for research and innovation. We have seen technology platforms set up, led by Europabio, for example, which try very much to promote this particular agenda in which GM crops play a major role in innovation. Certainly, for example, a few years ago an attempt to set up a technology platform in organics was rejected on the grounds that it wasn't a technology.

More recently, the people involved in that kind of proposal have found the Commission more open within DG Research to start spending more money on local food systems, on agroecology, and so on. But a lot more could still be done to change that system, so that it does look much more at what is good for farmers within Europe and what is good for local food, sustainable food, rather than starting with this top down technology approach.

In terms of local food systems rather than just innovation itself, we did a study—which I mentioned

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in my evidence, the FAAN study—with other groups across Europe, which took evidence from different individuals and groups involved in local food systems. I would refer you to some of the findings that we had from that. One of the key findings was that these people are very often invisible at a policy level, at a European level and also at a UK level, so you need more openness to seeing the consequences on the ground of European policy for small-scale farmers and for local food systems.

Another key thing we found was that there were some positive aspects and particularly the Leader programme within the regional development programme, which is one of the few bottom-up funding schemes where decisions are actually made at a local level. We found that had been relatively successful at promoting local sustainable food systems.

Q290 Simon Kirby: Can I touch on that bottom-up approach. We are currently considering reforming the CAP, and I am interested in how you can protect UK farmers' interests by having a bottom-up approach because clearly different countries have different geographies and different climates. I wonder how you can make it a level playing field.

Dr Wallace: With that particular scheme, my understanding is that Governments have a certain amount of flexibility in how much money they put into Leader or elsewhere, but it was driven by decisions made by local bodies that were set up to consider those issues involving stakeholders at a local level. Our study involved five European countries, and where we spoke to people Leader was mentioned by every country as being a positive approach. I would also suggest to the Committee, though, I am not an expert on the whole of CAP and its implications for all the different farming systems, but there is a website called ARC, www.arc.eu, where civil society organisations have put together a much more comprehensive programme about the Common Agricultural Policy, where they advocate many of the things that I have mentioned in my submission and also some other steps that would support sustainable farming across the EU.

Simon Kirby: That is fine for me. Thank you.

Chair: Unless there are any more contributions, can I say thank you very much indeed for coming along. I am sorry that you were here on your own. We were trying to have both sides of the argument here but we will see how we can follow up. Again, thank you very much indeed.

Examination of Witnesses

Witnesses: **Professor Ian Crute**, Chief Scientist, Agriculture and Horticulture Development Board, **Emma Hockridge**, Head of Policy, Soil Association, and **Peter Melchett**, Policy Director, Soil Association, gave evidence.

Q291 Chair: A very warm welcome to all three of you. I am very pleased that you were here to hear the first session of our evidence this afternoon, which perhaps touched upon some of the points you may wish to add to. We are looking at food policy in the round and we want to start off by going straight into aspects of research, which Mr Spencer will zoom in on.

Mr Spencer: I wonder if you could outline how agricultural research is conducted and directed in the UK and Europe, and how that might compare with China and the US.

Chair: Whoever wishes to go first?

Professor Crute: If you forgive me, I will go into a little bit of history because I think it is necessary in regard to the question. In fact, the previous person that you were talking to made reference to times past.

If you look at the UK, let's say when I started my career in the 1970s, we had what was referred to as an Agricultural Research Service. It was an analogue of the Civil Service. There would have been somewhere in the region of in excess of 25 institutions and we also had an Advisory Service. Essentially, everybody knew their place—basically, Government funded research. It was transferred into an advisory service, an advisory service that was free, and farmers got the advice that they needed. This was the post-war period.

The 1980s was a time when I guess you could argue that the world was awash with food, and in many ways it was. You can see from the point of view of

the graphs on volatility, and suchlike, we had 20 years of significant stability in global markets. Most countries in Europe, most countries in the world—with the exception, I am pleased to say, of China and Brazil, who actually bucked the trend—effectively started to divest themselves of capacity and capability in agricultural research. The UK was probably right in the front of that.

Essentially, we saw the research arena and particularly—let's call it—"the knowledge transfer arena" as a marketplace. We created competition between organisations. Many were closed, many were privatised. Effectively, what we have now are three Government-funded food research institutes; probably four, if you include the Scottish situation, so a very small number. I suppose this was on the back of the concept of market failure, in the sense that you might say markets were working.

But coming back to the actual specifics of the question, in the context of research even the largest farming business in the UK, which is the Co-operative, is not large enough to essentially support a research activity. At the same time, the point that was made in the last session, there was a perception—incorrect in my view—that the way in which research was going to be transferred into practice was essentially using a pharmaceutical model, which was the patenting of intellectual property, protecting that in the laboratory or in the university environment, training good people. The industry, the Syngentas of this world or the ICIs of this world, as it then was,

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would then recruit good people who were well trained, license the intellectual property and produce products, whether it was seeds or agricultural chemicals, whatever it might be.

In reality, what very rapidly happened was that this notion that the pharmaceutical and agricultural sectors of these companies would come together in fact lasted for a very short space of time. Substantially, what the system is still playing to is the notion that public funding should be aimed at, let's say, discoveries that can be protected and translated into economic benefit through the commercial process. We have missed a substantial amount of activity, which is not to do with products but to do with practices. Of course, practices are not easy to translate into markets. They can be through paid for advice, and the 1980s spawned a whole range of small consultancies that still substantially exist, but we can now see at this present time the anarchic situation that you have in England and Wales. It is clearer in Scotland, in terms of the numbers of organisations through which, for example, DEFRA has to work to implement policy and through which my organisation has to partner. It is clear that there is a much less efficient and much less organised way in which we can translate scientific findings into practice, particularly when those scientific findings are to do with changing practice, adoption of best practice and things of that nature. That is the challenge that we have.

Q292 Chair: Peter Melchett, you wanted to come in there, did you?

Peter Melchett: Yes.

Chair: I am happy to bring you in.

Peter Melchett: Thank you. Three quick points: the research agenda, which is important to the future of farming and food production, is the one that Helen talked about, of agroecology and the emerging scientific consensus globally that that is the way forward for farming, and in that context dealing with the resource constraints that farmers are going to face of peak phosphate and increasingly expensive and scarce manufactured nitrogen.

Now, to answer your question, in that context I would say the UK is still dominated—as Helen said—by a biotechnology GM agenda in its agricultural research, and is doing very little, if anything, on this new and important future forward-looking agenda. As Helen said, that used to be the case in the European Union but it is shifting quite rapidly. Certainly, in the research for organic farmers, and the agroecological approach they are interested in, the EU are making very significant strides. I would say the best research being done in this country is funded by the EU in that context.

In my experience, China is taking a much longer-term view than the western democracies and is recognising these resource constraint challenges in a much more far-sighted way than America or Europe. As always, the USA is a complicated and diverse picture with some of the best and some of the worst in this context. The third point I wanted to make was that, if you look at it, it seems to me that England is increasingly out of step with the rest of the world. The pasture-based livestock, which Helen mentioned, is a major factor

in the thinking of the Scottish and Welsh Governments. It is a huge natural advantage that farmers in the United Kingdom have. It is recognised in Scotland and Wales but in my experience not in England. GM was rejected completely in Scotland and Wales as not being relevant, but is still being clung on to, particularly by the last Government, and not shaken off by the new Government here, the present Government in England. In accepting that agroecology is going to be the way forward, England is still being the country out of step scientifically and politically. That is my view of it.

Q293 Mr Spencer: Does the Common Agricultural Policy have a positive or a negative impact on the way that this research is conducted?

Peter Melchett: Sorry, does what have—

Mr Spencer: The Common Agricultural Policy, does it have a positive or a negative impact?

Peter Melchett: The reaction to the proposed changes in the Common Agricultural Policy almost underline my point. There was a much more hostile reaction in England than you have seen in Scotland and Wales, although they have particular problems around historic payments, and acceptance in Europe that, if we are going to pay farmers money and continue with pillar one, the approach needs to be green, which was rejected by Ministers and farming organisations in England. The proposed changes in the Common Agricultural Policy in my view do not go nearly far enough but they do begin to reflect the changing European science agenda in this area.

Emma Hockridge: It was very welcome that there was a specific element of innovation within the proposals that have just come out in October. That does seem to follow on some of the interesting research that has been done at a European level; for example, the SCAR Foresight report, which was put together earlier this year, had a large focus on agroecology in terms of innovation and scientific development and agriculture.

Q294 Mark Lazarowicz: You mentioned the perspective of the Chinese on this issue. Can you explain very briefly what the key distinctions are?

Peter Melchett: At a scientific conference a couple of years ago, I saw two Chinese professors present a paper on a 10-year experiment they had been doing to see whether they could replace a manufactured nitrogen fertiliser with animal manure. They use very high levels of manufactured fertiliser, even compared to the UK and we are one of the highest users in the world. They had succeeded in replicating the yields you can get with manufactured nitrogen with animal manures at very high levels. It seemed a strange trial, coming from an agroecological organic background myself, but the professors explained that they were thinking that fossil fuel scarcity and increased price would make manufactured fertiliser difficult to get. They were well aware of the mineral phosphate reserves running down. China is refusing to export phosphates, as is America and now Russia. They are all buying from Morocco, as we do. This experiment was being done in 10 trial sites all over China. It was a state-funded research. It struck me very forcefully

that they were taking a significantly longer term and maybe more open-minded view of what the future might hold. They weren't under these commercial pressures of, "We have a technology, namely GM, and we have to put money into researching that because that is where profits and business lie." Their attitude to GM has been much more what you would think ours should be. Do people want it or not? On the whole, again as Helen said, they recognise there isn't much of a market and they are significantly cutting down on GM in China as a result.

Q295 Mr Spencer: I want to go back to Peter's dream of pasture-produced beef, because it is one that I would subscribe to and I do think that could happen. I wonder from a sustainability point of view, though, is that enough to feed the nation as we sit here today, and if we are going to end up importing from a much more intensive system somewhere else how sustainable that is globally?

Peter Melchett: It is a good question and you just began to touch on it. I was hoping we could get to this because it is clear to me—and anyone who looks at this in a neutral way—that we can't possibly feed everyone on the planet by 2050 if meat consumption, in particular white meat fed with protein and grain, continues to increase. In fact, if we are going to cut greenhouse gas emissions from farming by 80% by 2050, and we are going to live in a world where there are major constraints on the availability of manufactured fertiliser and mineral phosphates, we clearly need to change demand as well as supply. We could produce in this country—Reading University's Centre for Agricultural Strategies did some work for us—significantly more grass-fed beef and lamb than we do now. But if England and Wales was farmed organically, we would produce about a quarter of the chicken and pork. That needs to be reflected in changes in demand.

But then we have to change demand anyhow, whatever farming system we have. We have to change demand if we are going to stop the rising crisis of obesity and diet-related ill health costing the health service. It already costs £6 billion a year and the economy about £25 billion through diet-related ill health, and that is rising rapidly. The idea that we have a fixed demand and we need farming to respond to that is nonsense. It can't be right, but a lot of the debate in England is based on that assumption and, if you think about it, it is an absurd assumption. Why should demand stay fixed? It has changed radically during my lifetime, which is the interesting thing about demand.

Q296 Chair: Professor Crute wanted to come in on that point.

Professor Crute: I would like to, you might say, put it in a slightly different scenario and particularly in the context of sustainability. Of course, in terms of greenhouse gas emissions, fossil fuel use in agriculture is a trivial component. In the total primary production globally, it is only 4% of our use of fossil fuels. That does mean that about 60% of the food that is being produced in peasant economies are essentially burning biomass for energy, or using draught animals

or whatever, but nevertheless the actual fossil fuel use and the direct carbon dioxide emissions from primary production is trivial. Of that 4%, only 2%—50% of that 4%—is nitrogen fertiliser synthesis. If the price was right, there is absolutely no reason why we couldn't substitute the totality of that with renewable sources of energy.

The bigger issue—and this comes back to the point about pastoral systems—in terms of greenhouse gas emissions is methane and nitrous oxide. It is very important that we have ruminant animals in agricultural systems. Ruminant animals are there because they can eat cellulose that we can't eat. Also, it is extremely important that we have omnivorous animals, such as pigs and poultry, because they can also eat things that we can't eat, including particularly animal protein and they are extremely good waste disposal units. Agricultural systems did not come about by chance. What we have done is break them up and we have created waste rather than integration. Coming back to the issue of pastoral systems, if they are unimproved grasslands they are not terribly sustainable in greenhouse gas terms. We might want them for other reasons, such as looking after the landscape, looking after biodiversity, but the amount of meat you get per unit of carbon dioxide equivalence in methane, would mean that you would not do it. Similarly, if you were feeding cattle for milk production, you might want improved grassland systems, which are essentially high-sugar grasses or refined diets. You might rather better want maize systems that are very refined because when you feed these to ruminant animals they produce much less methane.

Going back to the point about genetics, and genetics is a very important sustainable technology, whether you talk about GM or whether you talk about conventional approaches, we know now that selection in ruminant animals for reduced methanogenic bacteria in the rumen is also possible. So it is important here that we recognise that data is important. It is not a question of bandying words about and things that are seemingly plausible scenarios. Data is important and at the moment DEFRA is spending somewhere in the region of £12 million trying to get better data for the inventory, in terms of greenhouse gas emissions from soil and from production systems. In conclusion, all I would say is that if you look at FAO's data on the sustainability of our production systems in terms of livestock, either beef production or dairy production, by comparison with global figures we are well towards the top end of the sustainability in terms of greenhouse gas emissions.

Q297 Mr Spencer: To a certain extent the crux of the debate is whether, from a global or sustainable point of view, you are better to focus intensively in certain areas of the world agricultural production or whether, from a global sense, to go to a much more extensive agricultural production everywhere.

Professor Crute: As somebody who was incorrectly attributed with creating this phrase "sustainable intensification", the last speaker was wrong; it did not come from the way she thought. It comes from

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international development in Asia, where land is at a premium and land is the key issue. Whichever way you look at sustainability the land footprint is key. I can amplify that in more detail in my hypothesis, and as a scientist I seek the evidence to disprove my hypothesis rather than being an advocate where I am selective with the data that proves my prejudices. My hypothesis is that to farm productively, on the smallest footprint of land that delivers what the market wants, and that is a market-driven outcome or, if you are a subsistence farmer, what your family needs, is actually the greenest and usually the most profitable way to farm. Why is that? It is very obvious, because we need land for all sorts of other purposes, not least as carbon sinks. In this country—England, Wales and Scotland—we have a pitiful 12% of land cover with forests, whereas comparable countries in Europe have 36%. We should be thinking about the balancing of our food production systems, which requires more data. But if we are looking at 70 million people we want to feed as many of those people as we can with indigenous food. Because of these natural processes of denitrification releasing nitrous oxide and methane emissions from animals, there will be an irreducible minimum of greenhouse gas from efficiently produced agricultural systems. The question is whether we can balance that with carbon capture through grassland and forestry, and, if not, should we look at one or the other? Should we be importing from parts of the world that are as efficient as we are, so that we can keep more grassland or plant more trees, or should we be in a situation where we effectively pay for the planting of trees elsewhere? It is important that we think about this as an ecosystem.

Peter has referred to agroecology. I am an agroecologist. I started my life as a microbial ecologist. I am a plant geneticist and plant pathologist—one of the rare breed that Helen referred to. But I am interested in systems, in agricultural systems like a computer scientist would think about a computer system, and what you need is data. You need to understand the optimisation and you also need to understand that there are no win-wins. It is all trade-offs.

Q298 Chair: Peter wants to come in, but before I bring you in, Peter, what you have set out in terms of that vision, where is the drive for that vision coming from would you say?

Professor Crute: As we say in our written evidence, I do a number of things. I was part of the Foresight team that was referred to, and I was recently part of the expert team that did the National Ecosystem Assessment. I would certainly suggest to the Committee that you look at the National Ecosystem Assessment chapters on both grassland and the enclosed farmland. The enclosed farmland is the largest ecosystem in the UK because it consists of such a large area.

The question about: where is the drive coming from? Another job that I do is I am very active with the voluntary industry action plan for greenhouse gas emissions reduction. What we think in this area is that the Committee on Climate Change has it slightly wrong. Not being over-critical, but what they are

doing is they are looking at the agricultural and food sector in the same way as they look at, for example, the manufacturing industry, car manufacture and the energy sector, and they are thinking of it exclusively in terms of reduction of fossil fuel use. We have accepted targets, between now and 2020, for a 3-million tonne-reduction of carbon dioxide equivalence from agricultural production systems, but it is looking at it the wrong way. Where is the drive coming from? The industry needs and indeed will develop the sort of arguments that I have been putting forward, which comes back to a land use issue and it comes back to a balancing issue.

Peter Melchett: A quick response to what Ian said and to pick up on the question. Yes, this has to be looked at in a global context. One of the things that that should tell you is we do not need to produce more food in Western Europe and North America. We probably need to produce less, because our main food problem is people eating too much, getting ill and costing the public and private sectors millions upon millions of pounds or billions of pounds a year. Where we do need to produce more food is in Africa and South East Asia, and so on, and we know that producing more food here, heavily subsidised by Common Agricultural Policy or in North America by their taxpayers, and then exporting it on the world market does not help farmers in poorer countries. It is the opposite; it tends to depress their chances of selling their goods. That is one global thing.

I would say the other global thing is it is useful to look at what science says globally. We have had 400 or 500 international scientists look at exactly the question you raise, and they produced the IAASTD report, which said that agroecology is the way forward. At a European level, the Scientific Committee on Agricultural Research looked at sustainable intensification versus agroecology, the precise dilemma you pose, and the scientists there said agroecology is the way forward.

The final point, on data and grass-fed meat, because I am an organic farmer in Norfolk and we have grass-fed beef. I agree with Ian. We should look at the data. The industry roadmap did that and produced some data that showed that extensive beef had a lower carbon footprint but then in the text said that they had reached the opposite conclusion, which was bemusing. Extensive beef and lamb has a better carbon footprint even if you do not take account—as we don't currently in these calculations—of the soil carbon sequestered in permanent and semi-permanent grasslands. Once you take that into account, you have a significantly better carbon footprint. We deliver all sorts of other public goods. All our national parks in England are extensively grazed one way or another.

Q299 Mr Spencer: Is that per hectare or per kilo?

Peter Melchett: Per kilo as well as per hectare in terms of the carbon footprint. All the carbon footprinting is looking at the kilo product. As I say, if you take into account the soil carbon, which is not currently included but where the science is quite clear, we have huge benefits. But you have all these other wildlife and landscape, social benefits, keeping

farmers on the uplands and the hills; the list of good, positive benefits is almost endless.

Q300 Caroline Lucas: The debate has moved on slightly, but picking up from what Peter was most recently saying about these wider environmental costs and benefits from the different models of agriculture. Peter has just outlined some of the benefits along the extensive agriculture. I just wondered if Professor Crute would acknowledge that, yes, data is important but surely that data has to be seen within the overall model of the food system that you are using. If on the environmental cost side you have a model that is linked to a conventional industrialised model, with huge amounts of international transportation from one end of the world to the other, when you have packaging, when you have the fertilisers, when you have all of the fossil fuel use that is involved in that, would you not then acknowledge that the figure you said of 4% would be significantly higher? While I still have the floor, you said a moment ago as well, before it whisks off somewhere else, we need to provide what the market wants. I just wanted to make the point that what the market wants is actually not a neutral thing. The market is shaped massively by the supermarkets and all kinds of other players; for example, with the supermarkets deciding that people do not want knobby apples or whatever it might be. The market is not some kind of neutral thing, is it? It is hugely influenced by all those other forces.

Professor Crute: Yes, I would not want you to over-interpret what I meant by “market”. What I was meaning there was that it is not sensible to produce, from even your most fertile land, food that has no market. That was the point I was making.

Going back to the other point you were making, of course you are right, and of course Peter is right, that there are all sorts of benefits from different sorts of farming systems. But it is important that we ask ourselves, “What is it we want?” So let’s talk about the uplands. I enjoy the uplands like everybody else. I come from the north of England and it is my home. But—let’s be realistic—if you were interested in greenhouse gas emissions off a particular area of land, you wouldn’t be keeping animals on the uplands. You would allow it to go to natural vegetation, scrub; even bracken would capture you more carbon, or would sequester you more carbon into the soil. So we keep the uplands because they are a completely artificial, man-managed system. We like the look of them, and it is good that people are prepared to live there and manage them in the way we like them.

So if we are prepared to acknowledge that, as part of a system, we count the cost, we work out the cost of the methane production from those systems, we discount the carbon capture that might be there, we value what we value and we recognise we have to pay for that somewhere else in the system if that is what we want. Ultimately, the most important thing in this debate, for any individual business, or anywhere where decisions are taken, is to have a very clear view about what you are trying to produce from land and why.

Coming back to Peter’s point about we need more food in Africa, of course we need more food in Africa.

One of the things that Foresight said very clearly was, “There is an awful lot that can be done by reducing waste and closing this yield gap,” but it is a fact that, if you look at a picture of the planet, there are some parts of the world where it is easier to fix carbon from photosynthesis, where, in other words, food will grow more easily. That happens to be the Amazon, but it is also the Mid-West of the United States and Northern Europe is an extremely good place to do agriculture. If you look at the density of population in South Asia and the Far East then my logic tells me, if you are looking into the future, either food has to move or people will move. We will be producing food in parts of the world where it is easier to produce food or people will move. There is a Foresight report that has just been written on migration, and basically we have to recognise that with climate change it is going to become extremely hard to produce food in some parts of the world.

Q301 Zac Goldsmith: Very briefly, because some of the issues have also been addressed. Professor Crute, you put a lot of emphasis on data. I would like to ask you to respond to the data that Peter Melchett provided in relation to the low-carbon footprint of extensive agriculture because, if what Peter Melchett has said is correct, then your calculations earlier about the value of maintaining these landscapes is wrong. So it would be interesting to hear you—

Professor Crute: I want to see the data.

Zac Goldsmith: You don’t believe the data?

Professor Crute: I don’t believe the data because I think it has probably not taken into account the land issue. If you use more land, simply from emissions from soil you are bound to have more—

Zac Goldsmith: Correct me if I am wrong, but I believe the calculation is that grass-fed cattle in these kinds of environments produce less methane than grain-fed cattle.

Professor Crute: No, they don’t. When grass-fed cattle are compared with maize-fed or silage-fed, the Reading University figures are very clear: grass-fed, particularly on unimproved grassland, per litre of milk or kilo of meat, will produce more methane.

Peter Melchett: On the difference in methane production, the data is still uncertain. For example, there has been very little investigation about the big affect of breeds. So if you take a breed that is well-adapted to unimproved grassland, like our old and native breeds, you will probably get different results. In any event, the alteration in the level of methane isn’t terribly significant. In our view, the way to reduce methane is to have less cattle and sheep and the fiddling around at the edges is not going to make huge differences—certainly not an 80% difference.

Professor Crute: If you have fewer cattle and sheep, I would agree with that. That is where the data is. If you look at the grasslands, you are getting less cattle and sheep.

Peter Melchett: Just to finish my point, we have published data on this—it is in the published conference proceedings. The EBLEX roadmap—the industry roadmap—shows that extensive cattle and sheep, if you take into account the soil carbon sequestered on permanent or semi-permanent

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grassland, will be lower than intensive. There are all sorts of ways of changing this data. You can assume that none of the intensively reared cattle are fed on imported soya, and that will reduce the footprint very significantly, but the reality is that imported soya is the cheapest feed and most intensively-reared cattle, beef, dairy, pigs and poultry are reared on that, and the carbon footprint of that is very high. Grass finished cattle are rare still, where the cattle only eats grass and silage, and they tend to be native breeds, because the modern, high-performance breeds are not suited to that sort of diet. But I think it is clear—and I agree with Ian—in that case, you are going to produce overall less meat. But that takes us back to, why do you assume that demand is unalterable? There is plenty of good evidence that not only do we have to change demand and eat more healthy diets, but that it is relatively easy to do it.

Q302 Zac Goldsmith: Can I follow on that? I suppose on the broader point, my concern is, Professor Crute, when you look at the calculations you are using, you are not taking into account some of the less direct carbon costs, for example. When you were speaking earlier, your previous point about the comparative advantage of where food ought to be grown, where it ought not be grown, and so on, and whether food or people move, it seems to me that you are not taking into account there the issues of national food security, for example, dependence and vulnerability that comes with necessarily being dependent on other countries for your most basic survival. You are not taking into account the fact there are very large numbers of people employed in agriculture, and that that in itself is a good, and have not taken into account some of the wider considerations that Caroline Lucas mentioned earlier. So I would be very concerned if agricultural food policy was based on the kind of crude market analysis, which you have put forward, because if that were to happen we would lose a great deal.

Professor Crute: Again it is my fault, probably, but you have over-interpreted what I was saying. I completely agree with the points you are making about the need for food production systems, which are within national boundaries, and so on. But one of the things that Foresight made quite clear was that trade is an important component of food security. I am not an economist, so to some extent, like you, have read the report and I interpret it in this way, and that is—let's call it—we need more bread baskets because when you get failures, as we did have in Australia a few years ago and obviously Russia last year, the shocks to the market are significant. So you do need to distribute your capability.

The Northern Hemisphere is just hugely important in this particular context, but also you certainly need to enable people living in less advantaged parts of the world to be able to produce the food that they need. One of the problems that we have is that globally we are becoming very urbanised, and poor people living in urban populations in poor parts of the world now buy food rather than make food. So people who are living in rural areas can usually feed themselves through bad times. Poor people living in cities in

disadvantaged parts of the world can't. They buy food. Food price is really important.

That is not quite answering your question but I do want to say that Peter has, in regard to some of the issues about livestock, made a lot of pretty unsubstantiated statements. Data is important. There is an awful lot of arm-waving in this area; there is a lot of sentiment. We like to see animals on grass but when you do the numbers we need fewer animals; fewer ruminant animals will produce less methane. Yes, you can say that will produce less meat. Pigs and poultry, that is a different issue completely, but ruminant animals, yes. But if you have very efficient production systems, which finish animals quickly, and therefore you get the meat production—again, it comes back to the market point, you can manipulate the market, what the market wants—then you are producing more meat per unit of greenhouse gas emissions. That is more efficient. It is a greener approach. We have to do these numbers and reduction of animal numbers is a good way to go.

Chair: I am going to move on to Dr Whitehead, in terms of specific aspects of research.

Q303 Dr Whitehead: Yes. Our discussion seems to have swirled around some of the issues somewhat. But to try and distil some of those various issues, if you were collectively Tsar and Tsarina of agricultural research and a magic Minister were to come along with large amounts of funding for that, what would it look like? What would your priorities be? In your view, what would the goals of that research be?

Professor Crute: Do you want me to answer? Yes. I have had a 40-year career as an agricultural research scientist in the public sector, so I have seen all shades of use. For me, you have to do basic research. Progress and new insights only come from doing basic research, but personally I think, from the 1980s through to almost the present, the pendulum has swung to the extent that people feel complacent in the case of agri-food, complacent about food supply. So investment in, let's call it, more upstream research; we have been very good at winning gold medals in the scientific Olympics in the UK. We are top of bioscience, but I would like to see a balance. I would like to see much more of the current funding proportionately spent on things that were of direct relevance to the sort of the questions we have been addressing. How do you produce sustainable systems? What are the genetic traits that we need to get into our crops, which will enable them to be more resource-use efficient in terms of water and nitrogen use? What sort of animal production systems do we need in order to deal with the issues we have just been talking about? So we have to take these key questions, and waste as well, how we deal with the waste issues.

It is not a question of rapid change but it is a question of rebalancing. There is a big issue, and that is that we have had this 20 years of erosion, so even if there was a major shift in the funding—and the funding is significant—the Chief Scientist came up with a figure of around about £400 million in the system, which is badged as public money for agricultural research. So it is not a small amount of money. But the truth is, if you look around our universities and our institutes,

there are only three Russell Group universities that give a degree in agriculture now. So we would have to build back the capability and bring a new generation of people forward who are motivated not just to do good science—of course we want excellent science—but motivated to produce end points, outcomes that will address these questions. We have young people knocking on the door that want to get into this area now, in exactly the same way as I did in the 1970s on the back of the Green Revolution. This was an exciting place to be. It is an exciting place to be now. We want to bring enthusiastic, young scientists into it, but that is going to require a 10-year project to build back the capacity to train those people.

Emma Hockridge: I agree. Yes. There is obviously an issue in terms of capacity, though. As Helen mentioned before, we have also seen that there has been an imbalance in terms of what agricultural funding has been used for. So we have seen that the research for agroecology, such as organic systems, has been underfunded in recent years. Helen went into some of the details for that. But looking at the systems approach, how we can tackle these problems in a holistic and sustainable manner is going to be very key, as well as that, obviously, with direct research, ensuring that the research is adequately fed down to farmers themselves so that they can use that research efficiently. We have seen an example with some DEFRA funding recently of a greenhouse gas inventory. Looking at the differences there, and looking at the differences, for example, of organic and non-organic systems but not looking at the key area of legumes in terms of comparison to nitrogen fertiliser, just looking at the issues around fertiliser and forgetting that there is a huge and growing swathe of farmers who are not having to rely on that fertiliser. So I think there is a huge amount that can be done there.

Q304 Dr Whitehead: Bearing that in mind, and those are very clear goals, the evidence that we have heard is that not only is that goal not going forward but the research base in the UK has essentially lost pretty much all of its independence.

Professor Crute: Lost its independence?

Dr Whitehead: In terms of the way it is being funded, the way it is effectively now funded from large organisations with particular purposes in mind. Is that a fair description?

Professor Crute: It wouldn't square with my experience. As I say, I have had a long career. I have been director of two institutes, a director of HRI at Wellesbourne, and spent 10 years as a director of Rothamsted, and the percentage of income into Rothamsted, which was a £26 million, £27 million operation and the percentage of income coming from the commercial sector would probably be perhaps 1% or 2%. So I can't square that, not in that context. Of course BBSRC, which was referred to, which is the primary funder, is extremely keen, in fact, it is Government policy to engage in Public-Private Partnerships, where essentially they want to be certain that the research that they are doing is going to have some relevance. In that sense, there are relatively

small programmes. For example, there is a crop improvement club, which is a 9:1 ratio, nine units of Government funding to one of industry funding. There is an animal health, which is similar, but these are to make sure that the research the Government is funding is seen to be relevant and would be used by industry. So I can't see that.

If you look at the total amount of money, not in the UK but if you look at the total amount of money globally that is spent in agri-food, then of course the large corporations, the big companies, their research budgets would make European country research budgets pale into insignificance. Probably the Chinese research budget in agri-food is vast and that would be competitive with Brazil. So I certainly don't buy the notion that in Europe at least—and Europe has almost become a no-investment area for large agribusiness because of all of the regulatory restrictions that are now in place—it is not a place where anybody is going to spend money, because they wouldn't be able to bring a product to market.

Peter Melchett: Ian hit on an interesting point about the British research, which is this desire for a Public Private Partnership and is one of the reasons why the research agenda has been so dominated by biotechnology and GM, as Helen pointed out. So when Ian says the research has to have some relevance, and that is why you have private industry involved, I am afraid the relevance is to Monsanto or BASF or some other GM company. I don't think it is relevant to farmers. After all, there isn't a single GM crop being grown by a single British farmer anywhere commercially. We have had millions upon millions of public and private money put into research on those crops and so far that has been of absolutely no practical relevance to farmers.

However, I don't agree with your question, because of the point I made earlier that EU funding of agricultural research is providing some relief from this relentless drive to biotechnology in this country. We are seeing some projects funded here, which are relevant to agroecological or organic farming approaches, from Europe, but we are miles behind other European countries. If you were an organic apple farmer planting a new apple orchard to supply Sainsbury's, let's say with organic apples, you would find yourself—as indeed happened—importing every single apple tree from Italy to plant in Kent because it is in Italy, Switzerland, Germany and Austria where research into varieties of apple trees, wheat and barley, and all the other staple crops of agriculture that are suitable for low-input agroecological systems, has been developed. I grow seed crops on the farm. We tend to grow varieties that were bred in Germany or Sweden rather than all varieties that were produced in England when my dad was alive and running the farm, because we simply haven't developed suitable varieties for low-input systems. The EU are funding research on both crops and livestock suitable for low-input systems. The BBSRC are not.

Professor Crute: Can I say, with respect to what Peter has just said, get the data. Look at what BBSRC is spending its money on in the plant area. I can tell you that there will be a fraction of that money that will be associated with any of the companies.

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Peter Melchett: I asked BBSRC what they were doing to help organic farmers the other day, and they said, “Oh we have work at the John Innes Centre on nitrogen-fixing crops”. When we looked into it, it turned out to be the idea that you might genetically engineer nitrogen into crops 20 or 30 years away and there is certainly no interest either agroecological or organic.

Professor Crute: Peter, I think your contention was that it was all being done for the benefit of large corporations and that was it. The reality is it is a very small proportion.

Chair: We have both sides of the point. I am going to go back to Dr Whitehead.

Dr Whitehead: I don’t have anything else. Thank you.

Q305 Caroline Lucas: I wanted to ask about the latest trends, in terms of organic farming in Britain in particular but more widely as well. What is happening and why is it happening? What obstacles are there?

Peter Melchett: Globally, in all the key organic markets—and, somewhat surprisingly—the markets have continued to grow through the recession, the US market is now the biggest organic market in the world. It has grown steadily during the recession, quite rapidly. In Europe the biggest market, Germany, has continued to grow or maybe levelled off a bit, but certainly not dipped. Even in Greece the market for organic food has continued to grow. I don’t have the latest data from the last few months but the last I heard it was growing. The French market has grown rapidly in the last few years and continued through the recession.

We are an exception to that rule. The UK market has gone down. The other trends, in terms of increases in land area devoted to organic, tell a similar story. Increases in all the main organic markets in Europe and elsewhere in the world, including North America, and some slowing down of the increase in organic land area in the United Kingdom—but still a growth—partly because there is quite a time lag as it takes two years to convert.

Why is the UK the exception to the rule? Our analysis of this is that it rests on two factors. One is we are quite unique in the food market in having such a high dominance by a small number of multiple retailers, and one in particular, and Tesco is setting the scene for the others. At the beginning of the recession, Tesco did remove a lot of organic lines from their shelves and replaced them with low-cost items and if it is not there you can’t buy it. The supermarkets dominate the organic market in this country to a far greater extent than any other organic food market anywhere in the world that we know of. There retail sales tend to be much more diverse, with a wider range of retail outlets and other direct-sale systems.

The second reason, which may be of more relevance to your Committee, is that most European Governments, if you compare us to other European countries, seem to do a great deal more to encourage people to buy organic food. First, we as organic farmers in this country, in England, Scotland, Wales and Northern Ireland, get lower levels of support for being organic than is the case in any other EU member

state, of all 27 member states. We used to be around the middle, in terms of farming support, about five years ago, six years ago, when DEFRA looked at it for an organic action plan. We are now the bottom, which is staggering, astonishing and worrying, speaking as a farmer, because we are now operating on about the most unlevel playing field you can possibly imagine for a British organic producer.

But it is not just that. If you look at what Governments, like France, have done to encourage ordinary people to buy organic food and making it accessible, it is dramatically different from what successive Governments have done here. If you look at what the Italian Government have done to encourage the public sector to buy locally produced organic food, all school meals in Rome are organic and produced from around the city, for example. In Sweden, the equivalent of our Food Standards Agency encourages everyone in Sweden to spend one day eating to help wildlife, and they recommend people to eat local and organic food, and it is not controversial. There is no argument. Here it would cause a huge rumpus. But then I comfort myself with the thought that recycling rubbish used to be something that only the Danes and the Germans would ever do—“The Brits will never recycle anything.” Then after that it was, “Only the Germans and the Danes will ever have wind farms. We will never have wind farms. We are not like them,” and I think organic is the same. It is about 20% of the food market and land area in Austria, and we will get there.

Q306 Caroline Lucas: I will do a very quick follow-up because I know we are pressed for time. Imagine that we did have some of those nice support mechanisms in place. Can you say a bit more about what potential you think organic food could reach in the United Kingdom? Because there is always the debate, and we have touched on it earlier this afternoon, about how much could you feed everybody with organic and you have explained that we would need to change diets. What else would need to change and how possible could it be?

Peter Melchett: It will come mainly from economic drivers, the cost of fertiliser in particular. Although Ian said, quite rightly, you can produce and manufacture nitrogen fertiliser with renewable energy, it would be significantly more expensive and you would still need something to get the nitrogen out of the air into soluble form, and you will still have the problem of mineral phosphate, where we can’t conjure up more supplies and where our yields are crucially dependent on the inputs of mineral phosphate, particularly in non-organic systems, but also in organic we need phosphate. Ian is keen on data. There is some research published by Newcastle University that shows that, without the addition of mineral phosphate, winter wheat yields would fall to the levels we achieved around 1900, well below the yields you get from organic systems now.

That will be the main driver, and we will—because of price and health, probably more public health signals than anything else—move to diets that contain less meat, slightly less dairy products, significantly more fruit and vegetables. And agroecological and organic

systems can provide that, particularly if we eat more seasonably as well, and, as Helen was saying, more local food. So if you go for seasonality, local, and much lower meat, particularly less white meat, because this feeding of grain and protein to pigs and chickens is an incredibly wasteful process we know, huge numbers of calories in, very little out, and growing those crops has devastating impacts in Latin America. I think then we will produce all food through agroecological methods, much of them organic.

Caroline Lucas: Does Professor Crute agree with that scenario?

Professor Crute: To be honest with you, there is so much stuff there that it is almost hard to know where to start. The last bit about pigs and chickens, pigs and chickens are the most efficient converters. By comparison with a ruminant animal, pigs and chickens are superb converters of what you feed them into meat, so we need more pigs and chickens. That is why the Chinese have pigs and chickens and very few ruminants because they have large numbers of people to feed and they want meat and protein. So that is one point.

Phosphate: there is never any more or any less phosphate in the world. It is not like oil, it just goes around the system. So if you have enough energy you can extract phosphate from seawater. The very first fertiliser that was made, invented at Rothamsted, the foundation of science in agriculture, was the patent that Sir John Lawes placed to produce super-phosphate fertiliser by treating bones with sulphuric acid. So yes, price will determine all sorts of different things but there is going to be no more and no less of any of these things. Like water, water doesn't go anywhere, it is just you have to move it from place to place. So energy, energy is really important. We will be able to do all sorts of things if we have renewable energy. The bottom line is that nitrogen is the driver. We are sitting here, we are made of protein. That is nitrogen, essentially.

If you are going to feed 9 billion people or even 70 million people in this country, you have to have sources of protein. You can get protein from plants. Even wheat will give you 12% protein. So you need to have systems that will generate the quantity of calories and the quantity of protein. You will not do it with organic production systems unless you do one thing, and that is you close the loop, and that is human waste because we are the major source of loss of phosphate and nitrogen into the system. If you can close the loop, definitely you could do it, because we have 55% more nitrogen in the nitrogen cycle since the Haber-Bosch process was invented in 1908. We have plenty of nitrogen in the system. Of course we are producing more because we are allowing it to go out into the ecosystem, into the sea, and so on. But organic systems are as leaky, if not leakier. It doesn't matter where the nitrogen comes from. It can come from a legume; it can come from manure. It leaves the system. It leaves the system as nitrous oxide. It leaves the system as soluble nitrogen into water. So ultimately, collect human urine, collect human excreta and re-circulate it. The Chinese did that but of course

they have moved away from that, because they were killing their population, but in a modern context—

Chair: Did you want to add to that, Peter?

Peter Melchett: I can agree with Ian about closing the loop with phosphates. Yes, we will have to do that and we have said that publicly before now. Nitrogen being the same, whether it is fixed by legumes biologically or manufactured, I think scientifically that is wrong. Recent published scientific peer-reviewed research in North America and an article in *Nature* or *Science*—I can't remember which now; I think in *Nature*—both of which show, first of all, that nitrogen fixed by legumes will not suppress carbon in the way that manufactured nitrogen has now been shown to do, and that it is a lot less leaky. You get much more taken up by plants than you do with manufactured nitrogen.

Professor Crute: With respect, Peter, I am a plant scientist. A plant only sees ammonium ions and nitrate ions. A plant can't discriminate where those nitrate ions and ammonium come from.

Chair: I don't think we are going to be able to discriminate between the different sets of research.

Q307 Mr Spencer: I am struggling to understand then why the Soil Association doesn't support research into trying to create a grain that is nitrogen-fixing.

Peter Melchett: We have scientific and principled objections to the use of GM technology. But we have no objections, for example, to a marker-assisted selection breeding. We would not see it as a priority because organic systems with rotations have plants that fix nitrogen quite satisfactorily. I grow two years of clover and I can grow four years of arable crops after that. It is not a major priority for us. Don't forget, the rotation delivers not just nitrogen for subsequent crops but disease control and a number of other benefits; weed control and disease control, which means you don't have to use oil-based pesticides. If people came up with wheat or some other crop, which fixed nitrogen or didn't require so much nitrogen, and where that trait hasn't destroyed some other characteristic of the plant, which is what most scientists suggest would happen—not all, I know Ian might not agree, but even many geneticists would say that—then of course we wouldn't have an objection.

Mr Spencer: Do you acknowledge the only way to get there, though, is through more research?

Peter Melchett: We are very anxious to see more research, particularly more research relevant to farmers and to the future of food production, as identified by international and European scientific, Foresight, and other reports. But that is different from the sustainable intensification agenda in this country. There is a real conflict there, as you say.

Chair: We might go on to what we were going to do on European research. Zac, you wanted to come in, and I want to bring in Martin Caton. I give everybody warning, we are expecting a vote fairly shortly.

Q308 Zac Goldsmith: I will be very quick and I hope the answer is quick. On that point of research, there is a problem obviously that whoever pays the piper calls the tune, on the whole, and most of the

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money that goes into research into GM comes from the industry. The research that you have just been describing, where do you think the money should come from?

Peter Melchett: Organic farming has a big disadvantage over non-organic, and this would apply to agroecological as well because farmers generate their own fertility, their own disease and weed protection in the soil and in the system. There are relatively fewer inputs, therefore relatively fewer people flogging new stuff on the farm and therefore relatively fewer businesses with a commercial interest in developing the system, which is why in Europe you see public money from the European Union and other European Governments going into this sort of research. That is very helpful to us as well but it would be even more helpful if we had some of that research being done in the UK.

Q309 Martin Caton: The Farming Regulation Taskforce reported this spring and, based on that, Ministers have highlighted a number of areas where they hope to reduce regulatory burdens, but hopefully also maintain high standards in environmental outcomes, health and welfare. Do you welcome this or are there dangers in this sort of deregulation?

Peter Melchett: We warmly welcomed one of the first recommendations from Richard Macdonald's review, which the Secretary of State accepted, which was that organic farmers should not have to be separately assessed under the Nitrate Vulnerable Zone regulations, because organic farming already delivers sufficient protection from nitrate pollution. So, at the launch of the report and subsequently, we welcomed that. On the whole, in terms of the Macdonald review, we haven't seen anything in it that has given us cause for concern. The wider review of regulation, and what might happen to regulations to protect wildlife, is still unclear. But the Macdonald review we welcomed and, as I say, we particularly welcomed the one recommendation we made being accepted.

Q310 Martin Caton: Can I turn the question on its head. Is there a role for more regulation to encourage more sustainable production?

Peter Melchett: My feeling would be that the way in which CAP reform is moving, where people are being given public money in large quantities, as farmers are, that being linked to the delivery of some public goods rather than just being paid to be a farmer, as the pillar

one payments currently do, is a much more effective way of going. Just introducing good agricultural and environmental conditions, as a condition to get your pillar one payment, removed blockages on rights of way all over this country without any controversy. It had been a matter of intense controversy and debate for decades before that. It is difficult for the Commission to find measures to link pillar one payments, which are relevant throughout the EU with very different farming systems. But given the unwillingness of Governments to move all of pillar one payments to pillar two, which is what we would favour, this seems to be the next best option and there is plenty of scope for delivering public goods without needing to have further regulations, in my view.

Professor Crute: If I can just quickly comment. We all recognise the need for safe food and we need to ensure that we have systems in place that, as far as it is possible to do, deliver safe food. We obviously have certain things that we want to ensure, for example, that the environment is protected. But we also have to recognise that in Britain we have farm assurance schemes, and the farm assurance schemes are extremely robust. They will develop and they will evolve, and so we are rather good at working as an industry to, in a voluntary sense, respond to market requirements and to deliver that through these sorts of things. So regulation should always be the last resort. It doesn't mean to say you shouldn't use it, but regulation should always be the last resort, and ultimately farm assurance, voluntary schemes and market driven assurance, is a very powerful way of getting industry to align behind good practice.

Chair: Okay. I just wondered if Peter had—

Peter Aldous: We have covered it.

Chair: We have covered most of it. If that is the case, can I thank you very much indeed. I am glad we have got through the business before the vote. Can I just say there have been a couple of references to data, and obviously if any of you wish to provide further data, in view of what has been said in the course of the proceedings this afternoon, we would be very pleased to receive it.

Professor Crute: I will read the transcript. I shall look at some of the things that Peter said. I will look at some of the things that I said and if I think that I can provide data, which either refutes or supports and it is objective, I will try and submit it.

Chair: At least the invitation is there. Okay. Thank you. All three, thank you very much indeed.

Wednesday 7 December 2011

Members present:

Martin Caton (Chair)

Peter Aldous
Neil Carmichael
Katy Clark
Zac Goldsmith

Mark Lazarowicz
Mr Mark Spencer
Paul Uppal
Simon Wright

Examination of Witnesses

Witnesses: **Dr Jennie Macdiarmid**, Senior Research Fellow, Public Health Nutrition Research Group, University of Aberdeen, **Sue Dibb**, Executive Director, Food Ethics Council, and **Professor Elizabeth Dowler**, Trustee, Food Ethics Council, gave evidence.

Q311 Chair: Can I welcome you to this afternoon's session of the Environmental Audit Committee? Dr Macdiarmid, if we could start by you introducing yourself and the work that you are involved in, and after that, Ms Dibb, if you could introduce yourself and your colleague and the work you are involved in, very briefly if possible. Dr Macdiarmid.

Dr Macdiarmid: I am a senior research fellow at the Rowett Research Institute of Nutrition and Health at Aberdeen University, and part of our research is focusing on looking at healthy, sustainable diets, so trying to bring together the nutritional requirements for a healthy diet, but also taking into account the impact this is having on the environment. We have done a piece of work last year, funded by the WWF-UK, which is called *Livewell*, and what we did with that was to look to see if it is possible to create a diet that would be compatible with health issues and be compatible with environmental issues. Basically, what we showed was it can be compatible, but you have to look at these things together because it could also be that you could have an unhealthy, sustainable diet. We are very keen that we make sure that when we are looking at what we need for a healthy, sustainable diet we keep on the agenda of both health and the environment, because obviously obesity is a huge issue and we need to be addressing these two issues together. So, in the Public Health Nutrition Group that I work in we are looking at issues of obesity but also the environmental impact of the diet in the UK.

Chair: Thank you very much. Ms Dibb.

Ms Dibb: Thank you. I am Sue Dibb. I am the newly appointed Executive Director of the Food Ethics Council. I have a background in sustainable development with the Sustainable Development Commission and on consumer issues with the National Consumer Council. The Food Ethics Council is a charity that provides independent advice on the ethics of food and farming, and our aim is to create a food system that is fair and healthy for people and for the environment. In pursuit of this aim, we research and analyse ethical food issues, for example, our Food and Fairness inquiry brought together civil society, business leaders, academics, policymakers to show how a fairer food system is a prerequisite for meeting wider sustainability and health goals. We mediate between stakeholders, we develop tools for ethical decision-making and we act as honest brokers in public and policy debates. For example, with our work

on sustainable livestock with the WWF we have engaged with the farming and food sector to show how it is possible to have dialogue and productive discussion around sensitive ethical and sustainability issues.

Our 14 members of the Food Ethics Council are all leaders in their relevant fields—Liz is one of those and I will let her introduce herself in a moment—and are appointed as individuals, and they bring a broad range of expertise to our work, from academic research through to practical knowledge of farming, business and policy. I would like to thank you for inviting us here today.

Chair: Thank you. Professor Dowler.

Ms Dibb: Liz, would you like to introduce yourself?

Professor Dowler: Yes. My name is Elizabeth Dowler, usually known as Liz, and I am a professor of food and social policy at the University of Warwick. For many years, I worked in the global south on food and inequality and nutrition. I am a public health nutritionist, registered, but I am now in a sociology department, working much more on the social and policy aspects of the food system. I have always worked on inequalities and I suppose issues to do with justice, though I must confess in nutrition departments I don't usually use that language very much. I have been a member of the Food Ethics Council for about seven years, and I am one of the trustees. Lately, I have returned to working on food security, both in the UK and with colleagues across the Atlantic, as well as looking at international issues.

Chair: Thank you very much indeed.

Q312 Mr Spencer: I just wondered to what extent you think it is possible to communicate to consumers what they should be eating and how they should be consuming. I am conscious that at the moment on a label we are trying to get fat levels, salt levels, the social impact of where food is coming from through fair trade, welfare of farm animals, sustainability, whether it is local. There comes a point where you need a sheet of A4 with every piece of food to explain all the information that we are trying to get across.

Ms Dibb: It is a very good question. I think it depends where you want to put the onus on where the decisions are made, how much onus you put on the consumer and what onus you put elsewhere in the food chain to help make those choices for consumers much easier choices. Of course, food labelling is part of that

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picture but we certainly would argue that it is important that all players in the chain look at what they can do to help make it easier for consumers, because I think if you are going to put all the emphasis on consumers trying to make individual decisions based on labelling that is going to be very difficult. You are not going to get that kind of transformation towards healthy, sustainable diets solely through labelling.

Of course, there are other sources of information. I was looking on Government websites just yesterday to see the latest information that Government is providing to the public, and we don't have a clear source of authoritative, accessible, usable information to the public, in my point of view, and not just to the public; what are the messages that we are giving to business as well? While there has been a huge increase in awareness and interest in the issues of sustainability, including healthy diets, we are far from being able to communicate that, and I think we have taken a step backwards. One of the projects that was coming out of *Food 2030*—which in our view was a really important milestone that we got to that unfortunately the coalition Government doesn't seem to be taking forward in the same way—was called the Integrated Advice to Consumers. It is how can we join up this advice, how can we ensure that the information on healthy eating is also dovetailing with information around environmental or other forms of ethical sustainability? We have gone backwards on that; that just isn't happening. I was looking to try and find that information.

We no longer have the Food Standards Agency giving information on nutrition, which was very consumer-friendly. That role has been taken away from the FSA. We would argue that that is an area where we certainly need more integrated, joined-up advice from Government to help consumers and to give clear messages to business as well, because we know that businesses want to play their part. There is a lot of interest and we have seen progress, but business is also saying that the Government's strategy and progress towards sustainable, healthy diets seems to have stalled, and our work with businesses say that they would welcome that too.

Do you have anything you want to add?

Dr Macdiarmid: I think just supporting what you are saying is that they have had quite clear dietary advice for health, but the danger is if the advice is coming from two different sectors (health and environmental) there could be certain parts of information that is conflicting. This will add even more to consumers' confusion, and possibly switching them off. So I think it is absolutely critical, whether it is labelling on packaging or whether it is Government advice, that the environmental sustainability, the ethical issues and the nutrition issues for health are brought together. There is a danger of all sorts of unintended consequences if nutrition departments are talking for health; environmental departments are talking, say, for climate change as one example; and there are obviously issues around ethics that could bring up other things. If you put some of them together, there are some potential win-wins, as people describe them,

but also there are definitely some unintended consequences that could happen.

Q313 Mr Spencer: Linking on to the back of that then, how do you see those different Government Departments communicating with each other? Do you feel that there is adequate communication between those separate Government Departments to try and solve this issue?

Dr Macdiarmid: At the moment, no.

Professor Dowler: No, not at the moment. That is not the sense that I have. A few months ago I was a member of the Council of Food Policy Advisors for DEFRA, and one of the rather remarkable things about that grouping—which had cross-sectoral representation on it, including industry, of course, as well as consumer groups—was that we took evidence and related to and worked with a whole range of different sectors. Although we were located in DEFRA, our remit was to work with DEFRA, we talked to other people as well, let's put it like that. Out of that work, one of the things that we recommended was a mechanism for enabling exactly this kind of collaboration and understanding to take place, and there were some early moves in that direction. But again, I have to admit I have very little sense of what has been happening in the last 18 months.

Ms Dibb: In fact, the high-level Cabinet Committee—sorry.

Q314 Chair: Sorry, before we move on, Dr Macdiarmid, you mentioned win wins. Do you have examples of that that you can provide to the Committee? It doesn't have to be now, but in writing.

Dr Macdiarmid: We can provide some in writing. One might be reducing meat but it depends what sort of meat you are talking about reducing. There is evidence that for health it may be beneficial, because it contributes a lot of saturated fat to the diet, but again it depends on the quality of meat. This is where you may be asking for the same thing, but if you are not speaking to each other, a reduction in meat could be healthy and beneficial for the environment but also if the wrong meat products, for example those with a high fat content, are then put into the diet you end up with an unhealthy, sustainable diet. So you need the expertise from the nutrition side and the expertise from the climate side to come together. I am a nutritionist, I have expertise there, but I need to work, when I am doing my research, with colleagues who work in climate change and environment, because that is not my background. That is where we are taking our research now, and we have to make this multi-disciplinary.

Chair: Thank you very much.

Q315 Mr Spencer: I would like to move that on to say that kite marks are a very easy way of communicating with consumers, and obviously Freedom Food would suggest that it is the use of the little red tractor, or there has been a lot of debate over pie-charts or traffic lights for nutrition. Nobody currently does a sustainability kite mark. Would that

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be a good idea, and whose job would it be to implement that and to police it?

Ms Dibb: There has been some work to try and explore whether you could bring all these separate issues together into one kind of mega-label, sometimes known as an omni-standard. Quite clearly, there are challenges in doing that. I think we need to continue to try and understand the main drivers to helping people have healthy, sustainable diets. At the moment, I think the jury is out on whether it is practical to do it and something that would be welcomed by consumers. So I don't think anybody is ready to roll one out, put it that way. But the conversation about how best to engage on a diversity of issues and to help people understand perhaps what are the priority issues, you know, give some support to consumers faced with fair trade or organic or animal welfare friendly, for example, or climate friendly, and we don't believe we have a label for climate friendly. Carbon labelling is something that I think many people recognise sounds like a good idea, but is that helpful on products when we are talking about whole diets here?

It is not easy for consumers, and therefore much of the research and evidence shows that some of the biggest differences can be made by retailers, for example by choice editing, by taking the least sustainable products off the shelves. We have seen that in regards to sustainable fish, a really tricky issue for consumers or any of us to get our heads around about what is sustainable, what isn't, even at what time of the year. It is complicated, and there has been a lot of publicity around sustainable fish, and it has largely come from media interest. Hugh Fearnley-Whittingstall, for example, and a lot of the other campaign groups have shown just how retailers and other food suppliers can make those choices for us. So when any of us go into a supermarket, at the fish counter we have more chance now than we previously had of being reassured that what we are buying is sustainable and I think we have to think about whether that is perhaps going to be a more effective way to help consumers than struggling too much with the perfect label.

Q316 Simon Wright: We have had evidence from a number of producers that in some parts of the food supply chain the financial returns are not being passed down fairly onto primary producers. I wonder if you could comment to what extent are we paying a fair price as consumers for the food we eat, and along the supply chain are the financial returns going where they should be going?

Ms Dibb: This is something the Food Ethics Council looked into with our Food and Fairness inquiry, and we very much received the same message as obviously you have heard. We are pleased to see that the policy response has been to set up a UK Groceries Code Adjudicator. We feel that that is going to be an important step forward, but of course we don't yet have that and so it is important that that is moved forward, the legislation is moved forward and that is introduced as soon as possible. We do have some concerns about whether it is going to be as effective as many of those in the supply chain would like it to be. We do need to ensure that they can conduct

effective inquiries themselves and that they do have some sanctions that if the codes are not being kept to that they can levy fines, for example. We don't want it to be a toothless watchdog. It has to be able to work, because this is an issue that has gone on for such a long time now. We know that farmers and other small producers are not the most powerful players in this market, and this could go some way to addressing that.

In terms of broader sustainability issues, if those producers knew that they were going to get a fairer return then they are likely to be able to invest and innovate in sustainability themselves. One of the real barriers at the moment is that where the difference can be made at the production level, that if those producers are really being squeezed, they just don't have the capability to do that. So, very much agree with the point that you have made that we still have a long way to go on that and obviously all eyes are going to be on the Groceries Code Adjudicator.

Professor Dowler: I don't have very much to add to that, I'm afraid.

Q317 Simon Wright: In resolving those issues along the supply chain, is it an inevitable consequence then that the consumers are just going to have to pay more?

Ms Dibb: Do you want to answer that?

Professor Dowler: I would have said not necessarily the case at all. There is quite a bit of work being done trying to estimate this, and obviously it is a complex issue. Understanding what the factors are that set prices at the moment is not that straightforward, for instance not only drawing on FEC work but also talking to others who have tried to get a handle on if people were to eat food that was more in season, would it be cheaper in season and more expensive out of season, because that is one of the things that sometimes we have heard from Government and others, or if people ate food that had been produced in certain ways and so on. When you try to look at how prices do vary by season already and where that money goes, it is very opaque. It is quite difficult to get a sense of where money is going to, except it doesn't seem to be going to the producers.

It is not at all clear that if food was produced by means that were more environmentally sustainable that they would necessarily add more costs as far as the consumer is concerned. It is an assumption that is very often made. I think the jury is still out on that. I also think it would vary a lot from commodity to commodity or food to food. It is very difficult to generalise on that. You probably expect me to say that as an academic, but in fact food is complicated, as you will know only too well. Some complex supply chains, the ways in which value-added and prices are set, shall we say, by the major supermarkets—who after all retail 80% of the food at least in the UK—don't necessarily reflect the full costs of production, including whether or not there are environmental factors within that. I think that is particularly true for processed foods, which again is a huge part of the diet. It is difficult enough to trace it through for fresh produce like meat or vegetables or fish or something like that. It is extremely difficult to do it for ready-meals and biscuits, cakes and so on, the foods that

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form the major part of most people's shopping baskets. My real sense of this is we don't know whether there will be increases—a lot of people say it will, but I don't feel we know.

Q318 Simon Wright: What about the National Ecosystem Assessments and the measures in the Natural Environment White Paper? Will those lead to changes in prices?

Ms Dibb: I think the idea that we need to more effectively value our ecosystem services is an important one and it is good to see that acknowledged, and the White Paper clearly does that. I think the Food Ethics Council has a question as to whether that can be done always through financial market mechanisms, and the ethical issues about whether you can always put a price and whether you always should put a price on the natural environment. Should we only see the natural environment as something that has an economic value? As the Food Ethics Council, we are obviously considering broader issues than that so we do have a question about whether a purely market-based approach to valuing into the system would work. Clearly, we are a long way from that. It is important, and DEFRA has done a good job in starting that conversation and wanting to take it to broader considerations of what a sustainable economy could look like. We have an opportunity now to redefine, potentially, the kind of economy that we want to have, given that our current one doesn't seem to be working that well. So I think there is an important opportunity and it is an important conversation and, yes, we do need to think how that might apply to food. We are a long way from knowing what that might mean, but it is an important conversation to have.

Q319 Zac Goldsmith: I want to jump in very quickly on this. Besides the Groceries Code Adjudicator, or whatever it eventually is, and beyond the comments you have already made, what specifically can the Government do? What levers does the Government have access to to boost the income of sustainable farmers in this country, because they are facing a pretty rocky time? So, beyond ensuring a fairer price in supermarkets, what specifically can they do? The reason I ask is that in 20 minutes or so we have the Food Minister, Jim Paice, and we would like to put some of your suggestions to him.

Ms Dibb: I think what we need from this Government is some clear signals about its intentions in relation to UK farming and particularly into sustainable farming in the UK, and supporting and boosting production of sustainable food in the UK. We have heard some talk around this but my understanding, from talking with others, is it isn't entirely clear what that means. We don't have any kind of action or delivery plan, as far as I see, at this point of time. I come back to the point I made earlier about *Food 2030* being a vision for sustainable food production in the UK and sustainable food consumption. In order to develop a roadmap for what that would mean in practice, and a delivery plan, I think the first thing that this Government needs to do is to either own *Food 2030* and develop its delivery plan, including the production side and how it is going to work with the UK farming industry on that and

support farming industry on that, or develop its own, but at the moment it is not doing either.

There are some very practical things—for example, extension services. Farmers previously, after the Second World War, had a lot of advice and support on increasing intensification. That is not where we are these days, but they don't have advice and support on moving towards more sustainable production systems, and that is one area. I think we need more research to understand what we mean by sustainable production. The *Foresight Report* talked about sustainable intensification. I don't know what that means to most of you, but I am rather confused as to what it means, and in terms of being explicit about what that means and understanding what we mean by that—

Q320 Zac Goldsmith: I take your point completely but in terms of the tools for achieving—just accept for a moment that there is a vision and assume there is a consensus on what sustainability means and what kind of future—where is the most obvious toolkit? Is it CAP reform? Is it public food procurement? What are the areas where the Government can have the most immediate impact, in your view?

Ms Dibb: I think they are both important.

Professor Dowler: Both of those, but I was going to say something about public procurement, which I was thinking about as you were speaking. There are examples in other countries of government commitment to sourcing from local communities and enabling some of the regulatory structures that are inhibiting, for example, small producers to collaborate and co-operate, because they don't have sufficient economies of scale to be able to meet—I hesitate to go into this since it is not my expertise—for example, abattoir standards. I know there were good reasons why abattoir standards were raised and why it became a very heavily policed system, but one of the downsides of that was that a lot of small meat production suffered quite a bit and a lot of small livestock sectors were hit by that, simply because they could no longer reach or sustain local abattoir systems. So that would be just one very small example of something that enabled much more local food networks and linkages to build up. I know already there are things like that going on under things like Making Local Food Work and the community food links that I just mentioned.

There has been quite a lot of interesting work done, particularly in the West Country, on enabling, for example, schools to procure together, hospitals, care homes to be able to organise local procurement, which also reduces heavy goods transport and builds up resilience of local economies, but there is no structure to enable that to continue. It is all being done on big lottery money and on very temporary, hand-to-mouth, small, piecemeal opportunities, and I think there is a big opportunity there to do something much more imaginative and on a much grander scale through the public procurement system.

Q321 Zac Goldsmith: Just one point, I don't want to take up too much time, but I 100% agree with you, and it is a mystery to me still why it is so piecemeal. We did an experiment in my constituency in

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Richmond, one part of it, Richmond Borough, where they have saved since last year a considerable amount of money, and they have done that by raising the standards. We did it deliberately to show that it is possible, not only within budget but even with less money, to provide children at schools with better quality food. We were awarded a silver standard by the Soil Association and per capita expenditure has gone down. So everyone wins; there is no downside. What puzzles me is this Government and the previous Government's resistance to generalising that, to ensuring that what is the exception could become the norm. I am interested to know why you think that is.

Dr Macdiarmid: Can I just add one thing? We are talking about producing food, agriculture and so on. I think we need to think of this all the way through to what the diet looks like as well and what does it mean in terms of health, because what we do with the food, perhaps what part of the animal we eat and how it is raised may vary how much fat is in it. So I think we need to not just think about sustainability in terms of food production but look at what effect that will have on the health of the nation. We have an enormous problem with obesity in this country and various other health issues. I would urge this joining up to make sure what is being done in maybe the primary production stages is then following through to make sure that it is not having unintended consequences on health.

Q322 Chair: Dr Macdiarmid, I think there was consensus that a sustainable diet does not need to be more expensive. Does a healthy diet need to be more expensive?

Dr Macdiarmid: Not necessarily, no. Again, there is no one healthy or sustainable diet. It depends how you put it together and we have done some work where we have looked at creating diets and using them in studies and, no, they don't need to be more expensive. It is maybe the one area where there could be more advice given on how to make up diets that would be healthy and be sustainable. So, it does vary.

Q323 Mr Spencer: I wanted to draw your attention to some of the contradictions. You talked about encouraging producers to move to a more extensive, less intensive system, and that will clearly be a benefit. You then talked about, I suppose, an example of sustainable beef production would be moving to an extensive system with more traditional breeds, which actually have more marbling in that beef, which is a contradiction. But I think the real challenge is that if we encourage British farmers to do that, which inevitably they would do, then with examples like the regulations over pig production and stalls and tethers we then allow imports to come in and compete, which aren't on the same level and it undermines the sustainability of the whole UK production.

Professor Dowler: Can I comment on the fat story? I think you are right that it looks like a contradiction, but I see absolutely no reason why it needs to be. There is, as I am sure you are aware, evidence that in more extensive ranged beef, and particularly

traditional breeds, the quality of the fat that is in there is not as damaging for health as it is in the more intensive production systems. I think there is growing evidence on that, although as an academic of course I would argue, adding to the previous comments, that we don't have enough evidence about those things. I am not saying you have an idea and go and look for it, but what I am saying is there hasn't been a huge amount of research done on it but what there has shows quite promising things.

The second point, that Dr Macdiarmid has already made, is that both general health advice and "environmental sustainability" diet advice is to eat less meat than we on average currently do and to have beef much less often but from a more traditionally extensive sourcing would not be detrimental either to the environment or to human health. It is the regular consumption of beef that involves cereal rearing, intensive rearing and particular sorts of breeds which probably contributes to high saturated fat diets.

Q324 Mark Lazarowicz: Although I fully accept that a sustainable and healthy diet does not need to be more expensive, in fact some of the measures that have been suggested to encourage healthy diet would have consequences. There have been suggestions, for example, of fiscal measures, so-called fat taxes and all those other kind of measures as well. It is very hard to escape the conclusion that certainly in the short term at the least the consequences on those on the lowest incomes will be most severe. That is partly because of cultural and other issues, but simply because the poorer you are the more of your income goes on food and therefore, if you increase the sum people pay, people are going to be affected by it. Do you think that kind of fiscal measure, for example, is justifiable?

Ms Dibb: I think we are already seeing food price rises anyway, and one of the messages from our work is that the policy of cheap food is at an end. It is no longer a legitimate policy objective. It has been the way in which policy has driven the competition in the retailers—

Q325 Mark Lazarowicz: Absolutely, I accept that, but the point is some of the measures lead to even higher increases than some people can pay. That is one of the criticisms made of that kind of approach, if that is something you support. Maybe you don't support the idea of fiscal measures to encourage a healthy or more sustainable diet. I am just wondering what your view is on that issue.

Ms Dibb: If the intention is that those fiscal measures encourage behaviour change then presumably you are not being hit by those taxes if you are choosing something that is healthier and more affordable. That is the intention of taxes in that sense, to create behaviour change, to shift behaviour change.

Professor Dowler: If I could comment further—

Q326 Mark Lazarowicz: I do agree. I think the practical consequence is over a period of time; it would not be that people suddenly change their diet. That is the problem, isn't it?

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Professor Dowler: But it is because we are approaching it, if I may say so, from the wrong direction. The assumption has been, the assumption that is built in, is that people on the lowest incomes, and on relatively low incomes too in various sections, can get by on food that is very cheap. Food that is very cheap by and large is high in the wrong kind of fats and sugar and often salt as well, but it is also often the only food that is available in places where poorer people live. It is perfectly true that a healthy, sustainable diet need not cost more, but that depends where you live and it depends on what kinds of shops you can get to, how much time you have to cook if you are holding down two jobs. You can't juggle these things. So I think we need to have a much clearer, more nuanced and a much sharper response to low income and poverty and whether or not people can afford to eat decently, rather than saying, "Oh, we can't do these things" or, "We can't have a fat tax" or, "We can't do this, that and the other because poor people will be hit". Poor people are being hit already pretty severely and we constantly try to address it by making food cheaper instead of addressing the fundamental issue of multiple areas of deprivation and low incomes.

Q327 Mark Lazarowicz: Yes, that was the point of my question. Perhaps you would be better off addressing the other issues as the priority rather than just putting in a blunt measure. *[Interruption.]* That is fine, I will not pursue it.

But in that case, if I can go back to an earlier point about the role of food suppliers and food retailers and so on, how far should they be either encouraged or just made to, by regulation, restrict the—choice is the wrong word because it is not a question of choice, it is a question of what things they choose to sell. But should they be encouraged or made not to sell unhealthy food in some way, either by regulation, direction or by some encouragement and, if so, what would that kind of measure look like in practice?

Ms Dibb: We have some good examples of how that has already started to happen.

Q328 Mark Lazarowicz: Can you give us some examples?

Ms Dibb: Yes. So, for example, if we think about the work that the Food Standards Agency initiated over reducing salt in products—that was retailers as well as food manufacturers—by setting targets, by being open and transparent about the progress that companies were making, I think that was very successful. I am not quite sure where it has got to, because I think it has now moved to the Department of Health and I think perhaps there is not so much transparency on how that is being taken forward. It is a really important piece of work that has reduced the health impacts to UK consumers from high levels of

salt in their diet, more work to be done obviously. That is one example.

If we think about the Courtauld Commitment, for example, around packaging and waste, which Wrap lead on, a very important way in which companies, including retailers, sign up to reduction targets and get support and are making a real difference. You could call that a kind of responsibility deal. In my view, it is perhaps at the better end of practice around responsibility deals. It is a voluntary agreement, but there is a huge incentive for companies to be involved in that, because it is open and transparent and they are competing on meeting targets in that area.

Chair: Thank you. A very brief last question from Paul Uppal, which I am afraid I will have to ask for very brief responses to as well.

Q329 Paul Uppal: I think it will be very brief. I represent an urban constituency, and something I only very recently became aware of—and I wanted to ask all three of you whether you are aware of this—is an initiative called Food Dudes. For the sake of time I will let you expand upon that, because time is very pressing, just your thoughts on ways we could perhaps take this one. We have some markedly successful results in Wolverhampton in terms of academic results.

Professor Dowler: In the interest of brevity, it is one of a number of health promotion activities or health education activities that have addressed young people's responses to marketing of essentially unhealthy foods by using similar sorts of techniques to market healthy foods, and to engage with children and young people in changing the way they think and feel about food. My sense of it is that it is quite an expensive intervention in terms of its requirements of input, but it is not something with which I have had direct experience. I have only read evaluations of it and seen it being attempted and rolled out elsewhere. My general feeling is that anything that enables children and young people to feel better about food and to think that vegetables are a good idea has to be a good thing. I hope that is a helpful response for you.

Dr Macdiarmid: But I think we need to do more than just these initiatives, because there is no one solution, so we do need to have a number of different things. There is lots of small, good initiatives that are working in some places that are not probably being evaluated as much as they could be to see if it is having an effect on diet and various other things and health, but I think we need to look at a whole raft of things across Government to really make a big difference.

Chair: Thank you very much indeed. I am afraid we have to conclude now, the Minister is waiting outside. Thank you for your evidence. I am sure it will help inform the report that we eventually produce.

Examination of Witnesses

Witnesses: **Rt Hon James Paice, MP**, Minister of State for Agriculture and Food, and **Sarah Church**, Head of Food Policy, Food Security and Food Sustainability, DEFRA, gave evidence.

Q330 Chair: I welcome you, Minister, and Ms Church, to this meeting of the Environmental Audit Committee. We have limited time so I am going to get straight on with the questions, if that is agreeable.

Mr Paice: That is fine with us.

Chair: Okay. The *Foresight Report* suggests that sustainable intensification of production is the solution to the impending food crisis. How does the Government define sustainable intensification?

Mr Paice: In a nutshell, Mr Caton, it is producing more and impacting less. That is the slightly glib but simple, straightforward answer. It means that we have to produce more food, which is the key message out of the *Foresight Report*, and it means more per hectare or per unit of productivity, but we have to do so in a way that minimises our impact on our natural resources, whether they be physical resources like fossil fuels or certain mineral fertilisers or impact on biodiversity or climate or anything else. That is the great challenge that we have to pull together.

Q331 Paul Uppal: I would like to elaborate on the research side of things about deficiencies or gaps you think we can highlight and pick up on. I am very interested in specifically how you think the Government can identify these gaps or deficiencies.

Mr Paice: I am going to probably surprise you to start with by saying that I don't believe Government has all the answers, but I am sure that if Government took upon itself the responsibility of deciding where all the research should be spent, we would get it wrong. I think it is very important that Government works closely with the industry, with the ancillary sectors and the research institutes to identify what we need to do. I think the Technology Strategy Board brought in by the previous Government is proving to be very successful. I think it was a significant step forward, and the sustainable agriculture platform that we sponsor within that we have opened up for project bids and we are now on the second tranche of bids to be considered. That board then considers and brings together all the knowledge and the expertise, way beyond what Government on its own can have, in order to assess those projects. I think that is the best way to do it, by working in partnership with the industry, with the Agricultural and Horticultural Development Board, with whom I see an increasing role in particularly the applied end of research and in knowledge transfer, but also with the research institutes and others in deciding where to go. Have I missed anything with yours?

Ms Church: No, I think that is absolutely right. The only thing to add, of course, is that we operate in a global food system and we are very interested in forming research partnerships with EU and international partners as well to try and lever in as much kind of joint funding as possible to tackle the issues.

Mr Paice: We are involved in a number of global alliances and so on.

Q332 Zac Goldsmith: Can I jump in there? How confident are you that when you go to the industry, when you go to the sector and you build up the sounding boards that you have just described, that you are really taking the pulse of the industry as a whole and not just the big and more intensive end of it? How conscious are you of the need to consult smaller operators as well, some of the smaller organisations that have less of a platform but should have just as much of a voice?

Mr Paice: I am pretty confident that we do, because when we take the voice of industry it is taking the voice of industry representative bodies and they certainly do not represent one end of the spectrum, any end of the spectrum. Whether it is the National Farmers Union or whether it is the Tenant Farmers Association or whatever, they represent farmers across the spectrum. Also there are individuals involved in these discussions and in deciding which projects to fund and they will be there with their own knowledge and expertise, not representing anybody, but they are certainly not there as representatives of perhaps industrial agriculture or anything like that.

Q333 Mr Spencer: I wondered to what extent you see genetic modification playing a role in delivering more sustainable food.

Mr Paice: We believe that genetic modification certainly does have a role to play. We do not believe it is the answer to everybody's challenges and it is the sole way of resolving the sustainability problem, but we equally don't believe you should reject the technology out of hand. Clearly we need to make sure that any individual advance of technology is properly tested for human food safety and environmental impact, but if a particular development passes those then it becomes much more an issue for the marketplace and for consumer choice, and quite clearly we have been through a long period when consumers don't want to know. Some people are suggesting that is beginning to change, but we deem it a matter for consumer choice once Government has properly fulfilled its regulatory role to ensure that whatever is released for commercial use has passed the necessary stringent tests.

Q334 Mr Spencer: I wonder if you would recognise that it therefore needs more public debate and more open discussion, and how Government could facilitate that discussion.

Mr Paice: I certainly think it needs a much more open debate. Like a lot of things, the debates tend to get focused on sometimes some fairly extreme views and you lose the sort of centre ground of a debate, which is where it ought to be held. If behind your question is that Government should be leading that debate then I am not so sure I would agree with you on that. I think it is for the industry, the farming industry, the food industry, because they are the users of this material and they will identify whether there is a real role for it, and of course the retailers. Public trust in what the supermarkets put on their shelves is

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immense, and all the studies show that if something is stocked on the supermarket shelf the consumer assumes it is fine.

Q335 Mr Spencer: I am sure the industry would say that it is very keen to do trials and get involved and prove that this technology has a role to play, whether that is a large or a small role, but of course they would say that it is very difficult to do that in the atmosphere that exists when people want to try and destroy those trials and prevent the evidence coming forward. Does Government have a role in facilitating the ability of the industry to hold those trials without interference?

Mr Paice: Yes, of course, because you are into the issues of law and order there and once Government authorises trials—and we have recently authorised one set of trials—clearly Government has a role to ensure that what is then a lawful activity can be carried out. I strongly condemn all those who wish to intervene and destroy those trials, because I always take the view that if GM is as bad as some of those people believe it to be then isn't it better to have a trial and prove it. Are they afraid of proving it?

Q336 Peter Aldous: Minister, if I can go back to the beginning, and we talked about the goal of sustainable intensification and I think you described it as a challenge. Do you think it is an achievable challenge?

Mr Paice: It is achievable if you are trying to describe it as a specific point in time. I would argue that it is like the word "competitiveness". It is something you are always trying to be better at. You never get to that sort of point when you can say, "Hallelujah, we have reached it, we have done that, got there". I think there will always be an argument that you could be more sustainable, but certainly I do believe it is possible. We have already seen dramatic advances over the last few decades. The plant breeders will tell you that they believe the current genetic capacity of wheat, our main crop, has the potential of something like 14 tonnes a hectare, whereas to get 10 tonnes is a good yield today. It is the technology to exploit that capacity that is important.

I think the intensification but doing so in a more sustainable way. The use, for example, in that context of precision applications of fertilisers and pesticides reduces inputs, is better for the environment and may well lead to enhanced yields.

Q337 Peter Aldous: Would you agree that the rate of advance of increasing yields has slowed down in the last, say, decade or decade and a half?

Mr Paice: Yes, it has.

Peter Aldous: You referred to 10 tonnes of wheat. People were joining the 10-tonnes club 15 years ago, and they have not moved on from there. Why do you think that is?

Mr Paice: I think there is a combination of factors. To start with, the farming industry for some years has been pretty demoralised. I think that is changing. Some people argue that farming went through its recession when the rest of the country was doing very nicely. I think that is a factor. The second factor is that certainly there were very much lower prices of grain and the farmers did not see the benefits of

investment in new technology or the benefits of spending money on research or anything like that. The debate we have just had on GM was a factor, because the whole row in the late 1990s about GM spread beyond just GM to discouraging multinationals from investing in research in this country. I don't think it is one issue. I think that there is a raft of issues that have caused it but, as I say, the belief is that the genetic capacity is there. We have to learn to exploit it.

Q338 Peter Aldous: One last point, would you agree that what some people might describe as the dismantling of the state support, whether it is in the form of ADAS or the MLC, did not help?

Mr Paice: The MLC is a separate issue. It was not dismantled; it was brought together within the AHDB, so I do not think that is a fair issue. I think the issue of advice and the role of ADAS is a fair one. ADAS still exists but not as part of the state arrangement and, yes, we can look back and say that that was arguably the wrong thing to do. I think what matters now though is that we ensure that farmers do have access to good advice. There are a range of sources of advice, obviously commercial companies in the pesticide chemical industry and fertiliser industry; most big land agents now have their own specialists; there are independent agronomists; you have the role of the AHDB who have a lot of advisors, particularly in the livestock sector. So there is a range of them.

We are doing some work in-house at the moment to see what we can do, not to intervene or interfere but to try to ensure that farmers know where to go for advice. It is the work my colleague Lord Taylor is working on, the concept of developing more demonstration farms on private farms so that farmers can have access. Much of the research that is being done is not readily being taken to the farm gate for the farmer to use, and that is an area we need to spend more time on.

Q339 Zac Goldsmith: On that point, you were asked why the sector was demoralised around 10 years ago, and around that time there was a moment where the number of farmers was dropping by about 10% a year, the total number of farmers we had dropping catastrophically. I wanted to clarify because I can't believe that you believe that is as a result of the GM backlash or the anti-GM backlash in this country. Do you really think that was a significant part of the reason why so many smaller family farmers were going out of business?

Mr Paice: No, I am afraid that is not what I said either. What I said was that the GM backlash meant that a lot of big organisations who do the research in plant breeding left the country, took their research elsewhere where they felt—

Q340 Zac Goldsmith: How would that have contributed to some 10% of smaller family farmers going out of business in the West Country? I am asking you to clarify so that we don't go away and misquote you.

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Mr Paice: I did not say that that contributed to the numbers of farmers going out. The question I was asked was not about the number of people going out of farming. The question I was asked was why we have not increased our wheat yields for 15 years, and I said part of that was demoralisation, part of it was the fact that the research companies were going abroad because of the GM furor, and the other factors that I mentioned. But farmers going out of business is a separate issue, and my response to you would be that that was very much the feature of economics at the time. Wheat was down to £70 or £80 a tonne.

Q341 Zac Goldsmith: On the issue of GM, what do you believe should be the role of GM? You said it almost certainly has a role to play. What role do you think it has to play in this country?

Mr Paice: GM is such a broad term that you can't answer your question, with respect, directly by saying it has a role to play. GM is a technique, which could be used in a whole raft of different ways in terms of increasing crops' ability to grow with very low water inputs, which not only has a role to play in the warmer parts of the globe but potentially more in this country as we get more and more water stress. Obviously there are nutritional alterations. You have a lot of work now going on in raising, for example, Omega 3 levels in certain plants. There are issues to do with flavour, issues to do with shelf life, all of which have moved on from the early stages that were purely about a resistance to a particular herbicide glycoside, so I think there is potential for the role of it in many ways. Conventional plant breeding techniques using the latest science but without using GM can deliver some of those. It is not for me to say that this is what it has to do or this is what its role should be. I think we have to say to the industry, "Feel free to investigate how it might help. Come forward with your proposals". We, as Government, have the regulatory role to ensure that any GM development is properly tested before we allow it to be used commercially and then it is for the market to resolve.

Q342 Zac Goldsmith: On that point, on the trials that you mentioned, what are we hoping to discover from the trials that have been authorised at the moment? What are the questions that are being asked?

Mr Paice: The principal purpose of these trials is the environmental impact, what in early days was sometimes called gene escape, the potential for the GM plant to cross-pollinate with some wild species that was suitably related, impacts on biodiversity in the area. If you go back to the trials that have been completed, where we obviously know more about it, the maize trials that were done, I am guessing around 10 years ago, where if I remember rightly six different GM varieties of maize were tested in the field conditions and only one of them was approved—in fact that was then withdrawn from the market, as it happened, but it was only one—they looked at the impact on insect populations. If I remember rightly, the main reason why the others were rejected at that level was because of impact on insect populations.

Q343 Zac Goldsmith: What work has been done either directly or indirectly by Government to look at the health impacts of some of the novel crops?

Mr Paice: That is a matter for the Department of Health rather than for me. Anything that falls within the definition of novel foods has to get consent from the Food Standards Agency. The most recent issue, of course, was the row about a year ago over clones, which is slightly a separate issue. But novel food regulations are quite clear, that they need permission to go on the market, and the Food Standards Agency, which is accountable to the Department of Health, is responsible for ensuring that.

Q344 Zac Goldsmith: The work will have been done, so the trials that you are talking about now and any subsequent trials, there will be tests conducted and overseen by Government, if not paid for by Government, looking into the potential health impacts?

Mr Paice: Yes.

Zac Goldsmith: But not by DEFRA?

Mr Paice: Not by DEFRA, no, but there is no way we would allow a GM crop to be commercialised if it had not gone through those tests.

Q345 Zac Goldsmith: I am going to ask one more, if I can. I am sorry to jump in, but you prompted me by mentioning cloning. I am not going to go down that road because we have already had the dialogue about that. But the final question is is there an absolute commitment there in relation to labelling? You said this is an issue ultimately of consumer confidence. If consumers don't want to eat the stuff then there is no market for it, it won't be imposed upon them. Your position historically has always been pretty firm on honest and clear labelling. That is an absolute commitment from you that that will remain the case?

Mr Paice: It is the law.

Q346 Neil Carmichael: One response to the question that Peter triggered off about the plateauing of production is, of course, the influence of the MacSharry reforms and subsequent reforms in the CAP. They moved the pressure away from production quite sharply, and coincided also with John MacGregor's observation in 1989, I think, that we had a peak of output in terms of self-sufficiency, and of course we started to drift down after that, which leads me on to my question. If we are going to be focusing towards protecting the environment and paying farmers for that through the CAP, are we not in danger of certainly having a sustainable agriculture, because that is what it would be, but in terms of output an insufficient agricultural production?

Mr Paice: It is an extremely valid question. I think you need to see it against where we started, the *Foresight Report* and increasing global demand. Basic economics to me tells me that if demand is rising then prices will rise accordingly and that will then draw up supply. Prices will continue to rise while there is a shortage of supply. It is against that background that we believe this new set of reforms for the CAP should be seen. Unfortunately, I don't believe it is being properly planned. There is no mention of the Foresight

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work or any similar work in the Commission's proposals. But if you accept that background, which I personally believe strongly in, then you can see the attraction for farmers whose income will be much more, as we move away from direct payments over a period of time—but I believe it is inevitable—from producing food.

Yes, public support will be there for the non-market goods, public goods. That is why I think it is the right way to go because that price stimulus, I believe, will be there. Some would argue that the trend is already beginning to establish of rising commodity prices; we have seen big spikes in food inflation, although it has levelled again at the moment. I think you would argue that that itself is demonstration that the market will respond and that farmers—not just in the UK, but across Europe and elsewhere too—will respond to that increasing demand.

Q347 Neil Carmichael: How would that include, say, upland farming, a subject that we had a fascinating discussion about last time we met as a Committee?

Mr Paice: I think we have to accept—I accept anyway—that upland farming is in a relatively unique position. It is not just about producing food, although I think it is important, not food itself, and obviously it is a very good source of breeding stock for cattle and sheep for lower down the hills, for lowland farmers. But it also has a vital role to play in our ecosystems and, as you are probably aware, we published a National Ecosystem Assessment earlier in the year, before the Environment White Paper, and I strongly believe that we will see developing over a period of time mechanisms by which you can pay upland farmers again for public goods for which there is no market, such as the water retention in the peat, massive benefit to the environment; the carbon retention in the peat; biodiversity in plant life all up there. The uplands have a huge contribution to make to our wider wellbeing. We need to build on the ecosystem assessment to find ways of valuing them and then to reflect that in how we, as we always have done and continue to do, provide extra funding for farmers in the uplands.

Q348 Neil Carmichael: There used to be an old maxim, "Profitable farmers are responsible farmers", or words to that effect. I used to be a farmer myself so I take that label kindly. What I wanted to probe was the next-ish element of this, which is obviously commodity prices, because you referred to those as the driver. They are clearly international now, that is obvious, and they have a fair degree of elasticity. I was wondering how we think British farming, if it is going to go down a sustainable route, will be able to cope with those pressures, which are brought about by change in commodity prices but certainly very high ones, but by extension clearly inputs might be high as well.

Mr Paice: Inputs indeed are going up quite considerably, but that comes back to my earlier point that if input prices are rising at least as much as output prices, then there is no incentive to produce more. The incentive to produce more is when it becomes more

profitable to do so. The issue of—my mind has gone a blank, I am sorry. I do beg your pardon. Please repeat the question.

Q349 Neil Carmichael: Basically I was worrying about the effect of commodity prices on farming's ability to respond to—

Mr Paice: They are global, as you rightly say, although there are variants, particularly in terms of the commodity. Obviously liquid milk tends to be much more domestic, because it is very expensive to move long distances. Milk powder is clearly a global commodity. On fruit and vegetables, transport is a big issue, so again it is not necessarily global. Grain, is clearly entirely global. Beef is pretty global. I think it is fair to say, and I would not want to hide the fact, that volatility is going to be an increasing feature. It always has been. Those countries in the world that have always operated close to the global market—and of course we haven't; since the last world war we have always been under some form of a protectionist regime—have been used to very considerable swings in commodity prices.

There are two or three mechanisms that have to be available. The first one, which was discussed quite a lot at the last G20 summit, is the issue of transparency so that we know where food is in the world, what has been produced, what stocks there are, so there is disincentive for ridiculous speculation. Secondly, that you have a liberal market. The last thing you want is what happened last year, when Russia suddenly banned exports. That sort of thing destroys a fair marketplace. The third thing is market instruments, which of course are available in many commodities now on the futures market. A lot of farmers, and their co-operatives as well are increasingly using the futures market to reduce volatility.

Q350 Neil Carmichael: Certainly the market is much more sophisticated and I think that is a big step in the right direction. I certainly hope that farmers and traders are fully cognisant of those changes. But if I was a dairy farmer in my own constituency I would be wondering to myself, "They are talking about a rise in commodity prices in a sustainable agricultural world, but I can't sell milk above peanuts". How do we manage to engineer a situation where the dairy farmer is getting a price that is reasonable and compatible with, say, Europe in that international framework?

Mr Paice: I tend to agree with you. The dairy sector in the UK tends to fly in the face of everything that not only have I said but most other people would agree as well, or indeed of normal market behaviour. In my view, it is because, firstly, 50% of the milk consumed in this country is consumed as liquid milk. That is almost unique in the world, that level of consumption. As I said earlier, we import or export very little liquid milk and most of what there is is over the Irish border because of the costs of haulage. Secondly, the other 50% of what we produce goes to processing cheese, butter, yoghurt, and so on.

I am afraid that the record of the dairy industry over the last 20-plus years, and indeed before that, has not been a particularly good one in terms of innovation,

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modern production systems and high investment in new plant. It is changing. There are some really good examples now. You have the Davidstow factory in Cornwall, which is state of the art. You have Müller state of the art yoghurt factory in Shropshire, and there are others. They are changing, but in the intervening period our market has been taken over by overseas products; 25% of all milk product consumed in this country is imported, which is crazy. We are the best country in Europe, outside Ireland, for producing milk off grass. We can do it. We have the natural resources. I am not just blaming the processors. I think it is a whole series of issues but that is where the fundamental problem is.

Neil Carmichael: One last question—

Chair: I am not having another last last question. We have a lot of policy areas that we need to cover and I would like to move on. Mark Spencer with one question and then we are going to go back to the CAP reform.

Q351 Mr Spencer: I wanted to revisit sustainable intensification and whether you saw that as something that operated within the UK or globally. There is an argument to say that you should not put six metre grass headlands in the Fens or in Lincolnshire because agricultural culture in that part of the world is productive and we should squeeze as much out of that little bit of the world as we possibly could. I wonder how we are going to balance that, if you like, at the same time leave our farmers competitive globally. You can make an argument to say that we should import all of our beef from South America, where they can feed it with genetically modified maize at much lower cost and ship it round the world and feed us cheaper.

Mr Paice: My reading of the *Foresight Report* and the conclusion I draw from that is that no country in the world can opt out of its responsibility to try to improve increased agricultural production. The report very clearly demonstrates that there is a limited amount of extra land that can be brought into production, it illustrates the climate change impact on some of the existing world's farmlands, which will be pretty damaging to production, and I think it therefore becomes incumbent on all of us to try to increase production. But you are right, it has to be sustainable, and there is an element of balance on your specifics, of course. You can argue that, yes, a six foot headland in Fenland is highly productive soil but equally in the Fens it is almost certainly against a water course and if, as a result of farming that six metres, you pollute the water course that is not sustainable in the long term. So you have to find the right balance, and I believe we are headed in the right direction.

Q352 Mark Lazarowicz: On this question of direction and which way we are headed, we talk a lot about sustainability, we talk about it indefinitely, but in terms of practically how we get there, how do you hope the current CAP reform negotiations will achieve that? Is sustainable intensification the talk of the table in Brussels when you go there?

Mr Paice: No, regrettably.

Q353 Mark Lazarowicz: How can it become so? What are you doing to make it happen?

Mr Paice: In direct terms, the Secretary of State and I are investing a very considerable amount of time in the negotiations in terms of building relationships with other countries which have a similar outlook. We are currently developing proposals of our own to be positive rather than simply negative, that we do not like what is being proposed. Therefore, we are trying to influence as much as we can the direction of the talks, and that includes as well, as you will appreciate, the European Parliament now who are equal players in the new arrangements.

In terms of the negotiations, I think we are doing all that we possibly can to achieve that. We have met with the Commissioner himself to discuss some of his proposals and point out why we think they are not appropriate and particular challenges they would cause in this country over, for example, stewardship arrangements. But we also believe very much that we need to refocus what the CAP reform is about. There is no doubt that part of what the Commissioner is trying to do is to make the direct payment a permanent feature of farming policy in Europe. We believe that is the wrong approach. We don't think we can get rid of it today or tomorrow but we do think that the background—I have talked about Foresight and so on—creates an opportunity where we should be setting out upon a path towards phasing it out. That means we should be using more of the CAP's resources to promote competition, to promote innovation, in some parts of Europe to perhaps do some farm restructuring, much as happened in old Europe back in the 1970s, all of it focused on a modern competitive agriculture for the middle of the 21st century.

I am afraid much of the current proposals are about basically stagnating the industry in its current form. I don't believe that is right either for food production or for the farming industry. I think your first comment concerned the difference between what I expect and what I hope. I have a horrible expectation that we are not going to see a big leap forward at the end of this reform, which would have been the same as last time, which was a major reform. As Mr Carmichael has said, the MacSharry reforms before that were major reforms. At this stage I am much less optimistic about this one.

Q354 Mark Lazarowicz: I must say, I am not so sure about not even being a great leap forward. I think I can pick up hints of a great leap backwards, at least reverse it in terms of some of the direction. Is that a fair comment?

Mr Paice: I think it is perfectly fair that that is a—I do not think it will be as bad as that but, given the proposals that are on the table, it could end up like that.

Mark Lazarowicz: Perhaps if I might make an observation, Chair, to which I do not expect necessarily a response, that if there were discussions taking place with the European Union about various reforms at the European level, maybe it should be on the agenda of the UK Government as part of the package rather than perhaps others that are in the

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discussion. Unless you wish to respond, I will leave it at that.

Q355 Simon Wright: Does sustainably produced food have to cost more for consumers? You referred to the National Ecosystem Assessment and the Natural Environment White Paper; what impact will they have on prices?

Mr Paice: They do not need to have any impact at all directly on food prices. I think the challenge we have is how much of the cost of producing food—you could argue is how much of it is in the price itself anyway. Obviously the actual price that the consumer pays is not just involved in the raw material, what the farmer gets, but whatever processes the product goes through before it gets on the shelf and, of course, most food goes through a lot of process. So there are all sorts of other aspects about the food price—the shelf price—compared with the farm gate price of the raw ingredients.

The second point is that there are many issues. Water was an example I used earlier, where arguably that cost is not internalised yet, and we may need to. Yes, ecosystems are important but I think the advantage of the ecosystems assessment will be much more that we can more readily put a value on those things for which there is not a market. I mentioned earlier water retention, carbon retention, things like that, biodiversity. Therefore the Government of the day will be in a better position to value those in terms of how you provide other funding to the industry, or not just to farming but to others, as payment for those ecosystems, if you like. I don't pretend to be a brilliant economist, but I am not sure there is an easy way of internalising the impact on an ecosystem into the food price. It would only really be done if it was done across the world, and that is why I think you have to look more at how you can use other mechanisms to fund the cost of the ecosystem aspect, as I say, through stewardship or whatever.

Q356 Simon Wright: We have had evidence, particularly from primary producers but others as well, that the financial returns are not fairly distributed along the length of the food supply chain. We have heard suggestions earlier today that the Groceries Code Adjudicator could have an important role to play. How soon are we going to get the adjudicator?

Mr Paice: The strict answer to your question is that you would need to ask the Department of Business because it is their legislation. However, I can assure you that DEFRA, and indeed the Department of Business, are very anxious to get that legislation through. As you know, they published the draft Bill and it has been consulted upon. As I understand it, the Departments are ready to go as soon as we can find the time in the Government timetable. I had better not say any more because I would be straying way outside my remit, but I gather the issue is more to do with the amount of work in the Upper House than it is in our House.

Simon Wright: Right, but you are actively—

Mr Paice: Very much so.

Q357 Simon Wright: Coming back to some of the issues that Neil Carmichael raised earlier, can you ensure that farmers at all levels will have access to the investment needed to shift to sustainable production where that investment is required?

Mr Paice: I don't think I can give you guarantees. It would be a very rash thing, but that is our intention. It is another reason why—and I have not mentioned this yet—in the reform of the CAP we would like to see a bigger proportion of the CAP in what is called Pillar 2, which is where we could not only assist the environment, as we do at the moment, but we could step up our investment or support for farmers' investment for competitiveness, innovation, energy saving, all these different technologies. We believe that is a far more effective way of helping the industry face the future than simply sending them a cheque, hopefully on 1 December, which is when most of them got it this time. Not all of our colleagues around the European Ministers' table take that view, but we are working hard to achieve it.

Q358 Mr Spencer: Should the Grocery Ombudsman be able to take representations from trade bodies such as the Food and Drink Federation, NFU or CLA?

Mr Paice: He should be able to take representations of specific cases, yes, and that, as I understand it, you will be able to do. What I do not think the Department of Business is very keen to do is to open it up that the trade body, for example, could simply say, "We think you should look into a particular overall issue". Obviously, the other part of the adjudicator's concern will be to make sure they are not just looking into vexatious claims but to genuine problems with the implementation of the code.

Q359 Zac Goldsmith: Can you tell us what role the Groceries Code Adjudicator will have in ensuring the producers get a fair price for their produce?

Mr Paice: The adjudicator will not—I have to be straight about this—set prices, set margins or shares of retail price or do anything like that. The job of the adjudicator as envisaged by the Competition Commission, who put forward the proposal, is to enforce the code, which is already statutory. It came in in February last year. So it is about ensuring that the terms of the contract between the retailer and the supplier are open, written and explicit. It puts very strong limitations on what are seen as unfair practices, like retrospective discounting, like charging the supplier for special offers that the retailer has decided to do. There are a number of things listed that are prevented because they are in the code. The job of the adjudicator is to enforce the code.

Q360 Zac Goldsmith: One of the examples—I forget who gave it to us—was of orders being informally placed, say, "I want to have 100,000 units of a product" and then a week before delivery the supplier is told, "Actually we only want 50,000" at which point it is far too late and the money has been wasted, the investments are made and so on, and the cost is borne by the supplier. It is not technically a breach of contract because nothing is written, but is

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that something the adjudicator is going to be looking out for?

Mr Paice: I don't want to make presumptions about how the adjudicator would interpret it, but my guess would be that the demands of the code would mean that that sort of verbal contract is just as—if indeed a verbal contract would remain possible. I suspect it will need to be written anyway.

Q361 Zac Goldsmith: The difficulty is the adjudicator will presumably be responding to complaints. How can they get around the problems whereby a supplier knows that if they make a complaint about a particular supermarket they are likely to be struck off? Is there anything you can add to this to insulate them from that kind of risk?

Mr Paice: Clearly it is there and clearly it would be crazy to ignore it. The adjudicator will be able to keep the anonymity of a complainant. Whoever it is would have to be open to the adjudicator, but in pursuing the compliant the adjudicator would ensure the anonymity of the complainant. I am perfectly well aware that it would not be impossible for it to be discovered. I personally can't foresee a way where you can absolutely guarantee there will not be any negative pushback, much as I wish there was.

Q362 Zac Goldsmith: The Food Ethics Council—I am just checking it was them—has said the competition law could be preventing co-operation between the supermarkets in relation to pursuing sustainable food consumption. Is that a problem that you recognise?

Mr Paice: I recognise that the supermarkets are extremely nervous about competition law. You may be aware that a few years ago most of the major supermarkets were fined pretty heavily by the OFT for collusion on the issue of milk prices. It is not for me to judge the rights and wrongs of the case, but that is what has happened, and a consequence of that is that they are extremely wary about even being in the same room together. We do have periodic meetings with the senior chief executives of the supermarkets, but it is on a very clear agenda that makes sure that there is nothing—we can't talk about price or anything that could be construed as collusion. I can see the argument that they would be very nervous of it, yes. You would need to ask a lawyer whether in reality there is something in competition law that says they should not work together on sustainability. I don't know. That would be for a lawyer to judge, but I am very conscious of their sensitivity over anything like that.

Q363 Zac Goldsmith: My final question is do you know what market share is currently enjoyed by Tesco, roughly where that is?

Mr Paice: I know they are the largest of the big ones. No, I shouldn't make a guess in public. I know they are the largest of the big four.

Q364 Zac Goldsmith: I believe it is around the 25% mark; it may be more. I don't know if anyone can find that. It is more than that, is it?

Mr Paice: I can actually; it is 30.5%.

Q365 Zac Goldsmith: It is 30.5%. That is a figure that has grown since I last saw it. At what point does it become a concern that they have too much buying power and that this is beginning to look more like a direction of travel suggesting a movement towards something close to a monopoly, certainly an oligopoly.

Mr Paice: I do not think it would be right, Mr Caton, for me to speculate on something as sensitive as market share and monopolies. That is the role of the Office of Fair Trading and their last investigation did not produce that conclusion. That body's function is to do it, but obviously if there is new evidence then—

Q366 Zac Goldsmith: I take your point, but on that point the Groceries Code Adjudicator's role is of added importance, given the fact that you have such a stark contrast in power between the suppliers and the supermarkets. If it does not have proper muscle and proper teeth then there is almost no point having it. Is that a view that you share?

Mr Paice: I certainly have long since believed that it was the right thing to do. You do have something like 75% to 80% of the grocery market in the hands of the big retailers. Clearly that is a massive market overall dominant position compared with 100,000 producers in England, the overall number on the RPA list.

That is why I have always argued that, yes, the issue of the adjudicator and a code is important. So too, though, is the issue of farmers working together to build up their own share of market clout through large scale co-operatives, grain marketing groups, and so on. We have two big dairy groups for the UK, Milk Link and First Milk, both with around 10% of the milk production in this country. In my view, that is a good thing and it is the way we should be encouraging the industry to try to balance it by working together themselves.

Q367 Neil Carmichael: A quick question about the adjudicator Zac has been pursuing. Of course, the adjudicator ought to be able to take action itself on evidence that it sees without waiting for a complaint, because that would mean it could have quite interesting explorations into the market. The other question I was going to raise was, of course, when products leave the farm gate and get to the supermarket, it is a lengthy process. A lot happens in between, and that is an area that requires some sort of adjudication as well. Do you agree? The role of the adjudicator will have to bear in mind the stages that the product goes from farm gate to—

Mr Paice: Let us be clear, the role of the adjudicator is the contract between the supplier and the supermarket, so that in the case of milk—let us take one of the big bottlers, Robert Wiseman Dairies, for example. The contract between Wisemans and the Co-op, who I happen to know they do bottle for, it is that contract that the adjudicator would be looking at. Whatever contract was there between Wisemans and the individual dairy is not covered by the adjudicator.

Q368 Chair: How does that deal with the 100,000 suppliers that you referred to?

Mr Paice: That is why I would like to think there will be far more dairy producers in this context working

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together, by joining one of those two big organisations I have referred to. There are some smaller groups. There is absolutely nothing today—not that there has been for a long while—to stop a group of dairy farmers working together to sell their milk as a much larger total volume to have some influence on the price to any of the processors. That is what happens in a lot of European countries, but I am afraid I do keep saying to the industry, “The solution is in your hands”. British farmers are notoriously bad at working together. They are very independent people, whereas a lot of Europeans, of course with a history of much smaller farms, are much better at co-operating.

Q369 Paul Uppal: The second maxim for the afternoon, politics is always local. That would apply even more so in terms of sustainability in food. I am particularly mindful of the last response I had from you, Minister, that Government does not have all the answers. Can you provide or highlight any sort of examples of policy or initiative that could be borne out of the localism agenda of the Government, specifically highlight any initiatives there?

Mr Paice: Yes. I think some of the best examples are in public purchasing. There are now a number of case studies—not all of these are brand new, they have all developed over the last few years—whereby when you have driven power down to schools or hospitals, mainly those two types of institution but others are possible, and they then start purchasing locally they get, as you say, far more likely to be local, far more likely to be sustainable production. I have a school in my own constituency, I am very proud of it, Ely Primary School in Ely, where a few years ago they took back the budget for school meals, they appointed a cook. They didn’t call her some glorified name, they called her a cook. She has the budget; she buys food locally. The uptake of school meals has rocketed upwards. The children enjoy the meals and the cost has not gone up and the value is better.

There is a hospital in Nottingham, a bigger issue but similar approach, a clearly demonstrable benefit of going local. The Deloitte report of a year or two years ago illustrated a lot more case studies showing that it works.

Q370 Paul Uppal: Do you think the Government could be doing anything more to encourage that best practice in that respect?

Mr Paice: Yes, I do. Inasmuch as now we have rolled out our own Government buying standards in central Government and that they are now mandatory on central Government Departments, we need to be as active as possible, and that implies more active, in persuading all these, in this context, devolved bodies, whether it is local government or prisons or hospitals or whatever, to take their own budgets and to operate locally, and use these many case studies that now exist. We think that the Government buying standards are a set of standards that are very valuable and very valid, and we would like every public body at any level to buy according to those standards. We don’t want to make it mandatory. I know Mr Goldsmith has different views; we have discussed it before.

We take the view that the localism agenda means exactly that and that we therefore have to leave it up to local discretion, but we would strongly urge, and hope everybody else would urge, local bodies to follow the Government buying standards.

Q371 Zac Goldsmith: Can I add something to the back of that? What does it mean for the Government to urge? I take the point about localism. We have had that also, I think, in this Committee. What specifically can the Government do to push the kinds of examples that you just described and that are happening everywhere? How do you think it will become the case that those are the norm and not the exception, and how will you measure that?

Mr Paice: On measurement, I am not sure of the direct answer to that question, but obviously the measurement in my view would simply be the frequency by which it is happening and the volume of local institutions to do it. As far as how we roll it out or encourage the rollout, we are commissioning some research into the matter but quite clearly it is a matter not only for DEFRA—although it is a matter for us—but through the central Government Departments such as Education, Health, Justice, and so on, who are responsible in one way or another for the more localised public bodies, it is to constantly exhort and encourage. The other mechanism is through the facility now for local petitions whereby we would strongly encourage local communities who feel strongly about this to create local petitions, almost to mandate but certainly to strongly encourage their local council or school or whatever it may be to adopt these standards. These are some of the measures the Government has brought in more generally but it is just as applicable here.

Q372 Zac Goldsmith: Just for the record, when those petitions happen in a local authority, and if the local authority decides not to go with the demands that are set by whoever is signing the petitions, would you support those parents? Is there anything the Government could do? I know you can’t force the local authorities but you would actively take the side of those people who have organised a petition calling for a raise in the buying standards, for example?

Mr Paice: Because I actively support the principle of localised purchasing, yes, I would actively support the parents or the teachers or whoever it was in that particular context. But, as you say, I could not overrule the decision of the local body if they chose to ignore it, but there are democratic ways where the petitioners would be able to exact their revenge.

Q373 Mark Lazarowicz: On this question of encouraging, in general, better behaviour among suppliers, purchasers and the public, individually and collectively, I can see the value of the kind being suggested but I do wonder how far it is going to achieve the kind of results you want as quickly as you want. On local purchasing, leaving aside how that might work in a London borough—I am not sure what local purchasing means when it comes to agricultural produce—but more generally isn’t this going to take a very long time to make a real difference? I don’t

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just mean local purchasing but the general idea of voluntary nudges, I think they are called in the trade.

Mr Paice: Clearly it is going to take time. Whether it will take too long I am not so sure, but it is not something we expect to happen overnight. We do believe that as it becomes more commonplace the rate of take-up will increase because the evidence base will be stronger that it is right. I wouldn't want anybody to believe that we are putting all our emphasis on this one solution to encourage sustainable agriculture. We are not. There is a whole raft of measures. It is such a broad tableau that we have to work on, but localised purchasing is one of it.

You also have it in the retail sector, because you have some supermarkets which have set up their own local hubs. If I use one example, the initial one was Asda who set up initially in Cumbria, but there are now many more over most of the country, local food hubs where local producers can supply into this hub, and equally the local Asda stores—I think the Cumbria one started with 11 local Asda stores—can go there to buy local products. If you go, as I have, to an Asda store in that area, there are parts of the store given up to local products. It is all part of Asda, it is not some sort of franchise or anything. By working with local businesses they have created a facility that a multiple retailer can have a significant impact on local food supply and demand.

Q374 Mark Lazarowicz: Another example of a voluntary approach, I suppose, is one where an individual customer can play a role by making choices, and of course things like labelling comes into play there. One of the comments, I think it is fair to say, made by some of the other witnesses, and I think is true again from personal experience, is there are only so many labels you can have on products in supermarkets.

Mr Paice: That is very true.

Mark Lazarowicz: First of all, much doesn't seem to me to be happening in terms of labelling to encourage environmentally sustainable purchasing. There might be purchasing to encourage fair trade or value or whatever; in terms of environmental sustainability there is not much evidence of that happening. In any event, isn't the greater problem there is only so far you can go in doing that decisively because there are so many criteria that apply and, if so, what do you do about it?

Mr Paice: Yes, you are quite right. There is only so much you can put on a label, and there is also the argument about what proportion of people even looks at the label. But product labelling is only part of the way of informing the consumer. You have the shelf labels, you have the big banners and all the other things, other ways by which a consumer can be informed about what is on that shelf that they are considering to purchase. There is a huge amount of work going into labelling; better design, the use of icons. The traffic light system personally I don't think is the right way to do it. I think it has oversimplified it and produced some odd results, but these are all efforts by different organisations to improve labelling's effectiveness and sometimes thereby to reduce it.

The European Union has just passed the Food Information Regulations, which will, for example, mandate country of origin labelling on milk, which is good. We supported that, but it means we are now embarking on the consultation about how we turn them into reality and apply it in the UK. That will give another opportunity for such discussions.

Q375 Mark Lazarowicz: What I am getting at in its entirety, as I am sure you realise, is that, of course, all these measures are important and can make a difference, but they are most effective as part of an overall package of measures, part of which has to be in some way more direct intervention either by the Government or by industry. I know none of us want to have a nanny state and all the rest of it. Nevertheless is there not a need for retailers and suppliers and producers to take an active role in deciding what they sell and how that meets environmentally sustainable criteria? Is there not a role for Government to take more direct intervention? People have suggested the idea of various fiscal measures, which I am more dubious about, but nevertheless there needs to be an overall package of measures into which these voluntary activities feed. There also needs to be a drive from Government to achieve that. This is not a criticism by me, but certainly over the last few years I don't really feel it is at the heart of policy in the way it should be.

Mr Paice: I am not sure that I fully accept the criticism that it is not there. We are doing a great deal of work across the piece to promote sustainable agriculture. I go back to the Natural Environment White Paper where we specifically stated that there is this conflict, that Mr Spencer implied earlier, between the environment in all its aspects and increasing food production. So we have now set up what we have termed the Green Food Project, which is bringing together the environmentalists, the food manufacturers, the farmers, the Consumers' Association, and so on, to steer more research and more work about how we break down that conflict and how we address it. That will be producing policy proposals, not just in that long term vision of the *Foresight Report* but the sort of stepping stone policies over the next three, five, 10 years.

I fully acknowledge that has not been widely publicised because it has only been going two or three months, but I think that is very clearly there and I think from that will stem a lot more policy change. Whether it will be in the holistic way that you envisage I can't pre-judge, but I think that, on top of the work we are doing to encourage local food, local food hubs, the point I was just making about Asda, where a lot of rural development funding has gone in the last few years and will continue to do under this Government, all these things together are producing significant change.

We don't have a big plan. No, we are not a Government that has, or at least not a Department that has massive plans, because much goes awry even if the intention is right. But I think I would resist the contention that we are not doing anything.

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Q376 Paul Uppal: I am conscious of time, and I understand from my BlackBerry a vote may be imminent as well. On some of the figures I was looking at here, Minister, in terms of food waste, which is an issue close to everybody's heart, of course, the figures that I have looked at estimate anywhere between 30% and 50%. I know in the *Foresight Report* they go for a target of halving food waste by about 2050. Could you elaborate on any measures that have been introduced to stem the waste that we currently have in such obscene and high figures. Secondly, because I am conscious of time, there is a bit of contention about the whole issue of £250 million has been spent on getting councils to return to weekly collections, and I know the recycling sector and waste sector have expressed concerns about that. Would you be able to touch base on that as well?

Mr Paice: The latter point, as you probably know, is a DCLG policy area. I have read stories about the levels of uptake but I am afraid I am not privy to any of it. In the Department of DEFRA, waste is not my portfolio so on that latter point I am afraid I can't say much.

On the specifics of food waste, you are right, and the *Foresight Report* is right, that all the evidence is that far too much food is wasted and it is wasted in all sorts of ways. In the developing world a huge amount is wasted between harvest and getting anywhere near consumption. It is wasted at harvest; it is wasted in store because of pests and disease, long before you ever get to the issue of processing it, if it is going to go through any processing. In the developed world there is a lot of waste to start with because of high levels of specification about how round apples should be or red or whatever. Some supermarkets are beginning to move back from that and are now giving you the option of buying rejects. They would not put it quite like that but that is what it is. That is good, it is to be encouraged because they are just as wholesome food.

Then you have the waste that comes because food is not purchased, the stores overbuy or damaged products and all that sort of thing. That food can sometimes be used for animal feed but otherwise it goes into food waste, and we clearly don't want any of it going into landfill, so we are very anxious that all that chain, where it can't be utilised for animal feed, should go into anaerobic digestion.

Then you have a large amount of waste, something like 700,000 tonnes a year, of things like bread, biscuits, confectionery in the factories themselves. That all goes to animal feed. That gets eaten by animals. Then you have the catering waste, which of course used to go to pig feed but was banned at the time of BSE and banned across Europe, so that is an issue of anaerobic digestion again.

Finally, of course, you have the consumer waste after they have bought it because they keep it too long or they bought two and they decide they only want one or whatever it was. Work on that front, and that is a very important one, is firstly discouraging multiple pack buying, because that often causes waste—a lot of

supermarkets are responding to that, thank goodness. Secondly is much better education of the consumer. We support a Taskforce looking at a number of projects going on about teaching young people about growing food, not in a sort of grand national project but localised schemes about how to prepare food more effectively to minimise waste and utilise all the food in the first place.

I think there are measures being taken and we are trying to address, as I say, waste wherever it happens in the whole of the production and supply chain.

Q377 Chair: I am conscious it has now gone 4 pm, Minister. Peter Aldous would like to ask a final question if you are prepared to wait a little bit longer.

Mr Paice: Yes, of course.

Q378 Peter Aldous: I just have one question. You did talk about in the past decade or decade and a half the industry being demoralised and perhaps now being countercyclical to other sectors of the economy. I think one could argue there is an exciting challenge as far as the sustainable intensification is concerned. That to my mind means there should be a lot of job opportunities. Do you think the industry is doing enough to promote itself as an attractive career option and how might the Government be able to help them?

Mr Paice: If I am brutally honest, I think the issue of numbers of jobs should be increasing is not necessarily a foregone conclusion. I know you will be able to, as I do, recognise that agriculture has been losing labour, frankly, since the agricultural revolution, but even in the last 100 years the number of people employed has gone down. I think it would be a rash assumption to say that trend will reverse.

What there is in agriculture is a much increased need for higher levels of skills and knowledge. I do make this point as much as I can. Even what are considered the sort of norm, ordinary jobs as a tractor driver or stockman, are now heavily involved with IT systems and all sorts of sophisticated electronics, whether it is dealing with sheep that all have electronic tags in them and it is all registered on a computer. We have moved so far compared with what a farm worker's job was a few years ago, and this means that we need much higher levels of skills, so the Government is doing something about that. We have invested in a lot more specific apprenticeships in the food and farming sector and are obviously working closely with BIS on that whole sphere. We are targeting some of our rural development programme money on training and upskilling people. Then you come, as you say, to the issue of the industry where, yes, it has a big role to play to emphasise to people that this is a real career opportunity, it is a highly valuable job.

Sorry, I had better shut up, Mr Caton. I get quite excited on this issue. I will sum up by saying if you look at what the average person on a farm is responsible for, it is immense capital or product value now. I worked out that a cowman milking cows on an

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average dairy farm is probably responsible for £30,000 worth of output each day. On a combine harvester, combining 80 tonnes an hour at £150 a tonne, work it out yourself. This is a very seriously responsible industry and we need the best people in it.

Chair: Thank you very much. I think that brings our session to a conclusion. Thank you for the evidence you have given us today. In due course you will be seeing our report.

Mr Paice: I am sure I will. Thank you.

Written evidence

Written evidence submitted by Rural Economy and Land Use Programme

SUMMARY

- An ecosystems services approach will enable land to fulfil multiple functions.
- Sustainable food production will require innovation and government support is needed for this.
- Consumers need access to clear and accurate information.
- Eating local food in season is usually the most sustainable option.
- Government policies need to be joined up and be open and flexible to allow for uncertainty and new evidence emerging.

1. How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed? How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

1.1 We need to harvest increasingly diverse benefits from our land: food, clean water supplies, timber, biofuels, wildlife, flood management, carbon storage, leisure activities and more houses and infrastructure for a growing population. Demands shift and grow in an uncertain economic, as well as meteorological, climate. But there are lessons that can be drawn from research carried out by the Rural Economy and Land Use Programme.

1.2 Multiple demands upon such a finite resource can only be resolved by ensuring that each area of land fulfils multiple functions. The ecosystem services approach, which recognises the integration of different functions, seems to lend itself to this but it does also require more holistic policymaking.

1.3 How we exploit some of our unique habitats for food production could actually enable their preservation:

- The level of grazing on sensitive ecosystems is often key to their survival and there may be problems with over or under grazing in different areas. The timing and mix of stock may also be important. We should pay more attention to maintaining this balance. As food and fuel prices rise in line with global demand, the financial support from environmental stewardship schemes may become less important to farmers. In that case, finding ways in which biodiversity can actually enhance farmers' profits may be vital to maintaining the ecological balance.
- The products themselves could be healthy and extremely marketable. RELU research shows that lamb raised on biodiverse rich grassland displays higher levels of Vitamin E, its fat has lower skatole levels and it has higher levels of healthy fatty acids. There could be more support for producers in marketing UK "terroir" products such as salt marsh lamb, that emphasises the natural variation and seasonality of these, and more research on consumer willingness to pay a premium for such foods.

1.4 Support for marketing locally grown "green" and welfare-friendly products such as small scale production of the tropical fish tilapia, could be good for health and for the environment. Relu research has shown that this could be a useful diversification strategy for farmers and there is a potential market for this type of farmed fish.

2. How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

2.1 The challenge is to make healthy, environmentally friendly, affordable food available for everyone. We need innovation to ensure thriving rural businesses and sustainable food production. Several Relu projects touch upon this.

2.2 Local and regional food initiatives could help producers to gain detailed market information. Support to help them in placing their products, accessing the right markets and understanding the expectations of customers would help to overcome some of the uncertainties that potential "green" entrepreneurs face.

2.3 Supermarkets and other retailers have a role to play in encouraging and assisting small producers to differentiate and gain market advantage for greener/healthier products.

3. How can consumers best be helped to make more sustainable choices about food?

3.1 Consumers face increasing amounts of information and a variety of labelling concerned with organic, animal welfare, fair trade and environmental standards. The challenge is to make information available in a form that is accessible, not over-complicated and relevant.

3.2 We need five portions of fruit and vegetables a day in order to sustain our health but perhaps we need to be encouraged to make those UK products in season. Local may not always be best for the environment, or even in terms of freshness, but in season, it usually wins.

3.3 Health authorities could work with retailers to highlight the benefits of a seasonal approach to food and of variety over the year.

3.4 More information about environmentally beneficial production systems needs to be available and consumers need to be more aware of the links between production systems, their health and the environment.

3.5 Carbon labelling that doesn't take into account the actual life cycle of individual products will not achieve the desired result. Actually measuring performance, rather than averaging it out, could provide the basis for rewarding and motivating improvement but would be very complex. However, better access to information would help. A single, easily accessible database, which publishes all the information needed for carbon footprinting agricultural products would make the information available to individuals and organisations who wanted that level of detail. Publication of all calculations of carbon footprints being used in labelling schemes would also make the process more transparent.

4. Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

4.1 The food system is so complex that uncertainty often persists in spite of further research. Policies that are frank about uncertainty are better placed to earn public trust. We need to aim for "precautionary policy"—based on evidence but explicitly alert to its limits.

5. How might the changing powers of local authorities and the localism agenda hinder, or be used to encourage, more sustainable production and supply of food?

5.1 As local development agencies disappear, at a time of austerity, local authorities may not have sufficient resources to support or promote schemes such as the "terroir" initiatives mentioned in 1.3. Specific support for this kind of approach could, however, create a win-win-win for the rural economy, environmental protection and consumer health.

5.2 It is also unclear where support for novel initiatives (eg environmentally friendly fish farming) might come from and whether there will be resources for local authorities to fulfil this role.

6. How could Government procurement practices be improved to promote better practice across the food sector?

6.1 More emphasis on local food and seasonality in purchasing could enable the public sector to reduce its carbon footprint. But the aim should be to buy "local food when it is in season" rather than a blanket approach. For example: eating local lettuce is an environmentally friendly choice in summer, but in winter, growing lettuces locally under glass may be more harmful than importing lettuces from Spain. More local autonomy, and incentives for purchasing authorities to take the full picture into account, could help.

11 March 2011

Written evidence submitted by WWF UK

SUMMARY

Government policy should be used to promote more sustainable practices in the UK food industry, more effective public policy and more sustainable behaviours from the public by:

- Taking a holistic, whole values chain approach focusing on consumption change as well as production systems and resource efficiency.
- Support more sophisticated, interconnected, policy making and the strengthening of national and supranational governance and decision making.
- Specifically addressing the issue of livestock consumption and its impact on the global environment.
- Supporting more research into the links between food production and ecosystem services.
- Championing national and international governance and policy that supports and rewards farming systems and countries that provide public goods.
- Adopting targets for GHG emissions reduction from the food system accompanied by a route map to achieving these targets.
- Working to reduce food waste across the food chain—post harvest losses, losses during food distribution, processing and retailing and losses at the consumer end.
- Supporting work in defining a sustainable diet, integrating this into advice to consumers.
- Support policy that aims to address the demand side including those that actively seek to reduce the demand for resource demanding, high emission, foods.
- Adopting and promoting the sourcing of certified sustainable commodities including fish (marine and aquaculture), palm oil, sugarcane and soy.

- Adopting policies, convening stakeholders and allocating funds to ensure that water resources are managed sustainably in the UK and in developing countries.
- Embedding measurable, achievable, challenging, sustainability goals into procurement standards.

1. *How can the environmental and climate change impacts of the food we chose to eat best be reduced? What are the land-use trade offs that affect food production and supply and how should these be managed?*

1.1 WWF's One Planet Food Programme aims to reduce the global environmental and social impacts of UK food production and consumption. It identifies greenhouse gas emissions, water use and impacts on key biodiversity places as the most significant challenges. It is important that what we consume does not depend on depleting finite resources in other parts of the world and that food policy recognises the dependence of food production on ecosystem services, 60% of which are in decline yet form the very basis on which our food system relies. There must be both a demand and a supply approach to the sustainable development of food systems. On the supply side, One Planet Food sees solutions in the sustainable intensification of production and the improved governance of land and water resources—complemented by essential change on the demand side, with collaboration between all stakeholders for systemic change.

1.2 Sustainable intensification is an upcoming concept that has a great deal of potential, so long as it is clearly defined, such as in the Foresight report. Sustainable intensification aims to increase production in a given area of land while reducing the environmental consequences and increasing contributions to natural capital and the flow of environmental services. When technology is used it must contribute without adverse ecological consequences. Sustainable intensification must aim to maintain and deliver a range of public goods and services.

1.3 Improved governance of land and water resources is a critical, but often forgotten, part of the solution. Land needs to be managed for multiple functions for example food production, supporting rural economies, fuel production, water resource management, flood attenuation and the protection and restoration of biodiversity. As population pressure grows, the dangers of tension and conflict between different users of land and water will increase, especially as climate change brings with it increased uncertainty. Traditionally policies governing these have been managed in isolation and there is a growing recognition of their interdependence. The fact that food production requires ecosystem services provided by both farmed and non-farmed land requires much more sophisticated, interconnected, policy making. Further, WWF's experience in countries such as Tanzania, Pakistan, India and Mexico is that, despite the proven effectiveness of better farm management practices, improvements in farm water efficiency are, by themselves, insufficient to restore the flow of dry rivers to downstream users or to reverse the depletion of aquifers. Put simply, if one farmer improves water efficiency, his or her neighbour will normally use any water saved as a consequence. A key role of government is to ensure that natural resources are allocated according to principles of sustainability, equity and productivity. But in most parts of the world government agencies charged with making these difficult decisions are under-resourced and are subject to lack of a clear mandate and/or political interference. Government departments such as DEFRA, DFID and FCO could all have a role to play in supporting the strengthening of these institutions.

1.4 Sustainable production of food and improved governance of land and water resources are important and can significantly contribute to reducing the UK's food footprint. However evidence suggests¹ that the potential for reduction through improved production methods alone is limited in relation to what is required; we need also to change the types of food we eat, focusing on the hot spots. Meat and dairy has the biggest impact in terms of GHG emissions,² so reducing the amount of meat and dairy we eat in the UK is critical to reducing our food footprint. Government needs to do more to support changes in consumption behaviour; this is further addressed below (questions 2, 3 and 4).

1.5 In particular Government needs to increase its efforts at a European and international level to ensure that policy and trade mechanisms support sustainable food production and provide a level playing field for those that farm sustainably. The Foresight report pointed out that there is a clear case for integrating and improving considerations of agriculture and food production in negotiations on global emissions reductions. Mechanisms should be developed to reward countries that produce environmental goods while policies that have negative environmental impacts in other countries should be avoided. Government should champion these and other approaches.

1.6 Food waste is already top of the political agenda, with the Foresight report seeing it as being a key issue that once tackled will help ensure food security. Up to 40% of food is wasted, with WRAP estimating 30% of household food purchases being thrown away, much of which is edible. WRAP and WWF have recently published a report which shows the considerable carbon and water savings that can be made by tackling household waste.³ Government needs to work to reduce all types of food waste from producers to consumers covering post harvest losses, losses during food distribution, processing and retailing and losses at the consumer end.

¹ Audsley *et al* (2010). *How Low can we go?* An assessment of the greenhouse gas emissions from the UK food system and the scope for reduction by 2050. WWF-UK.

² For example, see FAO (2006). *Livestock's long shadow*; Murphy Bokern, D (2008). An assessment of environmental impacts of UK food consumption. WWF UK; various reports and briefings from the FCRN.

³ Chapagain, A, James, K (March 2010). The water and carbon footprint of household food and drink waste in the UK.

1.7 WWF would recommend Government adopting a number of medium and long term targets whilst supporting the development of better and more comprehensive metrics of greenhouse gas emissions in the global food system. We have worked with the Food and Climate Research Network and have assessed food consumption based emissions (including land use change) for the first time. Based on this evidence we would recommend targets for reducing GHG emissions from the food supply chain by at least 25% by 2020 and reducing meat consumption by 15–20% by 2020, and developing with partners a route map to achieving a minimum 70% reduction in GHG emissions by 2050.

1.8 From an international perspective it is important to remember that at the same time as 1.6 billion people being overweight or obese one billion people are undernourished worldwide.⁴ The current food system is desperately unequal. Any food and farming strategy should be based on securing the basic human rights to adequate food and good health, and on reducing the global environmental impacts of the food we produce and consume. It should not be premised on a continuation of the status quo: widespread hunger, ill health associated with poor diets and increasing environmental degradation. The underlying causes of inequalities in the food system, such as unfair trade and subsidy systems, need to be addressed to ensure food security for the poor, and to promote sustainable agriculture. To reach a future where agriculture is sustainable requires investment, technology, a different approach to land and water use planning, a strengthened policy environment and shifts in patterns of consumption and production.

2. How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

2.1 This question is misleading as the phrasing of it suggests that healthy, sustainable food is not affordable for all. Perhaps the question should have been “how can the government deliver affordable, healthy and sustainable food?”

2.2 A move towards more sustainable diets is aligned with healthier eating. WWF, in partnership with the Rowett Institute, recently published the Livewell report in which we have identified what a sustainable diet looks like,⁵ we compared it to government healthy eating advice and to what people are really eating. Based on current population figures the Eatwell plate is sustainable and going forward to 2020 would only need small changes to the different sectors for it to remain sustainable, the biggest change being to meat consumption. Before we can move to a healthy diet we need address what people are currently eating. The evidence is clear, people are eating too much processed food and too much meat and not nearly enough plant based products and carbohydrates. This must be addressed urgently however much this feels like nanny stateism.

2.3 The report also calculated the cost of the Livewell diet and a standard basket of food based on the government’s own statistics. The Livewell basket was cheaper. This confirms that healthy sustainable food can be more affordable than other types of food. The issue here is people do not know or believe this and as this would mean people have to buy more raw ingredients they are nervous as they have lost the skills necessary to prepare the foods.

2.4 We believe that in order to tackle this question the government needs to:

- Work cross departmentally and with key stakeholders to define the key principles of a sustainable diet and then to integrate them into healthy eating advice.
- Ensure its own procurement policy reflects the sustainable diet.
- Invest in home economics in school for all students to teach them how to cook and budget.
- Work with retailers and the food industry to promote sustainable food choices over unsustainable ones, and encourage them to make more promotions based on healthy choices, the opposite to the current situation.
- Investigate a new tax on high impact foods, ring fencing the revenue to subsidise low impact food such as fruit and vegetables.

3. How can consumers best be helped to make more sustainable choices about food?

3.1 There is a need to simplify messages around food and where there are clear overlaps between health and environmental recommendations bring them together in government advice and promote them together as win wins. WWF have done this with its Livewell plate (see above); messages around this would be an ideal place to start.

3.2 WWF has five food rules which the government could use:

1. Eat more plants.
2. Waste less.
3. Treat meat differently, eat less—meat does not have to be the central part of a dish.

⁴ For more on sustainable agriculture from an international development perspective see http://assets.wwf.org.uk/downloads/wwf_sustainable_agriculture_briefing.pdf

⁵ MacDiarmid, J, *et al* (2011). “Livewell a balance of healthy and sustainable food choices” http://assets.wwf.org.uk/downloads/livewell_report_jan11.pdf

4. Eat fewer highly processed foods—they tend to be more resource intensive to produce and often contain high levels of sugar, salt and fat.
5. Buy sustainably—whether that’s MSC fish or ASC, when on the market, from well-managed sources or food containing sustainably sourced palm-oil for example.

3.3 Food labelling needs to be utilised as a tool to encourage consumers to make sustainable choices. More importantly this will encourage producers and retailers to create and sell more sustainable products. A clear, simple, universal system, much like the traffic like system advocated by the FSA, would be practical and easy for consumers to understand. This should be done in conjunction with a simplification of nutritional labels, once again a simple universal one would be most appropriate.

3.4 Care needs to be taken with some aspects of consumer-focused food labels though. For instance, water footprints do not currently lend themselves to a simple labelling scheme. The impact of a product’s water footprint is dependent not only on the volume of “virtual” water used during its production, but also on the relative scarcity of water in the place where the original crop was grown and processed. Thus, hypothetically, a loaf of bread made using wheat grown in Canada and with a water footprint of 100 litres may have less adverse impact on freshwater ecosystems than a loaf made with Australian wheat with a water footprint of only 50 litres. Simply adding a volumetric water footprint number to a product on the supermarket shelves would miss this critical point and could therefore often lead perversely to increased consumption of irrigated foodstuffs originating from arid locations over those grown where water is abundant and crops primarily rainfed.

3.5 Retailers and restaurants need to be encouraged to provide and promote a greater proportion of healthy sustainable food choices. The overall effect should be to raise awareness of green choices and make these the default choices in our retailing and food culture.

3.6 According to research undertaken for the Sustainable Consumption Roundtable (Looking Back, Looking Forward, 2006):

“The evidence suggests that, historically, the green consumer has not been the tipping point in driving green innovation. Instead, choice-editing for quality and sustainability by government and business has been the critical driver in the majority of cases . . . Choice-editing for sustainability is about shifting the field of choice for mainstream consumers: cutting out unnecessarily damaging products and getting real sustainable choices on the shelves.”

Choice editing is already widely utilised by retailers, in the organisation of stores, through what is promoted, what is placed at eye level and what is sold by the tills. Government should work with them to use choice editing to promote different types of food, at first through voluntary agreements but if this does not work through compulsory ones.

3.7 There needs to be a truly comprehensive sustainable food procurement policy across all government providers of food including; prisons, schools, hospitals, care homes and government offices (see 5 below).

3.8 Food skills and science need to be taught to all pupils in schools, in order to give everybody the basic skills needed to cook from scratch and for people to understand what is healthy and sustainable. This should be made available to adults in order to provide skills for the people who do not have them and to help tackle the obesity epidemic.

3.9 The government needs to investigate the possibility of a tax on some foods in order to persuade people to eat less of them. The revenue must be ringfenced so it does not disappear into the treasury and be used to subsidise low impact foods, such as fresh fruit and vegetables and support other food related initiatives, including teaching people the skills needs to cook from scratch.

4. Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

4.1 Our food system relies on a wide range of environmental services both here and overseas.⁶ Whilst much has been done to improve the impact of our activities on local air quality or pollution of our rivers, less attention has been directed to global impacts resulting from the sourcing of increased proportions of raw materials, food and fibre from the global market. WWF would like to see supply chain governance transformed to support ecological restoration in important biodiversity places and the sustainable sourcing of key commodities—fish, palm oil, sugarcane and soy.

4.2 WWF considers that working with mainstream farmers, fisher folk and buyers to measurably improve the main environmental impacts of food production through the creation and monitoring of certification schemes is key. We have initiated and supported schemes such as the Roundtable on Sustainable Palm Oil, Bonsucro and the Roundtable on Responsible Soya, multinational partnerships which aim to establish international standards for the production of those global commodities that most threaten biodiversity globally. WWF would

⁶ Murphy-Bokern, D (2009). “Environmental impacts of the UK food economy”
http://www.wwf.org.uk/what_we_do/changing_the_way_we_live/food/food_publications_library.cfm?3680/Environmental-impacts-of-the-UK-food-economy

recommend that Government support and actively promote sustainably produced products such as MSC and ASC fish, Bonsucro-certified sugar, RSPO and RTRS soy.

4.3 Meat and dairy has the biggest impact in terms of GHG emissions. Food related emissions account for 20% of the UK's total consumption footprint (excluding land use change); livestock products account for nearly two-thirds of this—a significant proportion for any one activity. If we allocate emissions relating to global land use change in relation to the size of the UK food economy, the total emissions burden attributable to food increases to 30%.⁷ The majority of this land use change is a direct result of livestock production, either directly through land use change for the provision of grazing and crop land for animal feed, or indirectly through increasing the overall demand for agricultural land. As well as contributing to climate change, UK livestock consumption contributes to other environmental problems overseas such as habitat loss, pollution and water scarcity. A global move towards a high meat western diet is unsustainable. Improvements in production methods for livestock products is key, but so is reducing the amount of meat and dairy we consume. Such calls are backed up by others including the recent Foresight report and the Climate Change Committee's fourth carbon budget. Yet Government is doing little to address this. Our current work with producers⁸ aims to break the stalemate in the debate, challenge policy obstacles and develop potential interventions. WWF recommends that the Government do more to address policy options, support a dialogue process between civil society, producers and retailers on the issue and support changing consumption towards less meat and dairy.

4.4 Sustainable aquaculture, such as that defined by the upcoming Aquaculture Stewardship Council (ASC), has many advantages and as such should be more actively supported by Government. Aquaculture in general has minimal GHG emissions and low freshwater requirements, while shellfish and algae can sequester carbon and excess nutrients. Marine fish, shellfish and algae can be grown in the sea without using valuable arable land. Much less feed is required than that used by other forms of livestock as feed conversion rates for fish are better than those for land based livestock.

4.5 62% of water needed to produce goods consumed in the UK is in the form of water embedded in imported agricultural and industrial goods.⁹ Better water management not only reduces the absolute size of the footprints, but also promotes water use which is sustainable, equitable and productive. There are a number of possible actions that the Government could take here. DEFRA could convene NGOs, academics and major private sector interests in "thirsty" sectors such as agriculture, food, textiles and beverages to share best practice and agree guidelines for corporate water stewardship. It could provide technical and policy support to global initiatives such as the Alliance for Water Stewardship and the Water Footprint Network. DEFRA could also adopt mechanisms to support more sustainable consumption, for example encouraging a substantial reduction in food waste would have a big impact on water footprint.¹⁰ Through DFID and the FCO, the Government could provide support to the establishment of stronger local water management agencies which can develop and implement effective policy and legislation for water management and, in doing so, help to underpin global efforts to ensure food security. This would help to meet international development, climate adaptation and conflict reduction aims.

5. How could Government procurement practices be improved to promote better practice across the food sector?

5.1 The government has recently finished consulting on the Government Buying Standards (GBS) to which we responded,¹¹ though we are deeply concerned that the proposed standards did not go far enough. Public procurement standards are a vital tool in promoting better food practice whilst contributing to global food security. The GBS demonstrate that the government is aware of the need to look at food consumption and reduce its negative impacts. The government is in an excellent position to develop standards that provide nutritional and sustainability benchmarks, whilst incorporating the highest standards in other areas, such as animal welfare.

5.2 We believe that government procurement practices should:

1. Extend to all areas of public sector purchasing as a mandatory standard.
2. Deal with the problem of consumption, especially the need to reduce meat consumption.
3. Integrate advice on health and environment. Consideration should be given to incorporating the Eatwell plate and sustainable diet "plates", such as WWF's Livewell plate.
4. Adopt a definition of seasonal food in line with the government-sponsored Eat Seasonably campaign and the School Food Trust's seasonality chart.
5. Include a commitment to 100% MSC sourced fish on all menus and ASC fish once available.
6. Include sourcing products that contain RSPO certified palm oil by 2015.

⁷ Ibid.

⁸ WWF/ FEC (2010) Livestock consumption and climate change: progress and priorities. And WWF/FEC (2009) Livestock consumption and climate change: a framework for dialogue.

⁹ Food 2030 (2010) Defra.

¹⁰ Chapagain, A, James, K (March 2010). The water and carbon footprint of household food and drink waste in the UK. http://www.wwf.org.uk/what_we_do/changing_the_way_we_live/food/food_publications_library.cfm?4716

¹¹ http://www.wwf.org.uk/what_we_do/changing_the_way_we_live/food/food_publications_library.cfm?4562/WWF-UK-response-to-the-Government-Buying-Standards

7. When sourcing livestock fed on soy, source products certified by the Roundtable on Responsible Soy (RTRS).
8. Have high animal welfare standards, RSPCA as a minimum.
9. Source all chocolate, coco, sugar and exotic fruits from accredited sustainable and Fairtrade sources.
10. Establish targets for reducing the amount of waste in the public sector.
11. Ensure implementation is supported by appropriate training, communication and monitoring.

5.3 By promoting and enforcing strict, far reaching procurement standards the government will be sending a clear message to the food industry that there is a market for food produced to this level, they will be providing staff and the public with high quality, sustainable foods, with resultant health benefits, and people may start looking for the same standards at home, creating a further market.

5.4 The government needs to lead by example, and go past the lowest common denominator, such as the Red Tractor standard, if the industry is to believe the government is committed to supporting the industry as it continues to develop along sustainable lines.

23 March 2011

Written evidence submitted by the British Retail Consortium (BRC)

1. INTRODUCTION

1.1 The British Retail Consortium (BRC) is the trade association of the retail sector and is the authoritative voice of the industry to policy makers and to the media. The BRC brings together the whole range of retailers across the UK, from independents to large multiples and department stores, selling a wide selection of products through centre of town, out of town, rural and online stores.

1.2 Our membership includes all the major food retailers, who between them account for over 90% of the UK's grocery sales. We are therefore at the forefront of discussions regarding the future of food policy, the way in which consumers buy and consume food and the way in which goods are sourced, packaged and sold in UK stores.

1.3 The BRC and its members have been engaged in discussions with Government for a number of years on food policy and sustainability. We have regularly met Defra, NFU and FDF to discuss priorities for the whole supply chain and how Government can play its role in developing a coherent food policy. Our members recognise the importance of the issue to ensure food security for their own businesses and meeting consumer demands in a very competitive market.

1.4 Retailers are committed to reducing the environmental impacts of their own operations, as well as the impacts of their customers and suppliers. A number of retail initiatives demonstrate the effectiveness of voluntary action to date, including the BRC climate change initiative, *A Better Retailing Climate*, the BRC's On-Pack Recycling Label, voluntary action on carrier bags, and the Courtauld Commitment. Progress recorded in *A Better Retailing Climate* demonstrates real leadership from the retail sector. Carbon emissions from transport and buildings have been reduced by 18% over the past five years and waste to landfill reduced so that less than a quarter of retail waste is sent to landfill.

1.5 BRC members are engaged in a number of responsible sourcing initiatives to consider social and environmental considerations throughout the supply chain when making purchasing decisions. Through the BRC Responsible Palm Oil Group, the majority of members have voluntarily committed to sourcing RSPO certified palm in their own product by 2015, while members in other working groups in soya and fisheries are participating in a variety of non-governmental and industry initiatives¹² to support best practices in sourcing.

1.6 We have made detailed comments on the issues raised by the Committee below but we wanted to stress the importance of three issues that are crucial in Government's role in delivering a more sustainable food system. Firstly, these issues will not be solved overnight; changing the production and consumption of food will take time and the Government needs to accept the long term nature of effective food policy. Secondly, food strategy requires consistency from Government over this longer term and should not be diverted from this when issues seem less urgent or less sensitive. Thirdly, food issues cover a number of government departments and agencies and require co-ordination to balance the trade offs and conflicts in food that we discuss below. Government needs a mechanism for ensuring all departments have a shared and agreed approach to food policy.

2. How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed?

2.1 We believe the starting point must be to define environmental and climate change indicators to understand how the impacts of food production and consumption can be minimized. Current scientific thinking is to regard

¹² WWF Seafood Alliance (member through EuroCommerce; M&S, Sainsbury's, Waitrose); RTRS (M&S, Sainsbury's, Waitrose, others are signing up).

these issues in a more holistic manner, building on Millennium Ecosystem Assessment in 2005 and defining ecosystem services into a set of service metrics and indicators in order to assess the impact on the entire ecosystem. The Welsh Assembly Government, as an example, has started to use the “ecological footprint”. However, further investment is needed to fully develop the tools needed to support public and private decision making and processes on the use and development of natural resources for food production.

2.2 Leaving aside the need for more information on indicators, we believe there are two issues that would have the biggest impact in reducing the environmental and climate change impacts of the food we eat. Firstly, an increase in the knowledge of the impacts of food production and how that can be reduced. There are improvements that can be made in production in understanding the impact of issues such as feed regimes, smarter use of water and fertiliser, land and waste management. These rely on continuing research and, as the Foresight report confirmed, application at a farm level. Our members are working closely with their supply chains to improve production and have demonstrated positive reductions in their environmental impact.

2.3 The second factor that will have the most impact is increased consumer awareness of the environmental impact of their diet and changing their behaviour accordingly. Whilst awareness is growing, we are yet to see a major shift in the UK diet and it will take some time for consumers to grasp the quite complex messages about how food is produced and then translate that into choices.

2.4 An increased awareness of diet and the impact of food production would also ensure consumers understand the importance of reducing food waste. It is estimated that between 30% and 50% of food produced is wasted globally. The Foresight report estimates that halving the total could reduce the food required by 2050 by an amount approximately equal to 25% of today’s production.¹³ At a UK level, a huge difference could be made by individual consumers and a more coherent approach to waste management by local authorities. WRAP estimates that over 11 million tonnes of food and drink becomes waste in UK households each year and that the average UK family throws away £600 of food per year.¹⁴ Not only would reducing UK food waste radically reduce the environmental impact of food consumed, it would help households save money.

2.5 It is correct to identify the issue of trade offs in land use but it would be wrong to ignore the trade offs and balances that are made in food choices. There is, for example, evidence to show that intensive livestock farming had less of an impact on climate change than free range production but clearly there is a difference in animal welfare standards. Consumers weigh up a number of factors when buying products, alongside price, to ensure they are getting the best value and those trade offs could mean they don’t choose the lowest impact foods.

2.6 There is competition for land used for food production from development, biofuels and non-food crops. In terms of managing those pressures, this could only be achieved by government intervention, such as planning controls, subsidies and taxation.

3. How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

3.1 The Government could play a role in defining what a healthy, sustainable diet is. There has been discussion on this issue but the work on the topic which was begun by the Food Standards Agency (FSA) has now stopped. Defining what is a healthy, sustainable diet is extremely complicated when all the various factors are taken into account and balanced and we believe only the Government could take this forward.

3.2 If there was agreement on what is meant by a healthy, sustainable diet, progress could be made by all stakeholders to deliver it. In the Government’s case this could be through information to consumers to help them make better choices, which would then drive the market and food production to meet that demand. There is a good example of this process in fish where the FSA revised its recommendation on the consumption of fish as part of a balanced diet to take account of sustainability and published advice on its website.

3.3 Healthy food is already affordable in the UK. Even with the recent price rises, fresh fruit and vegetables are cheaper relatively than they were 10 years ago and the Government could do more alongside other stakeholders to dispel the myth that healthy food is more expensive. Also the Government can and does play a part in helping consumers make healthier choices. It provides vouchers under the Healthy Start scheme for low income families to buy milk, fruit and vegetables. It has also piloted partnership work with convenience stores to sell more fruit and vegetables, although it is yet to roll this out nationally. If there was agreement on what is healthy and sustainable it could incorporate that into these schemes.

3.4 It is also important for the Government to be joined up when driving sustainable food policy. There are many different government departments that can affect food policy and this can lead to inconsistent messaging going to both consumers and industry. We believe that this is unhelpful and is avoidable, if the Government plans its messaging with a long term, strategic and clear focus.

¹³ The Future of Food and Farming: Challenges and Choices for Global Sustainability.

<http://www.bis.gov.uk/assets/bispartners/foresight/docs/food-and-farming/11-547-future-of-food-and-farming-summary.pdf>

¹⁴ http://www.wrap.org.uk/retail_supply_chain/grocery/food/solutions_around_hou.html

3.5 An example of this potential for conflict is in the desire for the food industry to support farmers in developing countries through, for example, support for Fairtrade produce, whilst also seeking to promote UK-sourced food and seasonal fruit and vegetables.

3.6 This need for joined up government also extends to the relationship between the UK Government and the devolved administrations. The UK stands a far better chance of delivering healthy and sustainable food when it works together, as this pools resources and experience, not to mention increases efficiencies for businesses seeking to roll initiatives out nationally. Arguably much of this work should be advanced at a European or WTO level, bearing in mind these challenges are not simply felt in the UK but are part of the increasingly globalised nature of food production and consumption.

3.7 The BRC is particularly disappointed that the work that went in to Food 2030 has not been progressed. This was a comprehensive piece of work that had significant buy in from the many different parts of the food industry, as well as significant support from NGOs and addressed a number of the challenges in delivering healthy and sustainable food. We believe that Food 2030 set a direction of travel that should sit above the inevitable short term focus of politics, that could have been pursued under the new administration, albeit with some tweaks and alterations to reflect political priorities. Progress from this point on requires firm action, not further review, and we would be disappointed to see further investigative work being undertaken, when this has already taken place.

4. How can consumers be helped to make more sustainable choices about food?

4.1 The start has to be an improved awareness and knowledge amongst consumers to enable them to make the appropriate choices. Sustainability, however, is a complex issue and whilst we have seen progress in single issues such as palm oil and fish, consumer awareness and, particularly, an ability to balance all the factors in sustainability, is low.

4.2 Consumers take their messages from a variety of sources, the media, friends and family, retailers and Government but these are primarily around single issues. The FSA work to provide more comprehensive guidance on sustainability was an interesting development but we believe it is a missed opportunity that this has not continued.

4.3 Retailers recognise they also have a role in helping consumers make better choices. Firstly, as we explained earlier, they are improving the production of all their supply chains. This means consumers will be making more sustainable choices without necessarily noticing any difference. Secondly, they have increased their range of products to offer more choice of sustainable products. Finally they are using information, on their websites, in store and on labels to help consumers make more sustainable choices. Whilst labelling, as an example, can be an effective tool, this is only if the consumer has the awareness and intention to act on it.

4.4 Labelling of sustainability on pack is a complicated issue. The EU Ecoflower attempts to provide consumers with an overarching stamp of approval, but does not provide sufficient detail to interested consumers regarding the specific impacts of individual products. In contrast, some labels such as FSC, MSC, Fairtrade or the Carbon Trust's carbon footprint label focus only on one issue. Our own experience in developing the On Pack Recycling Label is that the issues are often too complex to communicate effectively on pack, but that over simplification risks providing misinformation.

4.5 The choice of food is only part of the role that consumers can play towards improving sustainability. Cutting food waste throughout the chain would make a significant impact on its sustainability. Although some progress has been made, particularly as a result of the Love Food Hate Waste Campaign, there is more that could be done to educate consumers on food waste, encouraging them to waste less and where they do ensure it is reused. We believe further support for the work of WRAP, which is carrying out research on the influences on food waste and providing practical guidance to consumers, will be important to further improvements in performance.

4.6 Retailers recognise their role in helping consumers to make better choices. They can promote alternative, more sustainable products, possibly working with certification bodies such as MSC and FSC. They also provide information to help customers identify those alternatives through information on their website and in their in-store magazines. More generically they are promoting seasonality and local sourcing, which are often more sustainable choices.

5. Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

5.1 Ecosystem resilience is essential to sustaining production capacity in the long term as it provides ecosystem goods and services such as top soil and fresh water. However, pressures arising from demand in resources from increasing global population, changes in diet and growth of a middle class in the BRIC¹⁵ countries has put undue stress on many systems. The pressure on these ecosystems to produce more to meet

¹⁵ Brazil, Russia, India and China.

rising demand is exacerbated by more erratic weather conditions, such as floods or drought caused by climate change.¹⁶

5.2 In the short term, the decrease in productive assets like water, energy, and soil will present the most immediate problems for sustainability in food production. Retailers are already working with their supply chains to improve efficiency, animal health and welfare whilst reducing their impact on the environment. However, with thousands of suppliers in their supply chain, assistance is needed to transfer and exchange best practices and new technologies among farmers and suppliers.

6. How might the changing powers of local authorities and the localism agenda hinder, or be used to encourage, more sustainable promotion and supply of food?

6.1 The BRC believes that to achieve responsible and effective localism, the Government needs to adopt a framework which clearly defines the parameters within which local decision-makers are able to act. Many key environmental challenges, including food sustainability, will be addressed most effectively in the presence of a national strategic policy framework. We agree that local problems can be effectively tackled through locally determined solutions, but this approach should not be taken if it risks adding cost and bureaucratic complexity without genuine additional local benefits. Indeed, for nationally organised businesses operating in highly competitive markets, added cost and complexity could act to limit growth.

6.2 It will not always be appropriate for retailers to promote different food choices in different local areas. Indeed, more sustainable food groups will generally be more sustainable nationally—the impact of transport is often a small proportion of the overall impact of food products.

6.3 It is important for retailers that the devolved governments adopt consistent approaches. Retailers have far greater ability to deliver improvements effectively if they are provided with consistent operating environments. Requiring different approaches in different parts of the UK has significant potential to hinder the implementation of effective solutions.

6.4 Retailers have entered numerous partnerships with local authorities, particularly on the waste agenda. Retailers will continue to engage at a local level where appropriate. However, adopting national policies and actions can also be an extremely effective mechanism. Adopting local activities with respect to sustainable food supply risks introducing different messages locally and therefore overcomplicating an issue that is possibly best addressed at a national level.

7. How could Government procurement practices be improved to promote better practice across the food sector?

7.1 We believe it is important the UK Government, as well as the devolved administrations, show leadership in the way they procure food, ensuring that they ask the food sector to do nothing they aren't prepared to do themselves. This means adopting the same approach to sourcing food that responsible food companies take. This requires governments not to simply take the cheapest option but the best option in the long term.

7.2 We also believe governments should supply more information to those who are eating the food procured by them to help them make better choices and, where appropriate, challenge their suppliers to provide more sustainable food. For example, we are surprised that the country of origin labelling principles to give consumers clear information on the provenance of their food has not been adopted in Government canteens and restaurants.

25 March 2011

Written evidence submitted by The Soil Association

INTRODUCTION

1. This response is made on behalf of the Soil Association and produced by its policy department. The Soil Association is the main organisation for organic food and farming in the UK, and is a membership charity with over 27,000 members including approximately 4,000 farmer members. The Soil Association also owns an accredited organic certification company.

SUMMARY

2. The Soil Association welcomes the fact that the Environmental Audit Committee has launched this inquiry into the environmental and social consequences of food in the UK. Food and farming is a vital issue which underpins our food security, environment and our health.

- The approaching “perfect storm” of climate change, resource depletion, food insecurity and population growth in addition to continuing environmental degradation and diet-related ill health, is forcing us to re-consider how we produce and consume food.

¹⁶ *Resilience and Sustainable Development: A Report for the Swedish Environmental Advisory Council.* http://www.sou.gov.se/mvb/pdf/206497_Resilienc.pdf

- Agro-ecological farming systems, such as organic, combined with a shift towards healthier, more plant-based diets, offer solutions to many of these critical environmental, social and economic challenges facing our current food and farming system.
- Organic agriculture has widely recognised biodiversity and other environmental benefits. It can make a significant contribution to mitigating climate change impact and can help to achieve improved food security.
- New and practical approaches such as the Food for Life Partnership, and Community Supported Agriculture are reaching young people and their families in thousands of communities across England, re-capturing their interest in food and how it is produced and nudging them towards healthier diets. Independent evaluation of the Food for Life Partnership has demonstrated significant public health gains, but future funding to secure these gains beyond 2011 is still uncertain.
- The Soil Association's Food for Life Catering Mark offers a vehicle for local and national Government to champion continuous improvement in food served in schools, hospitals, nurseries and workplaces not covered by the Government Buying Standards. Its stepping stone approach rewards increasing use of seasonal, local, organic ingredients, sustainable fish and high-welfare meat and provision of healthier menus based around fresh whole foods. Over 270,000 public sector meals a day are already accredited.

ENVIRONMENTAL IMPACTS

3. The cheap price of food from conventional intensive and industrialised farming systems fails to reflect the true value of our natural resources and the critical role they play in our food production systems. The negative externalities associated with conventional agriculture in the UK has been estimated at £1.51 billion a year; this includes water pollution, greenhouse gas emissions, soil erosion, loss of biodiversity as well as the adverse effects of human health. Such impacts subsequently affect our ability to ensure our own food security.

4. Organic food better reflects the true value of the natural resources on which our agricultural systems depend. By working with natural systems and making use of natural biological and ecological processes, organic farming systems can avoid many of the negative environmental impacts associated with intensive farming systems.

5. In recent months there have been renewed calls for agriculture to become ever more intensive, in order to produce higher yields, on smaller amounts of land, and to leave plots of land available for wildlife. Organic agriculture proves that it is possible to be productive in both food and biodiversity on the same land.

6. Over the last 50 years in the UK, there has been a steep decline in wildlife in the countryside. Research, much of it Government funded, has identified that agricultural intensification led to these declines. Organic agricultural systems however, have the ability to reverse this trend. There is now scientific evidence to show the biodiversity and wider environmental benefits of organic farming systems compared to conventional. In 2005, a review of 66 published studies that compared organic and non-organic farming systems, concluded that on average wildlife is 50% more abundant on organic farms and there are 30% more species, than on non-organic farms.

CLIMATE CHANGE AND AGRICULTURAL INPUTS

7. The current dominant system of intensive, monoculture agriculture has only been made possible through the use of high levels of artificial fertilisers and pesticides, inputs which will not be sustainable into the future given the greenhouse gas emissions (GHG) from their manufacture and use, as well as predictions of future resource shortages, as exemplified by peak oil and peak phosphate.

8. A significant contribution to the potential of organic farming systems to mitigate climate change comes from the carbon sequestration in soils. Several field studies have shown the positive effect of organic farming practice on soil carbon pools and on the basis of evidence so far available, a recent review of 39 comparative studies of soil carbon levels found that organic arable farming practices produce 28% higher soil carbon concentrations than non-organic farming in Northern Europe, and 20% for all countries studied.

9. Current intensive livestock systems in Europe are reliant on imported soy for animal feed which is helping to drive the destruction of South American rainforests. In the Amazon in the last decade, soybean cultivation, as well as intensive cattle grazing, has been the dominant drivers of land clearing. Between 1990 and 2006 the area used for soybean cultivation quadrupled. This process is having a negative impact on biodiversity, but also releasing GHGs and further contributing to climate change. A shift away from such systems, to grass-based systems, avoids this.

LAND USE

10. The question of whether organic farming can feed the world is one which is often posed. In developing countries show evidence exists that "organic agricultural systems achieve equal or even higher yields, as compared to the current conventional practices". An analysis of 286 projects covering 37 million hectares in 57 countries found that when sustainable agricultural practices covering a variety of systems and crops were adopted, average crop yields increased by 79%. A survey from the United Nations of 114 projects in 24 African

countries found that yields had more than doubled where organic, or near organic practices had been used. It also found that organic farming increased access to food through the production and selling of food surpluses at local markets which meant that farmers had higher incomes and increased purchasing power.

11. The University of Reading carried out a study into what food could be produced if all of England and Wales was farmed organically. They concluded that beef production could go up 68% and lamb production up 55%. The output of fruit and vegetables would stay about the same whilst chicken, egg and pork production would fall to roughly a quarter of current levels because of an end to intensive farming systems, which organic standards do not permit. Dairy production would fall by around 30–40%. The amount of wheat and barley produced would drop by around 30%. However, because we would be feeding far less grain to animals—more than half of the world’s crops are currently used to feed animals—we could have as much wheat and barley for human consumption under an organic system.

HEALTHY AND SUSTAINABLE FOOD FOR ALL

12. Our current food system is not sustainable, as it delivers a diet high in processed food, meat and dairy products to the developed world, and increasingly to the developing world. With concern over the nutrition transition in poorer countries and recognition of the necessity for a substantial worldwide diet change, away from animal products due to the climate impact of livestock products, and the negative effects on ill health, radical changes in both how we farm and what we eat are now needed.

13. The implication of the research from Reading University is that if organic farming was carried out across the country, the UK could produce sufficient yields to feed the UK population, but that our diet would need to change significantly, towards one that is healthier and more sustainable. This would include; an overall cut in dairy consumption, with dairy products to be sourced from grass-fed cows from extensive farming systems; more cereals and root crops and more seasonal fruit and vegetables; and less meat overall, but more grass-fed beef and lamb.

PRACTICAL EXAMPLES

14. These examples highlight how a step by step approach to ensuring that local, fresh and organic food can be provided and how local communities can be engaged in this process.

THE FOOD FOR LIFE PARTNERSHIP

15. The Food for Life Partnership is a coalition of charities that supports schools and local authorities; pupils, families and communities; school teachers and catering staff and British farmers.

16. The network of Food for Life Partnership schools and communities across England are committed to transforming food culture. The initiative is funded by the Big Lottery Fund and led by the Soil Association, bringing together the practical expertise of the Focus on Food Campaign, Garden Organic and the Health Education Trust. It is revolutionising schools meals, reconnecting young people with farms and inspiring families to cook and grow food.

17. Some examples of outputs from the initiative include:

- Over 3,300 schools working towards the FFLP Bronze award in partnership with their caterer;
- 182 Flagship schools and communities across England passing on the learning to other schools about the benefits of a whole school approach to food;
- over 107,000 children, parents and school staff have been cooking, growing and visiting farms thanks to the Food for Life Partnership; and
- over 250,000 children eating Food for Life accredited meals every day across England.

18. Independent evaluation by the University of the West of England and Cardiff University has found that 43% parents have changed their food purchasing and 43% say their families are eating more vegetables as a direct result of the Food for Life Partnership.

19. Lottery funding for the Food for Life Partnership ends in December 2011. The transition to a stronger local public health service from 2013 may offer opportunities for local commissioning of evidence-based interventions such as the Food for Life Partnership. However, there is a very real risk that the programme and the support it offers to over 3300 schools will disappear without transition funding for 2012.

THE FOOD FOR LIFE CATERING MARK

20. The Soil Association operates a national kitemark scheme for sustainable catering, the Food for Life Catering Mark, which was developed in 2008 with support from the South West Director of Public Health, and was launched by HRH the Prince of Wales to caterers in the private and public sectors early in 2009

21. The Food for Life Catering Mark gives caterers public recognition for making step-by-step progress towards healthier and more sustainable menus. Three tiers, from Bronze to Gold, reward caterers for removing

hydrogenated fats, additives and highly processed food and demonstrating increasing use of high welfare meat, sustainable fish and locally sourced and organic ingredients.

22. This voluntary scheme has been widely taken up by schools, nurseries, hospitals, sports clubs, venues and restaurants. It already certifies over 230,000 meals a day in the public sector, including meals served by 11 local authorities and 13 contract caterers in the schools' sector. Over a third of London's boroughs are now serving school meals certified to Food for Life Bronze standards or higher.

23. Importantly, the Food for Life Catering Mark acts as a trusted independent verification of standards, and has wide public recognition thanks to the profile of Food for Life in over 3,000 schools across England.

24. The Food for Life Catering Mark offers a vehicle that local and national government can and should champion to show leadership in public sector food beyond central Government departments covered by the Buying Standards.

COMMUNITY SUPPORTED AGRICULTURE

25. Community Supported Agriculture (CSA) is a partnership between farmers and the local community providing mutual benefits and reconnecting people to the land where their food is grown.

26. Benefits to the local communities:

- consumers benefit from receiving fresh food from a known source;
- a local economy enhanced by higher employment, more local processing, local consumption and a re-circulation of money through "local spend";
- educating people about varieties of food, its production methods and costs; and
- having an influence over the local landscape and encouraging more sustainable farming.

27. Benefits to farmers:

- a higher and fairer return for their products by selling direct to the public;
- increased involvement in the local community; the opportunity to respond directly to consumers' needs; and
- receive help with labour and planning initiatives for the future.

CONCLUSION

28. We hope that the Committee will consider the evidence presented here as an accurate outline of the current situation in food and farming. We hope you will agree that agro-ecological approaches such as organic farming have much to offer in terms of helping to solve a number of problems which our food and farming system currently faces.

29. The Soil Association is leading practical action on a significant scale via the Food for Life Partnership, Food for Life Catering Mark and Community Supported Agriculture initiatives to increase demand for sustainable food and nudge people towards more sustainable and healthy diets. Independent evaluation of the Food for Life Partnership programme has demonstrated significant public health gains, but future funding to secure these gains beyond December 2011 is uncertain.

30. We would be pleased to add further detail to these points via oral evidence to the Committee at your convenience.

25 March 2011

Written evidence submitted by the Agricultural Biotechnology Council

In response to the Environment Audit Committee's call for evidence, abc has prepared the following submission that looks primarily at the existing and potential future role of Genetic Modification (GM) technology in delivering a more sustainable food supply system in the UK.

The views expressed in this submission are those of abc—the umbrella organisation for the agricultural biotechnology industry in the UK. The companies involved are BASF, Bayer CropScience, Dow AgroSciences, Monsanto, Pioneer (DuPont) and Syngenta. Our goal is to provide factual information and education about the agricultural use of GM technology, based on respect for public interest, opinions, and concerns.

1. Executive Summary

1.1 Food price rises, climate change and pressures on resources caused by increasing demand have made maintaining and improving UK food security ever more critical. Technology can play a part in increasing stability and resilience in the food supply system, but only if policy makers take bold steps to allow farmers to use such tools.

1.2 Genetic Modification (GM) technology is not a “silver bullet” that will solve all of the challenges facing the global food supply system, but it does offer significant benefits to farmers, consumers and policy makers interested in seeking solutions to UK food sustainability, food security and the fight against climate change:

- GM technology can help farmers increase yields from the same amount of agricultural land, reducing the pressure on uncultivated land.
- GM technology can help farmers reduce their carbon emissions and water use.
- There is a role for Government to lead science-based debate on the role of GM in food sustainability and to offer consumers well-informed personal choice.
- There are risks inherent in refusing to utilise GM technology including more unstable food prices and reduced agricultural competitiveness.

1.3 This submission does not respond directly to those questions in the inquiry brief relating to localism and government procurement, as this falls outside the scope of abc’s work.

2. GM Technology and Background

2.1 GM crops are used extensively throughout the developed and developing world. Last year, over 15 million farmers in 29 countries chose to grow GM crops on 148 million hectares of their land. This amounts to the equivalent land mass of France, Germany and the UK & Ireland.¹⁷

2.2 However, the current scientific approvals system in Europe is mired in delays caused by political interference. This means that UK farmers are unable to access a vital tool to increase the sustainability of our food supply chain. It also directs agricultural R&D investment away from Britain and Europe.

2.3 The Government Office for Science has recently published the Foresight Report on Global Food and Farming Futures. This recognised the role of technology, stating that “investment in research on modern technologies is essential in light of the magnitude of the challenges for food security in the coming decades.”¹⁸

3. How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed?

3.1 With the global population projected to reach nine billion by 2050, agriculture faces the challenge of feeding an extra two billion people on a finite amount of land and with increasing competition for natural resources. At the same time, greenhouse gas emissions from agriculture must reduce.

3.2 Agricultural innovations such as biotechnology can help to reconcile these conflicting goals and reduce the environmental impacts of food production in a number of ways: through “sustainable intensification”, reducing the carbon footprint of agriculture, improving water management, and reducing pesticide application.

3.3 “Sustainable intensification”

- 3.3.1 As highlighted in the Foresight Report, “There are strong environmental grounds for limiting any significant expansion of agricultural land in the future [...] In particular, further conversion of rainforest to agricultural land should be avoided as it will increase greenhouse gas emissions very significantly and accelerate the loss of biodiversity”.¹⁹
- 3.3.2 Achieving the difficult goal of generating increased yields from the same amount of agricultural land is known as “sustainable intensification”. Biotechnology is one of the tools which farmers can use to achieve sustainable intensification, offering the potential for increased yields of 6%–30% on the same amount of land.²⁰
- 3.3.3 Enabling farmers to obtain greater yields from the same amount of agricultural land also reduces the pressure on marginal uncultivated land such as the rainforests.

3.4 Reduced CO₂ emissions

- 3.4.1 Biotechnology can reduce the carbon footprint and environmental impact of agriculture itself.
 - Fuel use and CO₂ emissions can be decreased thanks to less tillage. In 2009, GM cultivation led to global emissions reductions of 18 billion kg of CO₂, equivalent to eight million fewer cars on the road for one year.²¹
 - Insect damage to crops is decreased with pest resistant crops, significantly reducing the need for spraying with chemicals and the associated carbon generation.

¹⁷ Global Status of Commercialized Biotech/GM Crops: 2010, www.isaaa.org

¹⁸ *Foresight Report—The Future of Food and Farming: Challenges and choices for global sustainability*, BIS 2011, p 5.

¹⁹ *Foresight Report—The Future of Food and Farming: Challenges and choices for global sustainability*, BIS 2011, p 15.

²⁰ “Peer-reviewed surveys indicate positive impact of commercialized GM crops”, Janet Carpenter, *Nature Biotechnology* 2010.

²¹ Global Status of Commercialized Biotech/GM Crops: 2010, www.isaaa.org

3.5 Water management

- 3.5.1 By 2025 it is estimated that about 1.8 billion people will be living in regions with absolute water scarcity.²² As climate change makes growing conditions more unpredictable around the world, GM crops can also help to increase the reliability of crop yields and sustainable water management by:
- Reducing water loss and improving drought tolerance.
 - Protecting soils from erosion and compaction through less ploughing, conserving soil moisture in the process.
- 3.5.2 Second generation GM products are now nearing commercialisation, including drought tolerant crops, such as maize, which can maintain and even increase crop yields despite changes in water supply.
- These varieties could produce two million more tonnes of food under moderate drought conditions.

3.6 Reduced pesticide application

- 3.6.1 By reducing the frequency of activity required to remove weeds or pests, biotech improved crops can reduce the use of chemical inputs, soil tillage and fossil fuel use.
- In turn, this can reduce soil erosion, runoff from farmers' fields and CO₂ emissions (as above).

3.7 GM technology does not exist in isolation, and its effective use relies on other innovations in agriculture such as the use of crop protection products and modern management techniques. However, in order for the UK to realise these benefits, GM must be part of the mix of technologies available to farmers. Currently, the vast majority of GM products are inaccessible to UK and European farmers due to the existing European regulatory framework.

3.8 Europe is therefore using more land and resources than necessary to grow crops. With an increasing population, food security will only worsen and pressure on land use increase without the utilisation of technologies such as GM.

3.9 This is not only damaging to the competitiveness of the UK agricultural industry, but also pushes our share of the global responsibility for increasing yields onto producers outside Europe and in the developing world. This increases the pressure and environmental impact on resource-stressed areas.

4. How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

4.1 In order to deliver sustainable and affordable food for all, the UK Government must address stability of food prices and stability of supply in the face of rising demand from the growing global population.

4.2 UK farmers and our food chain operate within a global market, and must be able to use all technologies available to remain globally competitive and play a crucial role in delivering global food stability.

4.3 Without the latest technological innovations, UK farmers will find it increasingly difficult to achieve “sustainable intensification”, food price instability may increase, pressures on precious areas of natural land will intensify and policy makers may struggle to address hunger and under-nutrition.

4.4 GM crops form part of a mix of technologies and techniques which can help UK farmers improve the reliability of the food supply, and the *Foresight Report* recognises the importance of investment in agricultural innovation:

- “Investment in research on modern technologies is essential in light of the magnitude of the challenges for food security in the coming decades”.²³

4.5 Support for greater investment in agricultural technology and innovation in the UK could have a direct impact on food prices and food security, by increasing investment in crops designed with particular applicability to the UK.

- Investment in a combination of conventional plant breeding and GM has seen the rate of yield increase in North America greatly exceed yield gains in Europe over the last 15 years.²⁴

4.6 Such investment can be generated from the private sector through a positive and robust regulatory regime which allows public private partnerships to flourish, with the potential for billions of pounds of such investment in “green” biotechnology jobs and highly skilled employment in the UK (such as Syngenta’s facility at Jealott’s Hill). Such R&D could also assist an export led recovery as knowledge and intellectual property is exported round the world.

²² Coping with water scarcity. Challenge of the 21st century. UN-Water, FAO. 2007.

²³ Foresight Report—The Future of Food and Farming: Challenges and choices for global sustainability, BIS 2011, p 5.

²⁴ Average yields of maize in France have gone from one ton per hectare more than the USA in 2000 to one ton less than the USA in 2009.

4.7 In addition to securing the sustainability and affordability of food, GM technology can also deliver other benefits to consumers, with exciting prospects in the pipeline. GM technologies can make food oils healthier, for example, by reducing the saturated fatty acid content or by producing omega-3 fatty acids, which are associated with many health benefits.

5. *How can consumers best be helped to make more sustainable choices about food?*

5.1 In order for consumers to make sustainable choices about their food, they must be fully informed about the benefits and impact of their food choices, and also have access to a range of options.

5.2 The Foresight report recognises that clear communication on biotechnology is critical—“not just to spread new knowledge to policy-makers and potential users, but also to the public, specifically to engender trust in new science and its application”.²⁵

5.3 Several recent surveys have shown that the attitudes of UK consumers are open to the possibilities presented by biotechnology:

- 52% of UK consumers consider GM a means of tackling growing global food shortages (only 13% disagreed with this idea).²⁶
- 47% of UK consumers say GM crops would help farmers deal with increasingly extreme weather conditions and combat plant diseases (only 12% disagree).²⁷
- 64% of UK consumers agree with the statement “The European Union should encourage its farmers to take advantage of progress in biotechnology”.²⁸
- On average, only 5% of consumers questioned express unprompted concern about GM food.²⁹

5.4 However, consumers currently have no real way of exercising choice over whether to purchase products containing GM products and therefore cannot make an informed choice about the sustainability of the food they buy. We look forward to the day when consumers are able to vote with their wallets on this subject.

Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

5.5 In both food production and the supply chain, a significant barrier to UK competitiveness, “sustainable intensification” and agricultural trade is the current European policy on GM.

5.6 In 2010 a European Commission research compendium “A decade of EU-funded GMO research” revealed that over the last 25 years, more than 500 independent research groups have investigated the safety of genetically modified crops. They concluded:

- “according to the projects’ results, there is, as of today, no scientific evidence associating GMOs with higher risks for the environment or for food and feed safety than conventional plants and organisms.”³⁰

5.7 In spite of these findings, EU restrictions on the import and cultivation of GM feed and food are amongst the most restrictive in the world. This presents a problem for ensuring food security and affordability, both by impairing sustainability in food production, and by risking unnecessary cost in the supply chain.

5.8 *A barrier to sustainable food production*

5.8.1 The process for approving GM traits for cultivation by EU farmers has been beset by delays and political interference over the past 14 years. As a result, it has suffocated the development of UK and EU based innovation and has acted as a disincentive for companies to develop crops optimised for European use.

- Only two products from over 25 waiting for assessment have been approved for cultivation in the European Union throughout this time, despite a rigorous safety process. While many other products have waited for years for approval or otherwise due to political interference in what should be a science based assessment process.

5.9 *A restriction in the supply chain*

5.9.1 The UK livestock market relies on the importation of low cost GM soy feed from areas such as South America and the US. Currently, that soy can be turned away if it contains traces of GM feed which has been approved in the export country but not in the EU.

²⁵ *Foresight Report—The Future of Food and Farming: Challenges and choices for global sustainability*, BIS 2011, p 18.

²⁶ Genetically Modified Foods, IGD 2008, www.igd.com

²⁷ Genetically Modified Foods, IGD 2008, www.igd.com

²⁸ Eurobarometer, http://ec.europa.eu/health/eurobarometers/index_en.htm

²⁹ The Food Standards Agency tracker survey, 2009.

³⁰ The Food Standards Agency tracker survey, 2009.

- 5.9.2 To avoid importers viewing the EU and UK as impossible markets to operate in, the EU is in the process of approving a technical solution to allow the import of shipments containing <0.1% unapproved GMOs, provided they have received a positive safety assessment by the European Food Safety Authority.
- 5.9.3 This technical solution is welcome. However, the Commission is also seeking to grant EU member states the right to invoke a safeguard clause to ban the cultivation in their territories of a specific GM crop which has been approved for cultivation in the EU as a whole.
- 5.9.4 Most of the suggested grounds for opting-out are unlikely to withstand scrutiny by the European Court of Justice, because they are redundant, arbitrary, or both. Hence they are not a basis for substantive, persuasive or unequivocal evidence which would be required to justify a ban.
- 5.9.5 abc, along with a wide range of other stakeholders, is concerned that this new proposal will stem EU innovation, lead to more political interference in cultivation approvals and disrupt the EU internal market in agriculture. Discussions continue on these proposals, with key votes taking place over the next few months.

5.10 The UK Government must now work with European partners to ensure Europe's feed and food supplies are placed on a more secure footing by developing a longer term workable solution.

5.11 We believe any LLP limit should apply to both feed and food supplies to reduce uncertainty, costs and administration and that Europe should take a more enlightened view on allowing imports of food and feedstuffs that are approved and safely used within our trading partners' jurisdictions.

5.12 Many Member States have indicated their support for such a move, but it is up to the most influential players in Europe, such as the UK, to make the case.

5.13 The UK should lead the debate to ensure the final regulations are based on sound science, are internationally compliant and are workable and beneficial to UK farmers and consumers.

25 March 2011

Written evidence submitted by Sandwell Primary Care Trust and Sandwell Metropolitan Borough Council

<i>Question</i>	<i>Sandwell's views and experience</i>
<i>How can the environmental and climate change impacts of the food we choose to eat best be reduced?</i>	<p>This is no longer a distant or aspirational issue for Sandwell—this is an immediate and critical challenge for our future self-reliance and survival. The price of food worldwide is soaring. Reliance on the traditional bread baskets of the world—Canada, USA, Russia, the Punjab and South Australia has lead us to precarious, badly managed, environmentally polluted agriculture and increasing crop failure. We need to grow more food in Sandwell for our survival, for job creation, for land reclamation and for better health.</p> <p>Sandwell is responding by developing a community agriculture resource to increase self-reliance, reduce food miles, increase consumption of healthy foods and improve the overall quality of participating communities' health and well-being. This cannot be effectively exploited without investment to increase production and access. This investment includes material incentives for extending the network of community agriculture resources (currently threatened by public sector financial cutbacks and Public Health structural reforms) and support for encouraging/nudging people to make the best choices of the foods they buy. Sandwell's Eatwell (http://www.webwell.org.uk/eatwell) and Slimwell (http://www.webwell.org.uk/Eatwell/Lose-weight-with-Slimwell.htm) projects are good examples of the latter but shaping and mobilising social norms at a larger scale requires legislative, material and social marketing responses orchestrated by Government, the Food Industry and local communities.</p> <p>Producing more fresh food in and around urban areas will help improve resilience against the effects of climate change, increasing global demand for food and diminishing natural resources such as water and fossil fuels. However, Sandwell Council has recognised for some years that we also need to expand and strengthen the regional food supply chain into the Borough.</p>

<i>Question</i>	<i>Sandwell's views and experience</i>
<i>What are the land-use trade-offs that affect food production and supply and how should these be managed?</i>	<p>Sandwell MBC spends approximately £1.6 million on food every year. The bulk of this is procured on behalf of the school meals service, almost half in the form of fresh food. Fruit and vegetables, meat and dairy products are delivered daily during term time to dozens of different locations across the Borough. Some of this food is sourced from primary producers who are based outside the West Midlands region, which could be adding extra “food miles” to the cost of delivery as well as possible detrimental effects on the environment. Other inefficiencies are locked into the current supply chain as well—not least, the loss of potential business and employment to producers within the region who could be supplying the public sector “on their doorstep”. This will not only keep money circulating within the region but will also enable primary producers to invest more in their businesses and thus improving their ability to withstand the potential shocks from climate change and the increasing cost of diminishing resources eg water and fuel.</p> <p>Sandwell Council and REIP West Midlands commissioned a piece of independent research in 2010, into the action required to strengthen the regional food supply chain into Sandwell. This established that there is a range of primary producers in the region that have both the capacity and the will to work with the public sector to produce fresh healthy food for the urban area. One of the necessary elements now needed to ensure that the region can provide sustainably produced fresh food for the urban area is a small amount of additional capacity to enable the public sector to work with local primary producers and build up the necessary knowledge and relationships to ensure that supply and demand are well planned and coordinated for the long term.</p> <p>Food production in an urban area such as Sandwell could potentially have a significant greening effect on the appearance of the environment.</p> <p>Making best use of opportunities to work with local communities to build their capacity for producing healthy food. This could include using land that will remain vacant for a period of time during regeneration of an area. For example, use of raised boxes on derelict land to get around problems with soil contamination. Also need to explore opportunities for building micro scale food production into new multiple house building developments.</p> <p>Hydroponics may provide an alternative in areas with large amounts of contaminated land.</p>
<i>How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?</i>	<p>Government has a critical role in incentivising sustainable local food production (see above re community agriculture) and for nudging people towards more healthy choices through social marketing for example. However, access to enable those choices is a major barrier. Access is not simply about being able to get to a retailer that sells such foods but is also about the quality and cost of those foods. Developing and <i>maintaining</i> efficient and effective systems for monitoring access enables areas of real deprivation to be identified and the impact of interventions to be monitored for effectiveness. This requires a simple but truly reflective indicator and a routine and regular feed of data on cost, quality and availability. Several projects have reported on the distribution of food availability but all have been based on a single snapshot of information which cannot reflect the reality of a rapidly changing retail market with some shops closing and others opening.</p> <p>Sandwell has developed a method for constructing and mapping a simple indicator which can use information gleaned during the routine food hygiene inspections of local authority Environmental Health Professionals (EHPs). We are currently assessing the effect of this on the capacity of EHPs but initial assessment of the pilot indicates that this will have little or no impact on the routine work of EHPs. This principle should be formally extended to all EHPs.</p> <p>Areas of poor access have been demonstrated in several studies and incentives for retailers including tax breaks and reductions in business rates, and formal award/badging schemes are required.</p>

<i>Question</i>	<i>Sandwell's views and experience</i>
<i>How can consumers best be helped to make more sustainable choices about food?</i>	<p>Encourage and/or legislate for the least amount of processing and packaging possible.</p> <p>Sustainably—consider the food supply chain as a whole. The Government needs to continue to put resources into initiatives like the Public Sector Food Procurement Initiative to support the public sector boost local fresh food supply via their food procurement policies and practises.</p> <p>Sandwell Council has identified the Food Sector as an important sector in the economic regeneration of the Borough. The Public Sector has an important role in helping to develop sustainable long term relationships between the supply and demand side which are recognised as vital for this business sector.</p> <p>See above comments concerning improving access.</p> <p>It is notoriously difficult to change individual and community values, norms and beliefs around healthy choices. However, it is possible as demonstrated by the change in public attitudes to smoking, fitness, wearing seat belts and drink/driving have shown. These experiences clearly show that a long term commitment through statutory control (eg planning restrictions on certain types of food outlets, requirements for local authorities to monitor healthy food access in their communities), partnership with industry (farmers markets in urban areas), incentivising healthy choices (eg discounting healthy choices), providing effective and accessible information/intelligence (eg see indicator work above) and social marketing is necessary.</p> <p>Public Sector Sustainable Food Procurement ensures that the most vulnerable in our communities (ie the young and the old) have access to fresh healthy food.</p>
<i>Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?</i>	<p>We consider that food is not simply an economic commodity but a basic social utility in the same way as drinking water and energy supplies are regarded and regulated.</p> <p>Responsible practices need to become the business norm as well as enshrined in law if required.</p>
<i>How might the changing powers of local authorities and the localism agenda hinder, or be used to encourage, more sustainable production and supply of food?</i>	<p>Statutory responsibility for local authorities to assess their areas for healthy food access (as described above) as they have been for almost 100 years for environmental health nuisances with great effect.</p> <p>Powers for local authorities to restrict unhealthy access to unhealthy choices through public health input to the planning process—making this a “material consideration”.</p> <p>Using the food sector as part of economic regeneration.</p> <p>Providing information on access (including public transport) to healthy choices.</p> <p>Mainstream the use of access indicator (see above).</p> <p>Incorporate community growing opportunities into wider work with local communities. In Sandwell, initiatives such as Friends and Neighbours are working with communities to build on their strengths and support them in making decisions about, and influencing change in, their local areas. Local food production needs to be part of this approach, for example through working with the strong allotment community and through the development of community agriculture.</p> <p>Using the training agenda to develop skills in local food production and distribution and healthy catering. Develop links with local agricultural colleges.</p>

<i>Question</i>	<i>Sandwell's views and experience</i>
<i>How could Government procurement practices be improved to promote better practice across the food sector?</i>	<p>This is a symbolic demonstration of leadership and a statement of intent to the public. Schools, hospitals and other public institutions offer the opportunity to show how healthier, more sustainable food can be produced, procured and distributed.</p> <p>A statutory/contractual requirement on these institutions to purchase sustainably would be a great advance.</p> <p>Public sector organisations need to be accountable and be able to demonstrate how their food procurement and economic development policies/strategies will ensure sustainable resilient food supply chains into the future.</p>

28 March 2011

Written evidence submitted by the Food and Drink Federation

SUMMARY

- FDF supports the conclusions of the Government's Foresight project that we need to *produce more, from less and with less impact* in order to meet the twin challenges of future food security and climate change.
- We believe that much can be achieved with existing knowledge and technologies, notably by reducing waste and driving efficiency of resource use and best practice throughout the supply chain—and by helping consumers themselves to make more sustainable choices. FDF's Five-fold Environmental Ambition sets out how the UK food and drink sector is already contributing to this agenda.
- But more needs to be done to make sustainable food production a key strategic priority in its own right, with an integrated and joined-up approach to policy making on all relevant issues here in the UK, in the EU and in the wider international community.
- In addition to improving the research and evidence base for understanding and assessing impacts and their inter-actions at ecosystem levels, this needs to include: a whole food chain approach to sustainable sourcing and the promotion of best practice; more coherence in relation to energy and emissions policies and key areas of infrastructure; investment in innovation and the development of new knowledge and skills, and ensuring a genuine level playing field in terms of competition and regulation to ensure that external and compliance costs are reflected in ways which support comparative advantage and avoid distorting markets.

INTRODUCTION

1. FDF is the voice of the UK's food and drink industry, the country's largest manufacturing sector. The sector contributes 15% of manufacturing output, with a turnover of around £73 billion a year, gross added value of about £22 billion and an export performance which now exceeds £10 billion (excluding alcoholic drinks). We also directly employ around 440,000 people in the UK and are part of a wider food system employing around three million.

2. Our role is to supply consumers with safe, nutritious, appetising and affordable food and to help them make sustainable choices which will secure these benefits for the future.

3. Through our Five-fold Environmental Ambition,³¹ launched in 2007, we have made measured and verifiable progress in improving resource efficiency in the key areas of CO₂, water, food and packaging waste and transport. Based on data from our sectoral Climate Change Agreement, members have made a 21% reduction in emissions by 2009, compared to a 1990 baseline, passing our 20% target for 2010 a year early. We have also halved food waste to landfill, on track for achieving our target of zero by 2015. There has been similarly successful progress in saving water and against our other targets. Following a substantive review last year, we decided to make our existing targets even more challenging—including a commitment to reduce CO₂ emissions by 35% by 2020 (compared to a 1990 baseline), ahead of any other sector and the Government's own interim carbon budget. But, because the manufacturing sector is only responsible for a small share of total impacts, we have also set ourselves new aims seeking to influence performance and behaviour elsewhere in the value chain. This includes working with our suppliers, customers, employees, policy makers and other stakeholders to develop the necessary information, skills and business environment to deliver continuous improvement in the use of energy, water and other natural resources and help address wider issues of climate change and loss of biodiversity. We also aim to encourage the development of life-cycle thinking throughout the supply chain to help identify the most cost effective areas for further action.

³¹ http://www.fdf.org.uk/publicgeneral/FDF_Environmental_report_2010.pdf

4. Through our work on product reformulation, food science and safety, nutrition and labelling, we are also seeking to make a real difference to health and well-being and a better understanding of the complex relationship between diet and sustainability.

5. We believe that a competitive and sustainable UK food manufacturing sector has a key role to play in economic recovery and green growth, as well as helping to ensure future food security, not least as the major customer for a more productive UK agriculture, exploiting the comparative advantage we are likely to enjoy for many temperate crops as a result of climate change and the increasing inability of some existing producers elsewhere to adapt to more demanding growing conditions.

6. The FDF Seafood Group is also playing a leading role in promoting radical reform of the EU's Common Fisheries, notably through a Europe-wide industry alliance with WWF, bringing retailers and processors together in support of more sustainable conservation and management of this vital renewable food source.

7. In all these areas we work closely with Government and other interested parties and seek to contribute to wider public debate.

OUR VIEW OF THE KEY CHALLENGES

8. We have participated fully in the development of current UK policy on sustainable food, from its origins in the Food Industry Sustainability Strategy (FISS),³² through the Cabinet Office "Food Matters"³³ report of 2008, to the more recent Defra work on Food 2030.³⁴ We believe that the recent Foresight³⁵ report provides an authoritative and compelling account of the underlying drivers and challenges for the future and the high-level areas where action is needed at both national and international level. But more needs to be done to achieve greater coherence in policy making, particularly in relation to energy and emissions policies and key areas of infrastructure, such as waste, water and transport. There are also clear risks of market failure in respect of the innovation, new technologies and skills which will be needed to meet the longer term challenges—and in relation to the research and evidence base needed to support improved life-cycle analysis and better understanding of the trade-offs and unintended consequences, particularly in terms of wider eco-systems. Addressing these will require both public investment and a clear strategic framework to provide the consistency and longer term stability required for businesses themselves to plan and invest. UK manufacturers also need a level playing field in international markets in order to remain competitive and profitable.

RESPONSES TO THE SPECIFIC THEMES IDENTIFIED BY THE COMMITTEE

How can the environmental and climate change impacts of the food we choose to eat best be reduced?

9. For most foods, the biggest impacts occur either on the farm (method of production, use of fossil fuel based inputs and water) or in the home (how food is stored, prepared, cooked and waste disposed of). Key to addressing this is a better understanding of how and where such impacts arise, and their relative importance, through improved life-cycle analysis. This also needs to take account of wider issues such as biodiversity and—particularly for water—qualitative as well as quantitative impacts. There may also be significant geographical and seasonal variations for the same product, as well as indirect impacts through land use change. These make it very difficult to derive standard or aggregate values of the sort which would be necessary to underpin a labelling system, as recent Defra research³⁶ has concluded. This suggests that a consumer-driven model of behaviour change in the supply chain is unlikely to be effective and could give rise to significant unintended consequences. The onus should instead be on producers and processors to minimise adverse impacts across the value chain, combined with better information for consumers on how to store and cook products and improved waste disposal and recycling systems to maximise resource efficiency. Cutting waste remains a major challenge, especially before food enters the supply chain and from the point of retail sale.

What are the land use trade-offs?

10. This is a very complex issue. Apart from food production, land plays an essential role in greenhouse gas management (particularly storage of CO₂, NO₂ and CH₄) and in water collection and filtration. The potential for land to support different activities also changes over time as a result of changes in technology and climate, as well as the use of irrigation and fertilisation. In an ideal world, natural resource accounting systems would provide some indication of relative costs and benefits to enable better choices to be made. But, at present, the costs of many of the externalities of land use are simply not reflected in the price of the resulting goods or services, even within individual countries, let alone across international supply chains. As the Foresight report makes clear, all natural resources need to be used in the most productive way. But there is no single prescription for this. Resource efficiency and comparative advantage are the key guiding principles.

³² <http://www.defra.gov.uk/foodfarm/policy/foodindustry/>

³³ www.foodsecurity.ac.uk/assets/pdfs/cabinet-office-food-matters.pdf

³⁴ <http://www.defra.gov.uk/foodfarm/food/strategy/>

³⁵ <http://www.bis.gov.uk/foresight/our-work/projects/current-projects/global-food-and-farming-futures/reports-and-publications>

³⁶ <http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=17104>

How can Government help to deliver healthy food sustainably?

11. As explained above, the sustainability of a particular food is a complex issue depending on where and how it is produced, stored, transported, processed and consumed. These variables are largely independent of the dietary characteristics of the food itself. Vegetables grown in heated greenhouses would commonly be regarded as “healthy”, but this does not automatically mean they are sustainable. Certain foods can be produced in very sustainable agricultural systems, but this does not necessarily make them “healthier” than equivalents produced under different conditions. While it is possible to construct models of sustainable diets, for example the WWF Livewell³⁷ recommendations which build on the FSA Eatwell plate³⁸ these are inevitably restrictive and prescriptive in terms of consumer choice—and also impose constraints on manufacturers and retailers in terms of potential sourcing. Gaining consumer acceptance for such changes on the scales needed to make material impacts would require not only a very clear—and easily understood—evidence base, but also major investment in consumer education and collaborative action across the supply chain. This could also have implications for competition law and potentially also for international trade if any regulatory underpinning were to be construed as a non-tariff barrier or interference with EU Single Market rules. These issues apply also to public procurement through Government Buying Standards. FDF’s preferred approach is for industry to continue its efforts to make its products as healthy and sustainable as possible within their own categories and to offer consumers a wide range of safe, nutritious and affordable foods from which to make their own choices to suit their own requirements and lifestyles.

How can consumers be helped to make sustainable choices?

12. This is closely linked to the previous question. Improved consumer information and education are clearly very important, but this presupposes a sufficiently strong evidence base for messages to be conveyed in ways which promote positive behavioural change and avoid unintended consequences, such as undesirable changes in diet. It again raises the question of choice editing and the link between sustainable diets and healthy eating.

What aspects of production and supply present the biggest problems?

13. In resource terms, greenhouse gas emissions and water use in primary agriculture—and energy and water use in the home—are by far the largest areas of impact. Foresight found that domestic impacts alone were larger than manufacturing and retail combined. But waste—whether water, energy or food itself—remains the largest single issue across the whole supply chain. In the present food system, manufacturers (and retailers) probably have the most direct incentives to minimise waste as all their inputs are quantifiable in financial terms. Although farmers and consumers also incur monetary costs from waste, these are often much less transparent and in some circumstances either ignored or accepted as part of wider overheads. Some of the externalities of food production and consumption, such as biodiversity impacts (and water use outside the UK) may not bear any obvious monetary cost at all. Again Foresight suggests that these are issues which need to be addressed internationally at broader food system governance level.

Role of local authorities and localism?

14. The need for joined-up, coherent and consistent policies, repositioning food production in Government are key findings of the Foresight report. There is also emphasis on the need to improve infrastructure. Different approaches by different local authorities to many of these issues could result in disjointed and ineffective actions, as well as creating market and competitive distortions. A clear current example of this is provision for recycling, with different authorities collecting different materials in different ways. This makes it very difficult to provide on-pack advice to consumers on what can be recycled where, or for industry to agree on new pack designs or technologies. Planning consent for changes to production sites, such as the installation of anaerobic digestion plants or more rational use of entrance or exit roads is another area of common concern. The concept of localism could accentuate some of these difficulties, as well as reinforcing certain popular misunderstandings in relation to sustainability, for example that small scale or extensive systems are inherently superior, or that food miles are significant indicator of environmental impact. What matters in all these examples are the actual resources used compared to other systems, which can only be established through proper life-cycle analysis. Fruit or vegetables from Africa or Asia can have lower carbon footprints than their locally grown UK equivalents depending on a whole range of factors relating to production systems, scale of operation and transport methods. The same may be true of water and biodiversity impacts, though this again needs to be established on the basis of sound evidence.

Government procurement policies

15. There is clearly scope for Government to lead by example in its own behaviour and procurement policies, provided these are fully evidence-based and respect the rules and principles of fair competition at national, EU and international level. The problems of defining sustainable or healthy food are the same for Government as for the food chain itself—and subject to the same considerations in respect of potential trade-offs and unintended consequences.

³⁷ http://wwf.org.uk/what_we_do/campaigning/food_campaign/livewell_2020/?pc=AGT004002

³⁸ <http://www.nhs.uk/Livewell/Goodfood/Pages/Healthyeating.aspx>

CONCLUSION

16. Sustainable food production is central to future food (and water) security and to helping mitigate climate change. It is arguably one of the biggest challenges facing the world—and needs to be addressed on a global scale. Improved resource efficiency and the principle of comparative advantage are both vital to living within the natural limits of the planet and its ecosystems. The UK food industry is leading by example by addressing its own environmental impacts and reformulating its products. But change has to happen across the whole value chain and in consumer behaviour. This needs to be done within a clear strategic framework which puts sustainability at the heart of joined-up Government policy making. Sustainability is also the key to green growth and future prosperity. We believe that UK food and farming have the potential to make a major contribution, given the right operating environment and support for the innovation, skills and research base which will be needed.

28 March 2011

Written evidence submitted by Food Matters and the Brighton and Hove Food Partnership

INTRODUCTION AND SUMMARY

1. This is a joint submission from Food Matters and the Brighton and Hove Food Partnership. Both organisations have worked extensively and collaboratively for the past seven years to create a more sustainable food system in Brighton and Hove and welcome the opportunity to submit evidence based on this experience to the Environmental Audit Committee enquiry on Sustainable Food.

2. The nature of the enquiry is wide ranging, and we have therefore kept our submission to four key areas where we feel we have evidence and experience, as well as some general considerations:

- *A model for local action to create a sustainable food system:* the role of Food Partnerships and a strategic integrated approach to food work.
- *Planning and access to land:* the importance of access to land at a local level for sustainable food production.
- *Capacity building and skills development:* building capacity and empowering individuals and communities.
- *Affordable food in a sustainable food system:* ensuring that while the real cost of food production and consumption is reflected in food pricing, sustainable food is available and accessible to all members of the community.

3. The following is a summary of recommendations for action on sustainable food systems:

- Support the development of a research agenda to provide baseline data and evidence of what works.
- Undertake an evaluation of the social, economic and environmental impact of local community food initiatives.
- Support the establishment of food partnerships as a model for delivering a sustainable food system at a local level.
- Partnerships between landowners and community groups should be incentivised through the tax system or other means.
- The “community right to buy” should explicitly include the right to buy land for sustainable food production.
- Research must be undertaken to understand the impact of rising food prices on the poorest in society and to understand how to ensure sustainable food becomes the “norm” and not a niche market, and increase accessibility in our poorer communities.

GENERAL CONSIDERATIONS

4. The creation of a sustainable food system requires action at both a national and local level, by both national Government and local authorities, and by industry and the individual. It must include a mix of legislation, voluntary action, financial investment in research and development and leading by example, for example supporting sustainable food procurement. The target to reduce carbon emissions by 80% by 2050 will require concerted action on all aspects of the food chain, which contributes over 22% of UK ghg emissions, if it is to be achieved.

5. We are concerned that current Government policy, whether driven by the economic situation, or ideology, favours a less interventionist approach than is required if we are to have any impact on the twin crises of diet related disease and climate change. For example, in relation to public health, the current Government’s direction of travel is to emphasise personal responsibility and the “nudge” approach, and to encourage “responsibility deals” from industry, and we are concerned that the effectiveness of this is limited and is a slow burn approach. Without a firmer and more robust lead from Government on these issues anything we may achieve at a local level will fail to create meaningful change.

6. Creating a sustainable food system requires “joined up” action both within national government and local authorities. This approach was reflected in *Food 2030* and we would encourage the current Government to continue to develop and deliver this strategy and to maintain full cross departmental engagement in the issues.

7. Government policy on sustainable food must reflect the relationship between agriculture and food production/processing, public health, environmental sustainability and economic prosperity, and that solutions to prevent diet related health crises can be the same as those required to reduce the food system’s impact on climate change. Agricultural policy, for example, should recognise and be consistent with the requirement from public health and climate change to increase sustainable consumption of fruit and vegetables and decrease meat consumption.

8. There needs to be more explicit acknowledgement by Government and local authorities of the value of food in our culture and society, and in particular the role that it can play in delivering a range of desirable public policy targets—for example increasing social inclusion, improving educational attainment, reducing food waste, delivering skills and training, improving physical and mental health and creating local employment opportunities. Financial investment in sustainable food, for example in the school meals service, and food work, particularly at a local level, can reap a range of both direct and indirect benefits.

9. There is a lack of baseline data and evidence of what works underpinning the creation of a sustainable food system. There is a need to develop a systematic research agenda and prioritisation of funds to more fully understand how to achieve this. From a local perspective, for example, we require more evidence/data in order to understand what priorities for action in the areas of healthy diet and climate change are going to give us the best return on any investment of time, money and effort. We look to national Government to provide this information or to fund the gathering of such information.

10. Over recent years there has been a revival of interest in food across the UK and a variety of initiatives and projects at a community level which are contributing in small but important ways to the creation of a sustainable food system—from farmers markets to growing projects and from cookery classes to food festivals (see below for an illustration of this in Brighton and Hove).

11. Some, but not all, of this activity in the last few years has received public support, for example funding from the NHS or Big Lottery (Food for Life, Local Food Fund) but is now in danger of losing this in the current economic climate and the positive results of this investment will be lost. Our experience is that these projects often require a relatively small investment but can deliver a high return. The social, economic and environmental impact of local food projects should be evaluated and their contribution to a sustainable food system better understood. Examples of best practice should continue to be supported and mainstreamed.

A MODEL FOR LOCAL ACTION TO CREATE A SUSTAINABLE FOOD SYSTEM

12. Food is a cross cutting issue and therefore requires strategic, partnership working between stakeholders who may have diverse interests but share a common goal of creating an economically viable local food system which delivers healthy and affordable food within sustainable environmental limits. Locally this includes the health sector, the local authority, the community and voluntary sector, the business sector and individual residents.

13. The Brighton and Hove Food Partnership (BHFP) was established in 2003 by Food Matters, the Sustainability Team at Brighton and Hove City Council, the Primary Care Trust and other partners to create a place for all those with an interest in or working on food issues to work collaboratively to create a more sustainable localised food system. In doing this it “joins up” social, environmental and economic concerns. The BHFP has pioneered this approach and is frequently contacted by other areas for advice on establishing similar partnerships.

14. Today the BHFP is a not for profit limited social enterprise employing 12 full time equivalent staff, 20 volunteers and with an annual turnover of £600K. It is funded through a mix of service delivery for the Primary Care Trust and grant funding (Big Lottery, trusts and foundations). It delivers a variety of work including weight management programmes, cookery in the community, support for growing projects, community compost workshops, networking and information exchange, educational events and strategic advice and support, working with a variety of public sector and community partners. It is a vehicle for lobbying and campaigning for structural change in food related policy, all within the mission of the organisation to create a sustainable food system.

15. As a membership organisation rooted in the voluntary sector and working in partnership with statutory agencies, the Food Partnership reflects many of the principles inherent in the Government’s localisation and Big Society agenda. It believes that empowering individuals and communities to take more control over their food will result in a more sustainable system which delivers better health outcomes and environmental sustainability. The myriad of locally based projects such as community gardens, community owned shops, buying co-ops, are truly the Big Society in action.

16. The establishment of local food partnerships is a way of creating sustainable food systems from the bottom up. However, as stated above this approach can only be effective if matched by Government action at the top. There are areas of work beyond the reach of local communities such as the operational activities of

large scale national retailers or caterers, creating a fair trade system, the re-formulation of food products to reduce salt, and whilst we can lobby for change in these areas it requires Government action to achieve it.

17. Support should be provided for the establishment and running of food partnerships within local authority areas across the country as a model for delivering a sustainable food system at a local level. Although they have the capacity to ultimately become self sustaining through delivery of services, again reflecting the ethos of the localisation agenda, this cannot be achieved without initial support to build capacity.

18. Some examples of work delivered by the BHFP which is helping to create a sustainable food system within the City:

- *Spade to Spoon: A Food Strategy and Action Plan*: Food Matters and the BHFP pioneered the development of a city wide food strategy in 2003 integrating the social, environment and economic impact of the local food system. It creates a framework for target setting and local action in areas such as education, waste and procurement.
- *Harvest Brighton and Hove*: a lottery funded project to increase the amount of food grown in the city and access to locally produced food. In addition to creating opportunities for residents to grow more food it is looking at long term policy that supports local food production and how the city will feed itself in the future.
- *Referral System*: funded by NHS Brighton & Hove the service is a single point of access for professionals looking to refer overweight and obese adults and children to healthy lifestyle programmes. Coordinators trained in behaviour change contact referrals to assess readiness to change and place clients on the most appropriate programme.
- *Healthy Choice Award*: joint initiative from the BHFP and the Food Safety Team at Brighton & Hove City Council designed to help people identify restaurants offering healthier food when eating out. Breakfast clubs, nurseries, care homes and other settings can also apply for the award.

PLANNING AND ACCESS TO LAND

19. Access to land for food growing is an essential aspect of a sustainable food system. The value of land in the south east of England is a barrier to the creation of viable small scale food production such as horticulture or small mixed agricultural operations, yet it is essential to create opportunities for this to flourish. Partnerships between landowners and community groups with viable business plans for food growing should be incentivised through the tax system or by other means.

20. In a high density urban setting such as Brighton and Hove access to land is challenging, yet within the City there is a surprising amount of land, and the city council holds 10,000 acres of publicly owned farmland around the City. Small scale farming on the peri-urban fringe and beyond, and even within the City, is an essential component of a sustainable food system. The proximity to the market place offered by a city shortens the supply chain and offers additional opportunities for connecting with consumers.

21. The planning system should support small scale food production and related infrastructure (abattoirs, distribution hubs etc). Although giving more power to local communities through the decentralisation and localism bill sounds commendable there is a danger, particularly in an urban setting, that the competing interests and lobby of development (housing and industry) will outweigh the need to maintain or create new land for food production.

22. One way of safeguarding against this is to ensure, as has happened in Brighton and Hove, that the core strategy and local plan for an area includes the need to create opportunities for sustainable local food production.

23. The “community right to buy” aspect of the localisation bill should explicitly include the right for the community to buy land that is appropriate for viable sustainable food production. Currently this is not addressed in the framework. Publicly owned land suitable for food production should be identified as an asset to the community and subject to the right to buy.

24. The potential of urban agriculture/food growing within cities should be evaluated to assess the role it can play in sustainable food systems. Although the volume of food produced may not be substantial enough to be of value, the indirect impact of access to open space, physical activity, the visibility of food production for the education of children etc, can have social and health benefits.

25. In Brighton and Hove Food Matters and the planning department of the City Council as part of the Harvest Brighton and Hove project, are preparing a “planning advisory note” which encourages all new developments and conversions to include food growing opportunities. In the city where space is at a premium this includes the creative use of roofs, walls and edible landscaping. This is a model that should be adopted by other cities.

26. A constantly recurring issue at local level is how to ensure that local shops are not squeezed out by the arrival of multiple retailers, whether out of town or on the high street. In the latter case it is often impossible for the community to have any impact if a multiple retailer moves into an existing premises and is not required to go through the planning system. The Decentralisation and Localism bill should allow communities to develop

retail strategies for their neighbourhoods which can influence the right mix of traders which best supports local needs and a sustainable food system.

CAPACITY BUILDING AND SKILLS DEVELOPMENT

27. A sustainable food system requires skills and knowledge that have often been forgotten, at all points in the food chain. In a city this is more likely to focus on the consumer and provision of knowledge around cooking and healthy eating as well as information on food and how it is produced. The members of a local food partnership understand the particular needs of their community and how best to provide those skills.

28. Partnership working can add value to the work of individual organisations through linking partners, sharing information and attracting and distributing funding to smaller grassroots partners. In Brighton and Hove our Good Food Grants programme has distributed funds of up to £1,000 to 111 smaller organisations over the past four years.

29. Capacity building in the local food system also requires the expertise and local knowledge provided by partnership working—again in the case of Brighton and Hove this focuses mainly on the market end of the supply chain, ensuring that there are outlets within the city for local producers to supply, and that there is an infrastructure to facilitate this. Food Matters is currently leading on a project to bring producers and catering buyers within the City’s extensive hospitality sector together to explore how to increase the availability of local food.

AFFORDABLE FOOD IN A SUSTAINABLE FOOD SYSTEM

30. No-one doubts that a sustainable food system must reflect the true cost of production and offer a fair price to producers both within the UK and internationally. This inevitably presents a problem for consumers used to “cheap” food, and in particular for consumers on low incomes for whom the rising cost of food presents a real challenge when living on a limited budget.

31. Brighton and Hove, despite its position in the relatively affluent South East, falls within the most deprived 25% of all local authorities with pockets of severe deprivation amongst areas of relative wealth. The current cuts and moves such as the cap to housing benefit are expected to have a real impact in these communities. Much of the work undertaken by the BHFPP and Food Matters is with these communities where health outcomes are compromised by poor food access issues.

32. Research undertaken by Food Matters in 2007³⁹ has shown that there is a perception amongst low income consumers that “organic” and sustainable food is “not for us”. Farmers markets, box schemes and other means of accessing local sustainable food do not tend to attract low income consumers both because of this perception but also because the multiple retailers can offer cheaper, albeit less healthy options. This presents a genuine challenge to making sustainable food accessible to all.

33. Solutions to this issue can ultimately only be addressed by raising income levels. In the meantime there is a real worry that efforts to increase access to healthy and sustainable food currently undertaken by ourselves and many other projects across the country, all of which are facing budget cuts, will take a step backwards as incomes reduce and prices increase.

34. The importance of this issue must be acknowledged and addressed by national Government and local authorities. Firstly projects working on these issues must continue to be funded (long -term). Research must be undertaken to understand the impact of rising food prices on the poorest in society and in the longer term to understand how to ensure sustainable food becomes the “norm” and not an niche market, and increase accessibility in our poorer communities.

APPENDIX 1

FOOD MATTERS

Food Matters is a not for profit social enterprise working to create sustainable and fair food systems. We believe in the need for an integrated, strategic approach to re-localising food systems starting in our own community. We run training and deliver projects which empower individuals and communities to make better food choices—better for health, for the environment and for the local economy. We are based in Brighton and Hove but have a national remit and work to influence and inform national and local policy with our experience of running local projects with local people. We also offer consultation services to organisations which share our objectives

BRIGHTON AND HOVE FOOD PARTNERSHIP

Brighton & Hove Food Partnership is a not for profit company that works for a healthier, more sustainable food system for Brighton & Hove. It is a membership body with 500 organisations and individuals working in partnership to create a sustainable and ethical local food system. The Food Partnership also delivers community

³⁹ *Food: What’s on your Doorstep?* A series of participatory workshops exploring the relationship between communities and local, organic food, Food Matters (2007).

based projects including practical training, information, education and support on nutrition, cookery, food growing, health and wellbeing.

28 March 2011

Written evidence submitted by Sustain: the alliance for better food and farming

SUMMARY OF RECOMMENDATIONS (in the order in which they appear in this submission):

Government should:

- invest in the research and development needed to expand rapidly ecological farming systems such as organic, both domestically and globally;
- reduce income inequalities by, for example, raising minimum wage levels and increasing benefits so that everyone can afford good food;
- give more powers to the forthcoming Groceries Code Adjudicator so that the oligopoly of the major retailers can be broken up and retail diversity can flourish;
- lobby at EU and global level to remove unsustainable products from the market by providing a “floor” but not a “ceiling” of harmonised sustainability standards;
- make good food education and skills (such as cooking and gardening) part of the compulsory curriculum in all schools; and extend the protection for children from junk food marketing on children’s TV to all media viewed by large numbers of children;
- provide adequate funding for food law enforcement officers and public analysts, and accelerate the development of a sustainable food labelling system to stimulate product reformulation alongside consumer choice;
- fund independent organisations to run creative campaigns promoting the many personal, social and environmental benefits of diets containing modest amounts of high welfare meat and dairy products; and
- support the reintroduction of Joan Walley MP’s Public Bodies (Sustainable Food) Bill so that legally binding sustainability standards will cover all the food bought with taxpayers’ money.

Many of these recommendations are echoed in the recently published final report on food from the Sustainable Development Commission.⁴⁰

1. Introduction

1.1 Sustain advocates food and agriculture policies and practices that enhance the health and welfare of people and animals, improve the working and living environment, enrich society and culture and promote equity. We represent around 100 national public interest organisations, and are independent of the agri-food industry. More information about our work is available on our website www.sustainweb.org

1.2 This submission does not represent the detailed views of all our member organisations. However, it is based on extensive work with them, now and in the past, and on their published policy positions on the issues covered by this inquiry, so the general principles outlined are widely supported.

2. How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed?

2.1 As far as Sustain and its membership are aware, there is no “best” method to reduce the damage currently being caused by our unsustainable food and farming system. There is an increasingly wide range of policies that could be, and in some cases already are being put into practice, with varying degrees of success. We aim to touch on the major ones in this submission. The scale of the problems we are facing means that we are likely to need a combination of all of them plus, probably, others still to be devised and implemented by both the public and private sectors, along with citizens’ groups such as those in Sustain’s membership.

2.2 However, to say that all sectors need to be involved does not mean that government can absolve itself of responsibility. We are clear that it is government’s role to take the lead, and to take action—such as changing fiscal measures and regulations—that only government can take. This vital government leadership is expected by both significant sectors of industry,⁴¹ and by citizens.

⁴⁰ Sustainable Development Commission (2011). *Looking back, Looking Forward: Sustainability and UK food policy 2000–2011*. http://www.sd-commission.org.uk/publications/downloads/FoodPolicy10_Report_final_w.pdf

⁴¹ “...there appears to be a strong desire from industry for government leadership through coherent and appropriate regulation and legislation”. Quoted in report by the Institute for Manufacturing, University of Cambridge (2010) *Future scenarios for the UK food and drink industry*. Food and Drink Federation.

2.3 For its part, Sustain continues to liaise with its membership to develop its work in progress—sustainable food guidelines <http://www.sustainweb.org/sustainablefood/>. These guidelines underpin all our projects and campaigns and can be summarised as follows:

- Local, seasonally available ingredients help to minimise energy used in food production, transport and storage.
- Food from farming systems that protect the environment, such as certified organic produce, needs public support.
- We need to reduce the production and consumption of foods of animal origin (meat, dairy products and eggs), as livestock farming is one of the most significant contributors to climate change. What we do eat should be produced to high environmental and animal welfare standards.
- Avoid fish species identified as most “at risk” and buy fish only from sustainable sources—such as those accredited by the Marine Stewardship Council.
- Fairtrade-certified products for foods and drinks imported from poorer countries help to ensure a fair deal for disadvantaged producers.
- Tap water avoids the waste of energy, packaging and water involved in producing bottled water.
- Healthy and sustainable food comprises generous portions of vegetables, fruit and starchy staples like whole grains, cutting down on fat, salt and sugar and cutting out artificial additives.

2.4 Reducing food waste is not specifically mentioned above, but we consider it axiomatic that a sustainable food and farming system would reduce waste to minimal levels throughout the food chain (not just by consumers). Similarly, own-grown food (such as that grown in private gardens and allotments, and in a range of community spaces)⁴² is not specifically mentioned, nor is the importance of retail diversity, but both are likely to feature in updated versions of the guidelines.

2.5 We assume that “land-use trade-offs” in the question refers to the argument that organic and other sustainable forms of farming are said to be less productive and so, given the predictions of a growing population and increasing need for food, we will be unable to “afford” the extra land needed for these less intensive forms of production. We do not believe this to be the case, for the following reasons.

2.6 It is widely taken as a “given” that there might be nine billion people on earth by 2050. Population issues are outside Sustain’s remit, but we are aware of many countries that have implemented socially progressive measures to educate and empower women, one result of which has been rapid declines in birth rates.⁴³ Moreover, in terms of carbon emissions, for example, a single US citizen generates the same impact of 250 Ethiopians,⁴⁴ so it is vital also to address consumption levels.

2.7 Indeed, another often-quoted statement is that we need, roughly, to double food production. This is based on two premises: first, that there will be nine billion people, and second, that those nine billion people will eat a diet similar to what we eat now in rich, western countries. We have known for decades that the “western” diet (high in fat, sugar and salt and low in vitamins, minerals and fibre) is a major contributor to a long, and growing list of chronic diseases including cardiovascular diseases (heart disease and stroke), some cancers, diabetes (and other conditions exacerbated by obesity), and a number of oral and digestive disorders. It is not, therefore, sensible to accept that the rest of the world will adopt such a diet.

2.8 Rather, it is rich countries that should be adopting the dietary patterns of poorer ones ie diets that are based on starchy staple foods, are rich in a variety of vegetables and fruits, contain modest amounts of protein-rich foods (beans and pulses, or seafood or animal products) and that are steeped in cultural significance.⁴⁵ Colin Tudge⁴⁶ is perhaps the foremost author to highlight that the world’s great cuisines are composed in this way and that, as well as being delicious, they go with the grain of nature and are more sustainable.

⁴² See, for example, Sustain’s work to create 2012 new, food-growing spaces in London to celebrate the 2012 Olympic Games; <http://www.capitalgrowth.org/>

⁴³ Iran, not China, achieved the world’s fastest fertility decline, with birth rates falling from 6.6 children per woman in 1970 to 1.9 children per woman by 2010. Measures to achieve this included dramatic increases in the educational level of younger women, especially in rural areas. Similar policies have been pursued in countries as diverse as Thailand (Buddhist), Kerala in India (Hindu), and Italy (Catholic). *New Internationalist*, January 2010, issue 429 on population <http://www.newint.org/issues/2010/01/01/>. The articles also list original sources.

⁴⁴ Pearce, F. (2010) *Peoplequake: Mass Migration, Ageing Nations and the Coming Population Crash*.

⁴⁵ Sustain’s Real Bread Campaign—<http://www.sustainweb.org/realbread/>—is one of many signs that people are keen to rediscover the benefits of traditional, staple foods and their cultural origins.

⁴⁶ <http://www.colintudge.com/>

2.9 Finally, even if there were to be nine billion people (which we do not consider inevitable), organic and sustainable methods of farming can feed the world.⁴⁷ A series of major international reports,^{48 49} supported by the world's leading food and agriculture experts, make the case (with copious evidence) that not only is ecological farming productive, it is also likely to be the only system able to feed us sustainably into the future. Put briefly this is because ecological farming systems, such as organic:

- rely less than industrial farms on scarce and finite natural resources such as fossil fuels, artificial fertilizers and water; and
- produce more than just food, being superior to intensive farming in “producing” more biodiversity,⁵⁰ better animal welfare,⁵¹ and more jobs.⁵²

2.10 Government should therefore, both domestically and globally:

- fund effective and socially progressive methods of stabilising and reducing population consumption levels; and
- invest in the research and development needed to expand rapidly ecological farming systems such as organic.

3. How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

3.1 It is widely assumed that sustainably produced food is significantly more expensive than industrially produced food and is, therefore, not affordable for people on low incomes. In fact, the price difference between organic and non-organic food varies significantly, depending on the product (it tends to be small for dairy products), and the place it is bought (direct sales can be cheaper than major retailers). Similarly the price premium on products certified as, for example, Fairtrade, Freedom Food, or by the Marine Stewardship Council tends to be small. The great majority of people can therefore easily afford the extra cost (where it exists) of more sustainable food and a growing proportion of people are doing so, even in the recession.⁵³

3.2 For the, thankfully, small minority of people who genuinely cannot afford to pay more, the problem is not that food is too expensive but that wages and benefits are too low. As many have pointed out, we are paying the price of “cheap” food in the so-called “external” costs of damage to our health, our jobs, the quality of our environment and animal diseases (many of which can and do put human as well as animal health at risk). Keeping food prices low, alongside low wages and inadequate benefits, simply perpetuates this damaging downward spiral.⁵⁴

3.3 Even at global level, the problem is not that food is too expensive or too scarce, it is that poor people lack the money and/or land to buy or grow the food they need. As Amartya Sen⁵⁵ demonstrated long ago (to paraphrase), rich people never starve.

3.4 Reducing income inequalities is only one of the policies governments should implement to ensure that everyone can afford good food. The fact that this policy is usually regarded as separate from food and farming policy does not mean it should not be addressed by this inquiry. The same applies to other issues that have a profound impact on sustainable food and farming, such as:

- Competition policy. Government should give more powers to the forthcoming Groceries Code Adjudicator so that the oligopoly of the major retailers can be effectively broken up and retail diversity can flourish.
- Trade policy. Standards should be harmonised globally to remove unsustainable products from the market and provide a “floor” but not a “ceiling” on standards, so national governments can raise sustainability standards and protect their markets from lower ones.
- Procurement policy. Please see our answer to question 7 below.

⁴⁷ Compassion in World Farming & Friends of the Earth (2009). *Eating the Planet: How we can feed the world without trashing it*. http://www.ciwf.org.uk/what_we_do/factory_farming/eating_the_planet.aspx

⁴⁸ International Assessment of Agricultural Knowledge, Science and Technology for Development, 2008 <http://www.agassessment.org/>

⁴⁹ Olivier de Schutter, Special Rapporteur on the right to food (2011) *Agro-ecology and the right to food*. <http://www.srfood.org/index.php/en/component/content/article/1-latest-news/1174-report-agroecology-and-the-right-to-food>

⁵⁰ Soil Association (2000) *The biodiversity benefits of organic farming*. A review of nine studies, sponsored by WWF-UK <http://www.soilassociation.org/LinkClick.aspx?fileticket=Xe2yOpM84w0%3D&tabid=385>

⁵¹ See the Compassion in World Farming website: <http://www.ciwf.org/>

⁵² UNEP (2011). *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*, United Nations Environment Programme. http://www.unep.org/greeneconomy/Portals/88/documents/ger/GER_2_Agriculture.pdf

⁵³ Up to dates sales figures are available, for example, for Fairtrade products from <http://www.fairtrade.org.uk>, for Marine Stewardship Council certified seafood from <http://www.msc.org>, for Freedom Food products from <http://www.rspca.org.uk/freedomfood>, and for organic food from the Soil Association <http://www.soilassociation.org>

⁵⁴ These issues are dealt with in more depth in Food Ethics Council (2010) *Food Justice: the report of the Food & Fairness Inquiry*. FEC.

⁵⁵ http://en.wikipedia.org/wiki/Amartya_Sen

4. How can consumers best be helped to make more sustainable choices about food?

4.1 The concept of “choice editing” was perhaps first introduced to a wider audience in a report published by the then National Consumer Council (now Consumer Focus).⁵⁶ Among other things, it notes that consumer choice is never “free” but is always edited by retailers and others through pricing, stock control, product placement in store, marketing and so on. There is nothing inherently sinister about this practice, and indeed citizens largely trust major retailing and manufacturing brands to do precisely this and offer them only high quality products.

4.2 Ideally, citizens would choose from a range of products where all of them are sustainable, and there is good evidence to show that this would be welcomed. Both the Co-operative and Sainsbury’s, for example, now provide only Fairtrade lines in some product categories such as bananas and chocolate, and their customers happily accept this. Indeed, to reverse the question posed, why would people want to make unsustainable food choices? Who would prefer to buy products that perpetuated exploitative labour practices, animal cruelty, or environmental damage?

4.3 This is not to say that information and education is unimportant. Sustain is among the many organisations that continue to campaign for food education and skills (including cooking⁵⁷ and gardening)⁵⁸ to be a routine part of every child’s school experience. We also continue to campaign to protect children from misleading marketing,⁵⁹ and are among those who have long argued for compulsory, comprehensive and comprehensible information on food labels.⁶⁰

4.4 However, the main advantage of good product labelling—such as the traffic light labelling for nutrition⁶¹—is that it can stimulate product reformulation (for example, so that the product can carry a green rather than amber label). In other words, good labelling can contribute to choice editing so that citizens are presented with both a more sustainable product, and a label that is easier to understand. Unfortunately, efforts to devise such an approach have been piecemeal, to date, so Government should take the lead in bringing together experts in this area to accelerate progress.

4.5 Finally, it is also vital to protect the public services—environmental health officers, trading standards officers and public analysts—without whom food labelling laws could not be enforced. It is arguable, in fact, whether we are already passed the point of inadequate enforcement given the lack of funding at local level for the staff, laboratories and legal expertise necessary. This not only leaves citizens unprotected from misleading labelling, but also allows unscrupulous companies to mislead with impunity, thereby undercutting those with higher standards.

5. Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

5.1 We noted in our answer to question 3 above that many of the biggest problems inhibiting sustainable development—such as trade and competition policy—include but are larger than food and farming policy. Within the sector, we have also noted the current food and farming system’s dangerous reliance on finite natural resources such as fossil fuels, mined fertilizers and water, and a too narrow focus on “productivity” without accounting for “external” costs.

5.2 The current production and consumption of meat and dairy products epitomises this approach and could be said to be one of the biggest problems. Evidence continues to accumulate that eating fewer meat and dairy products, from high welfare extensive farming systems would be good for human health, improve animal health and welfare, protect the environment, and create jobs.⁶² Yet despite these considerable advantages much of the meat and dairy industry continue to oppose change. This is understandable, given their need for a return on their significant investments in intensive livestock systems, and the heavy downward pressure on prices exerted by the major retailers. These problems are compounded by deep cultural attachments to meat and dairy products that often signify wealth, status and even masculinity.

5.3 However, there are some promising signs of change. While the number of vegetarians in the UK has remained relatively stable, evidence suggests that more and more people are trying to eat less meat, with some

⁵⁶ National Consumer Council (2006) *I will if you will: Towards sustainable consumption*. http://www.sd-commission.org.uk/publications/downloads/I_Will_If_You_Will.pdf

⁵⁷ Sustain’s Children’s Food Campaign is among those urging the government to keep cooking in the school curriculum, in the current Department for Education consultation on slimming down the curriculum. http://www.sustainweb.org/childrensfoodcampaign/keep_kids_cooking/

⁵⁸ Sustain (2011) *Every school a food growing school*. Produced with a range of organisations including the Federation of City Farms and Community Gardens, Garden Organic and the Royal Horticultural Society. http://www.sustainweb.org/childrensfoodcampaign/food_growing_in_schools/

⁵⁹ See <http://www.sustainweb.org/childrensfoodcampaign/>. In particular we successfully campaigned for children to be protected from junk food advertising during children’s TV programmes.

⁶⁰ <http://www.sustainweb.org/labelling/>. Also House of Commons Environmental Audit Committee Sub-Committee Inquiry into environmental labeling. Memorandum by Sustain, October 2007.

⁶¹ Links to information about traffic light labelling can be found here http://www.sustainweb.org/childrensfoodcampaign/clear_food_labelling/

⁶² These arguments, and the evidence underpinning them, are set out in detail in Friends of the Earth (2011) *Factory farming’s hidden impacts*. http://www.foe.co.uk/resource/briefings/factory_farming.pdf

research suggesting that “meat reducers” account for 45% of the population.⁶³ Similarly, the market for higher welfare meat and dairy products continues to rise, encouraged by, among other things, high profile TV campaigns by a number of celebrity chefs.

5.4 Government could support these welcome trends by funding a creative marketing campaign promoting the many benefits of a low meat and dairy diet. We would recommend that such a campaign should not be run by government, but by trusted independent bodies. This model worked very well to promote smoke-free campaigns, where government funded respected charities like the British Heart Foundation and Cancer Research UK. They, in turn, hired top quality advertising companies to run high profile, imaginative and popular ads with a smoke-free message.

6. How might the changing powers of local authorities and the localism agenda hinder, or be used to encourage, more sustainable production and supply of food?

6.1 A number of localities are already taking steps towards a sustainable food system, including London.⁶⁴ Many more are implementing elements of such a system, such as becoming a Fairtrade Town,⁶⁵ and Sustain’s most recent campaign—inspired by Fairtrade Towns—is Sustainable Fish City.⁶⁶ “Localism” could help to bolster such initiatives, and the planning system could also give local communities more power to make their food system more sustainable.⁶⁷

6.2 However, “localism” is being proposed at the same time as major cuts in government spending, including at local level. Given the dominant role of large national, and indeed multinational food and agriculture companies in shaping the world’s food and farming system, our concern is that local authorities and other local actors will simply be too small and under-funded, in comparison. Their lack of power will severely limit the ability of “localism” to protect or create sustainable and local food systems.

6.3 Thus, for every local community that successfully prevents the opening of yet another major retailer, countless others fail to stop the march of the multiples. For every new food co-op or farmers market established,⁶⁸ another community food project closes because its funding has ended. For each new local food policy,⁶⁹ another is quietly shelved due to lack of funding to implement it.

7. How could Government procurement practices be improved to promote better practice across the food sector?

7.1 Each year government spends around £1 billion on food in schools, hospitals, care homes and so forth. More than a decade of voluntary efforts to improve public sector catering have been an expensive failure,⁷⁰ costing an estimated £54 million. Sustain’s Good Food for Our Money campaign⁷¹ has marshalled compelling evidence and widespread support (including from the catering industry) for its call on government to introduce mandatory sustainability standards for this food.

7.2 There are three main reasons why this policy change is vital. First, creating a £1 billion boost to the market for sustainable food would have significant, positive effects on the whole food market. Second is the symbolic importance of government practising what it preaches. The main message of the “I will if you will” report referred to earlier⁷² is that people are much more likely to, for example, buy more sustainable food if the agency advising them to do so is also buying sustainable food. Conversely, people react with understandable cynicism if they are being told to “do as I say, not as I do”.

7.3 Third, pending the rises in wages and benefits recommended in this submission, sustainable public sector food could help to address unequal access to good food. Elderly people in care homes, low income children on free school meals, young people in care homes, people who are ill in hospital—all of these vulnerable groups are more reliant than the average population on good quality food in public institutions.

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⁶³ Data on market trends in consumers choosing to eat less meat are collected regularly by the TNS Family Food Panel (www.tns-global.com), and reported by the food industry’s Food and Drink Federation on its dedicated Meat Free website: http://www.meat-free.org.uk/mf_market_trends.aspx

⁶⁴ London Development Agency (2006) *Healthy and Sustainable Food for London: The Mayor’s Food Strategy* <http://www.london.gov.uk/londonfood/useful-Information/mayors-food-strategy-06.jsp>

⁶⁵ Fairtrade Towns http://www.fairtrade.org.uk/get_involved/campaigns/fairtrade_towns/default.aspx

⁶⁶ <http://www.sustainweb.org/sustainablefishcity/>

⁶⁷ Sustain (2011). Good planning for good food: How the planning system in England can support healthy and sustainable food. <http://www.sustainweb.org/publications/?id=192>

⁶⁸ Making Local Food Work (2011) *Making Local Food Work: Influencing consumer buying behaviour*. <http://www.makinglocalfoodwork.co.uk/>

⁶⁹ The most recent being Bristol, which launched Who Feeds Bristol on 6 March 2011 www.bristol.gov.uk/whofeedsbristol.

⁷⁰ Sustain (2009) *A decade of hospital food failure*. Sustain (2010) *Yet more hospital food failure*. http://www.sustainweb.org/pdf/GFFOM_Hospital_Food_Second_Report.pdf

⁷¹ <http://www.sustainweb.org/goodfoodforourmoney/> The arguments and evidence are set out in Sustain (2010) *You fund it, government buys it and we all pay*. <http://www.sustainweb.org/publications/?id=184>

⁷² National Consumer Council (2006) *I will if you will: Towards sustainable consumption*. http://www.sd-commission.org.uk/publications/downloads/I_Will_If_You_Will.pdf

Written evidence submitted by the Sustainable Development Commission

BACKGROUND AND SUMMARY

From April 2000 until March 31 2011 the Sustainable Development Commission (SDC) was the Government's independent adviser on sustainable development, reporting to the Prime Minister, the First Ministers of Scotland and Wales and the First Minister and Deputy First Minister of Northern Ireland. Through advocacy, advice and appraisal, we helped put sustainable development at the heart of Government policy.

Food is at the heart of the sustainability challenges. The transition from the post-war era of rationing to today's previously unimaginable range of choice is remarkable. More people have been fed, food has become progressively cheaper, making available an unprecedented range of foods, across the seasons. Yet by no stretch of the imagination could our complex web of food supply, consumption patterns and impact be currently described as sustainable.

Attempting to articulate what a sustainable food system is—one that addresses the multidimensional challenges of health, fairness, environment and economy—and what is required for its delivery, has been a persistent theme of policy deliberations and the work of the Sustainable Development Commission over the last decade. A full list of publications relevant to sustainable food is given in Appendix 1. Our lead Commissioner in this field is Tim Lang, Professor of Food Policy, City University.

Our latest report, *Looking back, looking forward: Sustainability and UK food policy 2000–2011*⁷³ reviews progress towards sustainable food policy in the UK from 2000 to 2011—the period that reflects the lifetime of the SDC. It identifies specific challenges for food and sustainability and highlights priorities for action going forward. Its purpose is to advise policy makers in the UK Governments, as well as those in business, academia and civil society, who continue to pursue this important goal. It draws on previous work by the SDC in this area and is also informed by the findings of a survey of 145 experts within Government, business, academia and civil society during November and December 2010. Our submission draws on the evidence and findings of this work. The full evidence can be found in the report itself.

KEY POINTS

- The body and strength of evidence on the need to change the UK food system to face the immense challenges ahead grows rather than diminishes. Rising food inflation is again reminding Governments of the need to wean food production away from its dependency on oil. The need to waste less and feed growing populations healthily while reversing biodiversity, climate change and environment damage, are well documented. Yet policy development within Government remains inadequate to meet these challenges.
- While there has been some progress towards sustainable food systems in the UK, particularly in awareness of the issues we face and some aspects of delivery, not enough has occurred to dispel SDC's concern about failures to achieve systemic change. The core message of our submission is the need for urgency to speed up the pace and scale of change and to encourage present and future Governments to help transform UK food systems towards truly sustainable food.
- *Food 2030* was the first expression of an integrated sustainable food policy with wide stakeholder buy-in. The progress achieved in developing this vision is now being undermined by the Coalition Government's lack of commitment towards its goals. We urge the Government to re-energise the process of integrated policy thinking and to produce a Sustainable Food Delivery Plan by September 2011. This will require dialogue with the commercial, civil society and scientific worlds and cross-government working with relevant departments including Department of Health (DH), Food Standards Agency (FSA), Department for Business Innovation and Skills (BIS), Department of Energy & Climate Change (DECC), Her Majesty's Treasury (HMT), Cabinet Office (CO) and Department for Communities and Local Government (CLG).

SPECIFIC THEMES OF THE INQUIRY

1. *How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed?*

1.1 The food system is a complex web of food supply and consumption. Reducing the negative environmental (and social) impacts of this system requires an integrated approach, and the engagement of all sectors from production through to consumption, working in partnership with Governments. There is now good evidence of negative environmental and climate change impacts of our food system, from evidence of greenhouse gas hotspots (eg meat and dairy production/consumption; food waste, transport) to degradation of land, forestry, fisheries and water. The multiple threats identified by science must be turned into a more resilient, sustainable food system.

1.2 We need to see the whole of the food chain—primary production, processing, distribution, retail and catering—fully engaged and working towards meeting high sustainability criteria. Such clarity of purpose is currently lacking. Action to reduce negative impacts will require political will and leadership to accept the

⁷³ http://www.sd-commission.org.uk/publications/downloads/FoodPolicy10_Report_final_w.pdf

evidence and act upon it. There is a clear leadership role for government here. Climate change (like obesity) is a major market failure, hence policies that “leave it to the market” will fail to tackle the challenges adequately. In our report, *Looking Back, Looking Forward* we outline in more detail what government leadership would look like in practice. This includes developing a Delivery Plan to action the sustainability goals envisaged within Food2030.

1.3 In respect of land-use trade-offs, Foresight rightly in our view identified the need to produce more food sustainably—and coined a new phrase—“sustainable intensification”. The challenge, now, is understanding what this term means in practice, and particularly for the UK in the context of this inquiry. The long term viability of UK agriculture and horticulture and UK Food security depend up on the UK producing food sustainably, mitigating greenhouse gases, protecting the environment and enhancing the landscape as a public good. A significant challenge will be achieving an acceptable balance between producing, and where appropriate, importing sustainable food for a growing population, and meeting the increasing calls for agricultural policy/subsidies to incentivise and reward environmental stewardship. In order to achieve this, a reconnection of environmental services and food-producing land is overdue. We recommend that CAP reform should evolve towards a new Common Sustainable Food Policy, centred on the EU becoming a low impact, healthy and just food market.

1.4 The extent to which food production must respect environmental limits needs to be carefully considered. Soya, for example is not EU-sourced, but is common as an animal food and feed ingredient. There has been particular sensitivity about soya planting on land which was formerly tropical forest.

1.5 The capacity of land and soils to produce food is equally important. Soil is the foundation on which food production depends. It also holds carbon and has the potential to sequester more. Its importance in retaining water cannot be underestimated. All these are under extra threat due to climate change. The dependence of intensive agriculture on nitrogen-based fertilisers whose manufacture involves heavy use of finite and costly fossil fuels is also problematic. SDC welcomed the previous Government’s 2009 Soil Strategy⁷⁴ which sought to ensure England’s soils were maintained in a fit state to grow food sustainably and more abundantly. The loss of food growing land—to building, roads, “development”—cannot be ignored. Soil is the most precious resource and everywhere needs to be kept in good condition to feed people while promoting eco-systems support.

2. How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

2.1 In 2007 the FSA’s Low Income Diet & Nutrition Survey showed that general nutrition levels in the UK are poor, with people on low incomes even worse. The 2010 Marmot Review, *Fair Society, Healthy Lives*⁷⁵ to which SDC contributed, illustrated the continuing divide. The political challenge is to deliver a more equitable UK society for all. Government policies have tended to address the symptoms rather than the causes of such inequalities. For example, Department for Health’s *Healthy Start* programme⁷⁶ provides support, including vouchers towards the cost of milk, fruit and vegetables for pregnant women and children on very low incomes. Government needs to recommit to dramatically reduce the inequalities in our society which determine health divisions.

2.2 With food price rises currently present, and likely to continue long-term, the impact of price pressures on low income consumers is likely to be expressed in the further widening of health disparities. SDC recommends that UK Government needs to be explicit about how it is addressing food and health inequalities. New fiscal policies are required to improve affordability of healthy and sustainable food choices. The cost of ensuring a nutritious and sustainable diet should be reflected in setting minimum wage and benefit levels. We also recommend that Government needs to draw on the experience of and community initiatives to address food and low income issues and to support and enable the scaling up of successful initiatives.

2.3 Public sector food procurement is one route to address the challenge of delivering healthy, sustainable food for all, by ensuring healthy, sustainable food in schools, hospitals, social care, prisons, public sector workplace canteens etc. SDC recommends mandatory health and sustainability standards for all publicly procured food.

2.4 The emphasis on “cheap” food, heightened by price wars between retailers has had the effect of squeezing “costs” out of the food chain, often to the detriment of suppliers and workers. SDC is calling for Defra and the Office for National Statistics to regularly publish a breakdown of where in the food chain consumers’ “Food Pound” goes to ensure greater transparency as a means towards fairer distribution within food chains.

3. How can consumers best be helped to make more sustainable choices about food?

3.1 Firstly it is important to “define” sustainable diets. As SDC’s work to help define a sustainable diet (*Setting the Table*, 2009) showed, there are synergies between the environmental and health benefits of a sustainable diet. This work to advise Government on priority elements of sustainable diets identified reducing

⁷⁴ Defra (2009) *Safeguarding our Soils—A Strategy for England*.

⁷⁵ Marmot Review. *Fair Society, Healthy Lives: Strategic Review of Health Inequalities in England Post 2010*. London: Marmot Review; 2010.

⁷⁶ <http://www.dh.gov.uk/en/Publichealth/HealthyStart/index.htm>

the consumption of meat, dairy, fatty and sugary foods, and reducing food waste as the changes likely to have the most significant impact on making diets more sustainable. Nevertheless, more detailed work to identify how to integrate advice to consumers in a more coherent way is long overdue. SDC is recommending the need for UK bodies to define sustainable diets and to consider how policy can enable people to consume accordingly. We recommend this should be a new action led by Defra and the Department of Health, taking advice from specialist bodies.

3.2 Consumers are increasingly encouraged to be conscious of where their food comes from and how it is produced. Yet there remains a value-action gap between our beliefs or values and our actions, with “green” consumers remaining a minority. As we concluded in 2006, in the report of the Sustainable Consumption Roundtable,⁷⁷ the Government cannot simply hope to persuade the whole of the population to act in the way that “green” consumers do when many sustainable behaviours are more difficult, expensive or outside the norm. Consumers, therefore, need to be better “enabled” towards sustainable food consumption.

3.3 Understanding the ways in which people can best be enabled towards sustainable consumption needs to be a priority. SDC’s research⁷⁸ published in 201 suggests that enabling sustainable food production and consumption will also require more than a “nudge” to consumers and light touch civil society-led change, as conceived in some interpretations of Big Society thinking. It will require comprehensive and co-ordinated multi-sector movement and engagement, with a managed and constructive process of system change. We warn that Government should be wary of putting too much reliance on only one lever of behaviour change when the full range is far wider, from “soft” measures such as information, labelling and nudge to “hard” ones such as fiscal, regulatory and pricing.

3.4 Food labelling is often seen as the means to help consumers shop more sustainably. While labelling can assist the committed “green” or health-conscious shopper, it is less successful as a general motivator of behaviour change. Therefore policy should not rely solely on labelling to reshape consumer demand and aspirations.

3.5 Within this approach, food education in schools should also be a priority. SDC would like to see Sustainability Food Education becoming a theme around which exciting education could develop. We note the inspiring role that partnerships can have between NGOs and schools, for example, the Lottery-funded Food for Life Partnership.⁷⁹ We recommend schools be supported to put further emphasis on practical food experience, including cooking skills and food growing, and to help educate future food citizenship skills including understanding of how marketing affects food choices.

3.6 Food retailers, manufacturers and caterers also have a key role to play through more sustainable and ethical sources and choice editing. Examples include sourcing of sustainable fish, use of sustainable palm oil in products, free range eggs, poultry and meat, organic sourcing and waste and packaging reductions. In respect of the latter, the Courtauld Commitment has been an important driver, setting challenging and improving goals for businesses, monitored and reported on by WRAP (the Waste Resources Action Programme).⁸⁰ This “responsibility deal” has driven significant reductions in packed waste and reducing food waste over a number of years. By contrast, Andrew Lansley’s recent “responsibility deals” with business to tackle obesity are weak, lacking challenging targets and adequate plans for monitoring and reporting on progress.

4. Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

4.1 “Meat and dairy” account for 24% of the environmental impact of Europeans’ consumption patterns⁸¹ as they are major contributors to greenhouse gas and water footprints. We recognise the issue is complex but note that space for public dialogue is opening up. For example, work recently undertaken by the Food Ethics Council and WWF-UK demonstrates that there is consensus that in general it is appropriate for the UK Government to seek to reduce GHG emissions relating to what we consume⁸².

4.2 Reducing food waste remains a priority for action. SDC is recommending Defra’s forthcoming waste strategy include a commitment to zero food waste to landfill by 2015.

5. How might the changing powers of local authorities and the localism agenda hinder, or be used to encourage, more sustainable production and supply of food?

5.1 Food has proved successful as a means to engage people locally around sustainability issues, for example through the Transition Town movement and other local initiatives, such as the development of community supported agriculture, farmers’ markets, community growing schemes and local food partnerships.

⁷⁷ Sustainable Development Commission/National Consumer Council (2006) *I will if you will—Towards sustainable consumption*.

⁷⁸ Sustainable Development Commission (2011) *Making Sustainable Lives Easier: A Priority for Governments, Business and Society*.

⁷⁹ <http://www.foodforlife.org.uk/>

⁸⁰ http://www.wrap.org.uk/retail_supply_chain/voluntary_agreements/courtauld_commitment/index.html

⁸¹ Tukker, A, S Bausch-Goldbohm, *et al* (2009). Environmental Impacts of Diet Changes in the EU. Seville, European Commission Joint Research Centre Institute for Prospective Technological Studies.

⁸² MacMillan, T and Durrant, R, (2009) Livestock consumption and climate change: A framework for dialogue, <http://www.foodethicscouncil.org/files/Livestockconsumption.pdf?PHPSESSID=2f2701d105c5ee9c5ab93108f7bd8b25>

5.2 We see particular opportunities at local level to harness the enthusiasm of community-led initiatives with local authorities, public health bodies, schools, social enterprises and business through local food partnerships to deliver healthier, sustainable communities. We recommend that Government, through Defra, CLG and DH should encourage new local food partnerships to harness local bodies into the change process towards the goal of creating more sustainable UK food systems by 2030.

5.3 However there are considerable uncertainties around many of the proposed changes at local level, including to public health delivery. Situating local directors of public health within local authorities will potentially help to integrate better the delivery of public health within a broader sustainability framework, but this remains uncertain. Uncertainties about whether adequate public health funding will be available for tackling obesity and to support sustainability initiatives, remains a challenge, as does uncertainties over GP commissioning.

6. *How could Government procurement practices be improved to promote better practice across the food sector?*

6.1 It has long been recognised that public sector food procurement can promote good practice on healthy, sustainable food provision, yet in reality this has failed to live up to its promises to deliver. The existing, though limited, good practice in this area has not had the support and backing of government. SDC was disappointed when the Coalition Government in 2010 dropped the Healthier Food Mark work intended to establish healthy sustainable food via public sector food procurement. The coalition's commitment to producing Buying Standards for Food for the government estate is much smaller in scale and it is unclear how ambitious these standards will be.

6.2 The SDC would like to see public sector food procurement programmes operating to an agreed set of standards, which "choice edit" out less healthy and unsustainable foods from public contracts, including schools, hospitals, social care and prisons and also through encouraging the private sector through its workplace provision of food. We recommend mandatory health and sustainability standards for all public procured food. In doing so, we recommend Government draw on pioneering work such as the Food for Life scheme to create a common public set of standards. We also recommend the creation of a sustainable procurement delivery team and "Tsar" to drive progress. Food procurement within the public sector offers a significant opportunity to use public money to drive sustainability within supply chains and for consumers.

APPENDIX 1

SDC PUBLICATIONS CONTRIBUTING TO GOVERNMENT POLICY DEVELOPMENT ON SUSTAINABILITY AND FOOD

(Available to download at <http://www.sd-commission.org.uk/index.php>)

2011:

Looking back, Looking forward: Sustainability and UK food policy 2000—2011
Making Sustainable Lives Easier: A Priority for Governments, Business and Society.

2010:

Sustainable development: The key to tackling health inequalities (February 2010).
Becoming the "Greenest Government Ever": achieving sustainability in operations and procurement (July 2010).

2009:

Setting the Table—Advice to Government on priority elements of a sustainable diet (December 2009).
Low Carbon Wales—Regional Priorities for Action (November 2009)
Scottish Third Assessment—Sustainable Development Progress by the Scottish Government (November 2009).
Food Security and Sustainability: the perfect fit. SDC Position Paper (July 2009).
SDiG Report 2008—Challenges to Government (May 2009).
Prosperity without Growth—The transition to a sustainable economy (30 March 2009).

2008:

NHS England Carbon Footprinting report (May 2008).
Health, Place and Nature (2008).
Sustainable Development in Government 2007 (March 2008).
Green, healthy and fair—A review of the government's role in supporting sustainable supermarket food (February 2008).

2007:

\$100 a barrel of oil: impacts on the sustainability of food supply in the UK (November 2007).
Review of the environmental dimension of children and young people's well-being (March 2007).
Sustainable Development in Government 2006 (March 2007).

2006:

Climate Change—the UK Programme 2006 (July 2006).
I will if you will—Towards sustainable consumption (May 2006).
Sustainable Development in Government 2006 (SDiG) (March 2006).
The Good Corporate Citizen website (February 2006).

2005:

SDiG 05—Leading by example (December 2005).
Double Dividend? Promoting good nutrition and sustainable consumption through healthy school meals (December 2005).
The Role of Food Retail: A Sustainable Consumption Roundtable response to the draft Food Industry Sustainability Strategy (July 2005).
Sustainable Implications of the Little Red Tractor scheme (January 2005).

2003:

Securing good health for the whole population (Wanless Review): Submission from the SDC (November 2003).
Healthy futures #1—sustainable development opportunities for the NHS (October 2003).
Policies for sustainable consumption (SDC report—September 2003).
Sustainability of sugar supply chains (SDC report—April 2003).
UK Climate Change Programme: a policy audit (SDC report—February 2003).

2002:

Putting sustainable development at the centre in Northern Ireland (October, 2002)
Sustainable food procurement in the NHS (May 2002).

2001:

Sustainability appraisal of policies for farming and food (December 2001).
A vision for sustainable agriculture (October 2001).
Sustainable development in Europe (September 2001).

28 March 2011

Written evidence submitted by the Agriculture and Horticulture Development Board

ABOUT THE AGRICULTURE AND HORTICULTURE DEVELOPMENT BOARD (AHDB)

1. AHDB is classified as a Non-Departmental Public Body. It plays a pivotal role in improving farm business efficiency and competitiveness. It is funded by farmers, growers and others in the supply chain through statutory levies. Approximately 80% of total AHDB levy income is funded by primary producers.
2. AHDB serves six sectors representing about 75% of total UK agricultural output: Pig meat in England; Beef and lamb in England; Commercial horticulture in Great Britain; Milk in Great Britain; Potatoes in Great Britain; Cereals and oilseeds in the UK.
3. We undertake research and development and farm-level knowledge transfer/exchange activity. We provide essential market information to improve supply chain transparency, deliver marketing promotion activities to help stimulate demand and also work to maintain and develop export markets.

KEY POINTS FROM THIS SUBMISSION

4. The evidence we have suggests that farms that have lower GHG emissions also tend to be more competitive and have lower costs. This means that in theory it should be possible to meet both targets of increased sustainability and competitive food costs by ensuring our agriculture and horticulture is as efficient as possible.
5. The importance of efficient land use means that we should strive to produce as efficiently as possible on the smallest footprint of land capable of delivering market requirements. This approach is usually the most sustainable and profitable way to farm. This approach also spares land for other purposes including carbon stored in forests and grassland, biofuel production, as well as wildlife and amenity uses.
6. It is generally the case that UK farmers are up with or ahead of competitors overseas in the area of sustainable production in terms of greenhouse gas emissions per unit of production (litre of milk or kilo of beef for example). This is a good reason for consumers or those involved in food procurement to source assured produce.
7. Tracking research produced by AHDB shows that the majority of consumers are reluctant to pay more for food products which have been produced with a lower carbon footprint. The majority expect to pay the same. Consumers in the UK remain less committed to buying local food than their counterparts in other countries around the world.

8. It would be a very complex task to achieve accurate and objective on-pack labelling on the majority of food products against a single set of sustainability criteria, in a way that is compellingly simple and easy to understand for consumers. It is therefore unlikely that the sustainability challenge will be met merely by supplying additional on-pack information to enable consumers to make informed choices.

9. Retailers and manufacturers will continue to be ahead of mainstream shoppers in terms of the work that they are doing to reduce and communicate the environmental impact of their products. To that extent, a retailer-directed drive to make their supply chains more environmentally sustainable is most likely.

10. This “pull”, coupled with the farm-level “push” work of the AHDB, could help drive a larger proportion of producers to become more efficient, thereby lowering their carbon footprint per kilo produced and helping UK Plc deliver its sustainability agenda.

How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed?

11. The importance of efficient land use means that we should strive to produce as efficiently as possible on the smallest footprint of land capable of delivering market requirements. This approach is usually the most sustainable and profitable way to farm. This approach also spares land for other purposes, including carbon stored in forests and grassland, biofuel production, as well as wildlife and amenity uses.

12. It is generally the case that UK farmers are up with or ahead of competitors overseas in the area of sustainable production in terms of greenhouse gas emissions per unit of production (litre of milk or kilo of beef for example). Food production, environmental goods and climate change impacts will necessarily always be a compromise and it is important to recognise this.

13. With input from Cranfield University, AHDB commissioned a detailed study of the carbon footprint of commercial beef and sheep farms in the UK. Across both sectors it categorically showed a positive link between the environmental performance and the economic performance. This was most pronounced in the sheep sector where every 1kg CO₂ eq/kg reduction yielded a 28p improvement in enterprise margin. Therefore work to improve farm efficiency and lower costs also lowers emissions—a win win.

14. As an organisation which plays a pivotal role in helping the industry to improve its competitiveness, we have many examples of how the sectors we work with are improving their sustainable food production. This work covers three key areas:

- environment (use of materials, energy and water, pollution, waste, biodiversity);
- social (access to markets, education, health and safety, noise); and
- economy (resource efficiency, harnessing innovation, developing new markets).

15. The primary objective of land use for agriculture is the efficient conversion of solar energy into varied and valued forms of chemical energy (in the form of food and other outputs) for utilisation by mankind. It also recognises that some land is best used to produce forage for animals as intermediates in the energy conversion process; grazing and browsing ruminant animals can eat plant material indigestible by humans and convert it into fats and protein that man can digest. This energy conversion process involves management of the interaction between animal and/or plant and the environment. This management is the essence of what agriculture is and farmers do.

16. Around 60% of England is grassland and large swathes of this are managed effectively and efficiently by grazing animals. Much of this land would not be suitable for growing crops and the grazing animals convert grass into produce suitable for feeding humans. If grazing cattle and sheep were removed from the land, there would be significant ecosystem implications and other grassland management systems would have to be employed.

How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

17. It is estimated that primary agricultural production contributes 7% of the UK’s GHG emission (as CO₂ eq). CO₂ emissions from agriculture are a small component, accounting for just 0.7%. For agriculture, natural processes intimately connected to the means of food production are responsible for the remaining 6.3%. and N₂O accounts for 3.5%. The latter results from the natural processes of nitrification and denitrification, mediated by soil bacteria, Nitrogen is an absolute requirement for crop growth (including forage crops) and a primary determinant of the productivity of agricultural systems. It is inevitable that a proportion of the reactive nitrogen in an agricultural system will be lost as gaseous N₂O.

18. The efficiency of an agricultural system can be defined by the Kg of CO₂ eq per unit of production (tonne of grain, litre of milk, kg of meat etc). Within the UK it should be possible to define the GHG emissions that will inevitably result from our most efficient systems producing the home-grown food required to sustain the future population (of for example 70 million in the case of the UK). This figure for GHG emissions, together with the quantities of agricultural products, could become an important target as an indicator of sustainability (and the sought after levels of efficiency) provided it was also closely linked to systems for carbon capture and storage on the same time scale (annually for example). A concentration on increased yields

and efficiency would allow more land for forestry, the cultivation of bioenergy crops and the maintenance of permanent grassland all of which should increase the store of fixed carbon or substitute for burning fossil fuels.

19. In addition, the evidence we have suggests that farms that have lower GHG emissions also tend to be more competitive and have lower costs. This means that in theory it should be possible to meet both targets of increased sustainability and competitive food costs by ensuring our agriculture and horticulture is as efficient as possible.

20. A key question relating to UK land-use is whether the balance alluded to in paragraph 19 is achievable. If calculations demonstrate there is an imbalance, it will be necessary to seek trade-offs, such that food is purchased from more efficient producers outside the UK or the means to fix and store carbon beyond the boundaries of the UK system are purchased.

21. This approach seems fundamentally more sound than the somewhat arbitrary targets for reductions in GHG emissions being required by the Committee on Climate Change (three million tonnes of CO₂ eq per annum for England to 2020). These targets will most likely simply incentivise reductions in production which, without any reduction in demand (unlikely given projected population increases), will simply result in more imported, and in many cases less efficiently produced, food. The outcome of this scenario could be a move away from, rather than towards, sustainability.

22. On consumer messaging to do with healthy eating, AHDB believes it is important that we continue to provide consistency of messaging around the balanced plate approach for a healthy diet.

23. Nutritious and beneficial food groups (eg red meat and dairy) should not be excluded due to NGO pressure. A recent report by the British Nutrition Foundation (BNF) demonstrated that lean red meat makes a significant positive contribution to both micronutrient and macronutrient intakes without risking any negative health effects.

24. A benefit of pigs which is often overlooked is the traditional role that pigs play as natural recyclers of food waste in the UK. This includes everything from whey to broken biscuits. This role could be looked at again as part of the solution to the food waste issue.

How can consumers best be helped to make more sustainable choices about food?

25. Recent consumer tracking research conducted by the AHDB indicates that around half of all adults agree that they “are very concerned about global warming”, although only 18% agree that “the climate change debate has influenced the way in which I purchase food”.

26. For consumers, the most obvious connection between their food shopping behaviour and its environmental impact is the link between buying local produce and the consequent reduction in food miles, with 44% of adults agreeing that they “try to buy local produce in order to reduce my food miles”. This chimes with the output of recent IGD tracking research which showed a doubling between 2006 and 2010 of those shoppers who claimed to have deliberately bought locally produced food in the last month, up from 15% to 30%.

27. As the IGD analysis showed, the reasons for buying locally produced food are a bundle of inter-related factors, with freshness claimed as the number one driver ahead of supporting the local economy, being good for the environment and being tastier. But it would be fair to say that for many consumers, local food equates simplistically to lower food miles.

28. It is clear from the AHDB tracking research however that the majority of consumers are reluctant to pay more for food products which have been produced with a lower carbon footprint: only 15% say that they would be prepared to pay more, and indeed 12% say that they should pay less (one assumes due to their recognition that such food products would have lower input costs). The majority expect to pay the same.

29. Indeed one could make a case that despite the increases in propensity to buy local food, as measured through the above quantitative tracking research, consumers in the UK remain less committed to buying local food than their counterparts in other countries around the world. Recent tracking of consumer attitudes by Datamonitor has shown that consumers in most other western European countries, Australia, the Middle East and the emerging BRIC countries are all more likely to say that they try to buy food produced locally than consumers in the UK. Of countries involved in the polling exercise only consumers in the Netherlands have a lower propensity to buy local food.

30. There is not necessarily any absolute correlation between, on the one hand, the proximity of food production to its consumption and on the other its overall carbon-equivalent footprint. Nevertheless, tracking this criterion of food choice does perhaps indicate that we still have a long way to go before we can anticipate an upsurge in consumer awareness about the sustainability criteria attached to individual food products.

31. So what is the prognosis for the future? To what extent will the food industry be able to lower its environmental impacts and what role will consumers play in this? Will a more sustainable food industry be brought about through producer/retailer “push” or consumer “pull”?

32. The Government has signalled its commitment to clearer labelling by retailers. Clear, transparent food labelling, including country of origin marking. The promotion of assurance schemes like the Red Tractor scheme and EBLEX's Quality Standard Scheme, certainly helps ensure consumers have informed choice and confidence that what they are buying has clear traceability.

33. However, it is going to be a very complex task to achieve accurate and objective on-pack labelling on the majority of food products against a single set of sustainability criteria, in a way that is compellingly simple and easy to understand for consumers. It is therefore unlikely that the sustainability challenge will be met merely by supplying on-pack information to enable consumers to make informed choices.

34. Much more probable is that retailers and manufacturers will continue to be ahead of mainstream shoppers in terms of the work that they are doing to reduce the environmental impact of their products, across a range of dimensions such as reduced carbon impact, less water use, less packaging, less waste to landfill and more efficient use of transport.

35. Increasingly their project work in this area will be one of the key components in retailers' Corporate Social Responsibility strategies. Indeed many of their stakeholders will expect them to do the right thing with regard to the environmental sustainability of their supply chains, just as we have seen expectations grow with regard to other criteria such as animal welfare, child labour and Fairtrade.

36. The inherently competitive nature of the British grocery retailing market, nurtured by both UK and EU competition law, may make it unlikely that a common format of labelling is eventually deployed to assist consumer choice. The desire for differentiation and first-mover advantage might result in a variety of retailer own-label sub-brands or bespoke retailer presentation of on-pack information.

37. Nonetheless it is possible that the attention which will increasingly be paid to sustainability criteria in the supply chain will not prove to be onerous for primary food producers but rather it could serve to benefit them. This benefit may be seen in two ways.

38. Firstly there is a broad correlation in most primary production sectors between efficiency in terms of production costs and efficiency in terms of resource use and GHG emissions. To that extent, a retailer-directed drive to make their supply chains more sustainable could help producers to lower their costs and to become more competitive.

39. Secondly it will be difficult for retailers to make their supply chains more sustainable without becoming more attached to those chains, taking a keener interest in how all the links in the chain integrate with each other and therefore adopting a more strategic view of how those chains could develop. Stronger linkages will be required between primary producers and retailers in order to measure the impact of interventions to reduce emissions or resource use. These should produce a "win-win" for primary agricultural producers, many of whom have been asking for a more integrated approach to supply-chain management in order to help them manage risk better and to reduce volatility of pricing or demand.

40. In this way the collateral effect of a strategic drive for greater environmental sustainability could in fact be greater economic sustainability for primary producers, food processors and retailers alike.

Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

41. Issues of emissions beyond the "farm gate" are relatively straightforward to quantify and deal with since reduction in use of fossil-fuel derived energy is almost the only consideration. In contrast, activities before the "farm gate" result in emissions of greenhouse gases (GHG) from complex biological processes (primarily nitrous oxide and methane) which are integral with the productive management of terrestrial and ecosystems. In addition, there are often consequential changes in land-use with significant impacts on system sustainability.

42. Other specific problems include:

- The milk, pig meat, beef and lamb supply chains do not necessarily distribute profits fairly, with the large retailers often taking the lions share and many producers, as price takers, currently loss making. (For example in the 12 weeks to January 2011 AHDB Market Intelligence estimates: British pig producers lost £35 million; Processors made £100 million profit; Retailers made £192 million profit).
- Pig production is highly feed intensive: historically, around 60% of production costs are attributed to feed. Profitability within the industry is, therefore, highly dependent on the price of feed. In January 2011, it was estimated that feed now accounts for 77% of total costs. In contrast, on the beef and sheep side, because of the rain-fed pasture system in England, we are able to make best use of the available resources with much of the animals' food and water intake coming from naturally occurring grassland and rainfall, giving the industry impressive sustainable credentials in this area.

How might the changing powers of local authorities and the localism agenda hinder, or be used to encourage, more sustainable production and supply of food?

43. AHDB is concerned that the localism agenda could be used by interest groups to prevent producers from building facilities to improve sustainable production, such as livestock finishing barns and anaerobic digester

plants. Many of these projects are misrepresented as the “expansion of industrial livestock farming.” We are concerned that the localism agenda could lead to further problems in the planning system, often driven by national NGO campaigns, which will hinder the progress that livestock producers are making. Many of these developments may reduce GHG emissions through more efficient practices.

How could Government procurement practices be improved to promote better practice across the food sector?

44. AHDB encourages the public sector to lead by example, and so welcomes recent Government commitments to ensure all Departments procure goods that meet UK minimum production standards.

45. The procurement of products which meet UK minimum production standards, or ideally Red Tractor standard, also helps public sector bodies such as schools and hospitals meet Government requirements relating to sustainable procurement. This is because the Red Tractor is an independently audited assurance scheme that ensures internationally recognised standards are applied. In some sectors, such as pig meat, this assurance is throughout the production chain, from farm to supermarket shelf.

46. We hope that examples like University Hospitals Trust in Nottingham sourcing 95% of meat from a local supplier will become the norm. This came as a direct result of the Government issuing advice on food buying by public-sector organisations.

47. However, we are concerned that the Government’s commitment to British standards is subject to “no overall increase in costs”. The higher standards may mean that in some cases UK produce is slightly more expensive than imported products. However, in the case of imported pork, bacon and other pork products without specifying welfare standards, Government Departments may inadvertently be supporting production that would be illegal in the UK.

29 March 2011

Written evidence submitted by GeneWatch UK

SUMMARY

1. The Government’s localism agenda and DEFRA’s business plan potentially provide an opportunity to reconnect people to the process of food production and supply. However, if this is to be done successfully, policy makers need to be aware of the factors that facilitate and hinder Local Food Systems and ensure that these are given adequate consideration.

2. The Government should:

- support the bottom-up character and expansion of the Leader programme as a key part of the Common Agricultural Policy’s Rural Development Programme;
- investigate the forces that lengthen food supply chains and devise measures to help shorten those chains, so that producers can gain more of the value that they add;
- ensure adequate ring-fenced funding for locally-led public health initiatives and encourage these to build on existing local food initiatives rather than starting again from scratch;
- ensure that national and EU policies (including hygiene, planning and business regulations; and policies in innovation and education) are formulated in such a way that Local Food Systems are recognised and valued for the broad range of benefits they bring;
- do more to facilitate local food procurement.

3. Support for local slaughterhouses, or mobile slaughterhouses, is essential for a genuinely sustainable, local meat supply. GeneWatch recommends that the committee takes time to look into this, and even considers taking evidence on it as a stand alone issue in more depth.

4. In addition, Government should support labelling and traceability schemes that encourage sustainability and high welfare standards through facilitating consumer choice; and oppose subsidies for environmentally damaging practices (such as the use of maize for large-scale biofuels production).

INTRODUCTION

5. GeneWatch UK is a not-for-profit group that monitors developments in genetic technologies from a public interest, human rights, environmental protection and animal welfare perspective. GeneWatch believes people should have a voice in whether or how these technologies are used and campaigns for safeguards for people, animals and the environment. We work on all aspects of genetic technologies—from GM crops and foods to genetic testing of humans.

6. GeneWatch’s research has repeatedly highlighted how a number of aspects of the current food production and supply chain tend to drive R&D investments towards ineffective technological solutions to existing environmental, social and health problems.^{1, 2} These approaches tend to be rejected by consumers and by society more broadly because they are not demand-led, tend to prioritise the interests of large companies in

controlling markets, and often introduce new problems of their own. Because substantial public and private investments in such approaches are made behind closed doors, often several decades before products reach the market, many members of the public feel that they are fundamentally excluded from decision-making.³

7. In contrast, Local Food Systems (LFS) are networks of small local businesses, charities, social enterprises and voluntary groups driven by “bottom-up” innovation at a local level. They include a diverse range of initiatives (such as box schemes, farmers’ markets, community growing and Community Supported Agriculture) intended to develop closer links between consumers and producers. Local Food Systems have their roots in society and their strength lies in the people who create and manage them; the goodwill of consumers and producers; and in the strong motivation that lies behind them. They can help reduce the use of fossil fuels and other resources (through less food miles and lower use of agricultural inputs) and improve biodiversity (through a variety of organic, agro-ecological, low-input or permaculture farming methods); increase food security; give low income groups access to good food and healthy diets; strengthen local communities and economies; and sustain small enterprises and improve the viability of small farms. Although it is difficult to quantify benefits, greater community engagement and better diets can also have positive impacts on mental health; reduce loneliness in the elderly; speed up recovery times in hospitals; and help to reduce offending and anti-social behaviour.

8. This submission draws heavily on GeneWatch’s participation in the EC-funded research project Facilitating Alternative Agro-Food Networks (FAAN).^{4, 5} The main objective of the FAAN project was to analyse how current policies facilitate, hinder or shape the development of Local Food Systems (LFS), using “Co-operative research” which involved close cooperation between the five research institutions and five civil society organisations involved. The findings are based on empirical qualitative research on ten case studies in Austria, England, Hungary, France and Poland, and on literature studies and an EU-level workshop. The UK case studies were undertaken in Cumbria and Manchester, providing both rural and urban examples of how people are attempting to implement Local Food Systems in practice on the ground in a rural and an urban area.⁶

9. A key finding of this research is that innovative local authorities across Europe have successfully supported Local Food Systems in a variety of ways, in order to support a wide range of social, economic, environmental and health benefits. On the other hand, at a national and EU level, Local Food Systems are largely invisible to policy-makers and are often hindered by policies and bureaucracy that fails to take their existence and needs into account.

10. Participants in the FAAN project (people actively involved in growing, distributing or promoting local food) did not see their emphasis on locally produced, seasonal food as being capable of entirely replacing the existing industrial food system, but they did see significant potential for it to become more mainstream and for the expansion of Local Food Systems to produce diverse social, economic, environmental and health benefits.

11. GeneWatch agrees that the Government’s localism agenda and DEFRA’s business plan potentially provide an opportunity to reconnect people to the process of food production and supply. However, if this is to be done successfully, policy makers need to be aware of the factors that facilitate and hinder Local Food Systems and ensure that these are given adequate consideration.

12. GeneWatch therefore welcomes the opportunity to input to this inquiry.

How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed?

13. Changing agricultural practices and land use can have significant impacts on the social and economic circumstances of farmers and consumers, particularly in developing countries.⁷

14. The Royal Society’s promotion of the concept of “sustainable intensification”⁸ glosses over many of these issues by taking a utilitarian approach in which scientific institutions (such as the Royal Society itself) are capable of weighing up and making decisions about what is best for farmers and consumers then somehow promoting these solutions worldwide. This contrasts with a rights-based approach to considering the ethical implications of sustainable intensification, and with “bottom-up” approaches to decision-making, which may lead to very different decisions.^{9, 10, 11} This is one of the weaknesses of the Foresight report on Food and Farming Futures,¹² which makes a blanket global statement about restricting the expansion of agriculture onto new land, without considering highly variable local circumstances and the politics and economics of how decisions will be made about land use in practice on the ground.

15. Where possible, these complex trade-offs are perhaps best made at a local level, where a variety of interests can be taken into account and knowledge of local circumstances is likely to be much more detailed. Within democratic countries, local authorities can play a key role in tackling land use issues in ways which support local food systems.

16. For example, the FAAN project found that Manchester Food Futures (a partnership set up in 2004 between Manchester City Council, the NHS and community voluntary and private sector groups¹³) has taken action to expand access to allotments and other land within the city, in response to growing demand and long-term campaigns by local people to make the city more sustainable. The Growing Manchester Programme then provides assistance to community growing programmes in the form of courses, support and advice, within the context of the Manchester Community Strategy.

17. In France, the FAAN project found that city of Rennes has taken an innovative approach to planning for the area around the city, in which thriving agriculture is seen as the best and most economical way to maintain the green belt. Rennes Métropole's planning policy preserves the green belt land for farming and supports "short-food chains" through a variety of policies, including local food procurement in schools and old people's homes and some funding for cooperative shops and advertising. Local economic data shows that the Rennes Métropole local food systems are clearly creating jobs, with a strong growth in AMAPs (which are similar to Community Supported Agriculture schemes), box schemes, co-operative shops and open-air markets. Agrocampus Rennes has estimated that about 300 jobs have been created, compared to fewer than 1,000 "classical" agricultural jobs in the region.

18. There are clearly also global issues which impact significantly on land-use and food supply. One important area is the use of grain in biofuels and to produce grain-fed meat: both practices which are widely recognised to be growing to a scale which is unsustainable. Tackling agricultural subsidies which support these unsustainable practices is therefore an example of a policy change which requires international rather than solely local, action.

19. Based on grain consumption figures calculated by the Food and Agriculture Policy Research Institute (FAPRI),¹⁴ Monsanto argues that production of grain for animal feed must increase by 50 million tonnes a year by 2017–18 to meet the expected increased demand for meat, and by 60 million tonnes a year to meet biofuels production targets, requiring more investment in intensive agriculture, including GM crops.¹⁵ Critiques of this view rest partly on doubts about the potential for GM technologies to increase yields,^{16, 17, 18} as well as disagreements about the downsides of the technology. However, the diversion of potential food-growing land to produce industrial-scale biofuels and animal feed is also part of the problem, not the solution, to global hunger.¹⁹ At the same time as promoting increasingly intensive agriculture, Monsanto and other companies have been actively lobbying for government subsidies for industrial-scale biofuels.²⁰ An estimated 40% of US GM maize production now goes into biofuels and perhaps as much as 90% of remaining GM production (ie not including cotton and biofuels) to animal feed (although reliable figures are difficult to come by).

20. The use of maize-based ethanol production in the US (which frequently uses GM maize) is more likely than not to exacerbate global warming, if indirect effects on land use are included in the assessment, and there are significant opportunity costs because there are better ways to achieve greenhouse gas savings.²¹

21. Grain-fed meat production is also significantly more resource intensive and damaging to the environment than pasture-fed meat production, so an emphasis on expanding GM maize and soya production for animal feed neglects important alternative steps that could be taken to make the production of meat and dairy products more sustainable. Grain-fed meat is also much less healthy than pasture-fed meat or game in its fatty acid content.^{22, 23} The ratio of omega-6 fatty acids to omega-3 fatty acids has increased substantially in modern compared to traditional diets, partly due to increased use of sunflower and other oils; and partly due to intensive farming of cattle fed on grains.²⁴

How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all? How can consumers best be helped to make more sustainable choices about food?

22. The FAAN project identified important roles for Local Food Systems in building close consumer-producer links and in educating consumers (in the broadest sense) about where their food comes from. The initiatives we studied in the FAAN project were partly motivated by making local seasonal food accessible to people on low-incomes and to tackling health and social inequalities.

23. For example, the Manchester Environmental Resource Centre (MERCi)²⁵—set up with National Lottery funding in 1996—has stimulated many food projects which also address societal problems. Initiatives such as the Herbie Van and Dig Box scheme provide easier access and lower prices for fresh food for people living in "food deserts", whilst other initiatives engage younger or elderly people and people with mental health issues to become involved in growing and cooking local food.²⁶ People involved in local food systems in Manchester describe a wide variety of benefits, including social integration, environmental and economic benefits. In Cumbria, the award-winning Growing Well project focuses on supporting people to recover from mental health problems by helping to grow food on an organic farm.²⁷

24. Local Food Systems involve direct communication between growers or intermediaries and customers (for example, at farmers' markets and farm shops), but labelling also plays an important role. This can include official certification schemes (such as the Soil Association's organic labelling scheme in the UK) or (more often) voluntary, local schemes such as Distinctly Cumbrian²⁸ (set up by the Cumbria Rural Development Agency), which promotes an entire region and its services. Consumer recognition depends upon wider efforts to promote quality meanings, often linked with public goods, including the use of sustainable farming methods. In the FAAN case studies, local food projects built upon existing brands or developed new ones, rarely dependent upon legal protection, so that they were recognised and trusted by consumers.

25. Labelling based on high environmental or animal welfare standards can inform consumer choice, allow farmers and small business to capture more of the value that they add, and stimulate competition to improve standards (a race to the top, rather than a race to the bottom). National government can have an important role to play in ensuring traceability and labelling from "farm to fork". It is therefore disappointing that stated

government support for labelling and consumer choice, based on high environmental and animal welfare standards, does not always appear to have been followed through by DEFRA.^{29, 30}

26. Agricultural subsidies and public funding can also play a facilitating role for Local Food Systems.

27. Participants in the FAAN project mainly saw agricultural subsidies under the Common Agricultural Policy (CAP) as favouring large-scale agri-businesses rather than Local Food Systems. They expressed a strong desire to be economically self-sufficient, but also welcomed grants for support bodies and networking (including sharing best-practice); for educational work (such as school visits to farms); training (in both growing and marketing) and for small amounts of capital (for example to buy a freezer, a van, or a pie-making machine). The most commonly identified initiative under which Local Food Systems had received funding was the Leader programme (under the 2nd CAP pillar, ie the Regional Development Programme, RDP).

28. Leader (*Liaison Entre Actions pour le Développement de L'Economie Rurale*) provides links between actions for the development of the rural economy. It emphasises the role of local communities in taking decisions about strategic choices for the future of a given area, and provides for the creation of local partnerships to deliver rural development programmes in their areas. Decentralised delivery through Local Action Groups encourages support for projects considered valuable at the local level. The “pilot” phases of Leader I, Leader II and Leader+ were considered a success. In the current period 2007–13, Leader has been mainstreamed as a mandatory component of all Rural Development Programmes. In Cumbria, the successive Leader programmes have facilitated cooperative networks, eg infrastructure for farmers’ markets, Cumbria Organics and Made in Cumbria. They have also helped producers to cooperate in shortening the supply chain to large buyers (including supermarkets). In this way, producers can gain more from the value that they add and can promote their own quality brands.

29. Ironically, a particular problem for some of the businesses we spoke to was that grant schemes often had *minimum* grant levels that were set too high, or else required too much paperwork for the small amounts of money that these businesses were seeking.

30. One recommendation of the FAAN project is to increase the funding to Leader, maintain its bottom-up character and encourage a territorial approach linking rural producers with urban consumers (rather than promoting “global competitiveness” of territories). Likewise, rural development and regional development funds should be linked in ways that facilitate Local Food Systems.

31. The UK Government should also support the creation of an EC inter-DG task force for Local Food Systems and a Europe-wide structure for information exchange among and about Local Food Systems, so that these growing initiatives are no longer invisible at a European level.

Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

32. There are major “upstream” problems with the current supply chain which are shaping consumption patterns, such as trade and agriculture policies.³¹

33. There has been significant consolidation in the industrial food system which gives a small number of large players extensive control over key aspects of the market. This includes: a high level of control exercised by a small number of buyers in the large supermarkets (one of the sources of the squeeze on farm-gate prices); the large-scale food producers (which seek growth through increased sales of processed foods and cut product costs whilst maintaining taste by adding salt, unhealthy fats and sugars); multi-national food distributors (which exercise considerable control of the international commodities trade); and the seed industry (which has become highly consolidated in the wake of the introduction of patents on GM seeds).

34. The industrial food system has tended to shift production and distribution towards “long-food chains” rather than “short-food chains” (based on sourcing the cheapest, rather than the freshest or highest quality, ingredients); to create mass-produced, standardised products, often high in salt, sugar and unhealthy fats; and to squeeze farm-gate prices. Whilst there have undoubtedly been some benefits in terms of ensuring food supplies in relatively wealthy countries, there have also been many widely recognised downsides, including negative environmental impacts (eg depletion of soils and water resources, loss of biodiversity, unsustainable use of fossil fuels and agricultural inputs); the persistence of global hunger at the same time as a global epidemic of obesity; and the exacerbation of health inequalities (for example, through “fat dumping”^{32, 33, 34}) and rural poverty. The Republic of Korea, where a traditional diet high in fruits and vegetables has been maintained (possibly due to earlier modernisation than many other Asian countries) illustrates that these problems are not an inevitable consequence of rising incomes.³⁵

35. The food industry’s main response to concerns about diet and health has been to promote hi-tech products such as cholesterol-lowering margarines and other functional foods (marketed at a premium to relatively wealthy consumers). Whilst some steps have also been taken to reformulate unhealthy processed foods, there has not been any fundamental change in the food supply chain.

36. Whilst “short-food chains” clearly cannot supply all the products consumers may wish to buy, some of which are dependent on fairer international trade (eg oranges, bananas, tea, coffee), they can reconnect consumers with a wide variety of local products (meat, dairy, vegetables, fruit) and at the same time tackle

many of these issues of sustainability and access to healthy diets in the context of locally produced seasonal food. Closer consumer-producer links allow people to learn more about, and even become directly involved in, the process of food production and supply. Thus opportunities for education (in its broadest sense) also open up.

37. The Government should therefore support a broadening of the EC policy initiative on food supply chains,³⁶ by investigating the forces that lengthen food supply chains and devising measures to help shorten those chains, so that producers can gain more of the value that they add.

How might the changing powers of local authorities and the localism agenda hinder, or be used to encourage, more sustainable production and supply of food?

38. The localism agenda opens up considerable opportunities to support and encourage Local Food Systems. However, the squeeze on funding could also lead to cuts (especially at local authority level) that could hinder the development and expansion of such systems. The findings of the FAAN report suggest that relatively small amounts of funding are needed, but that the roles played by local support bodies (such as Manchester Food Futures³⁷ and the Cumbrian Rural Development Agency) are crucial and that national and EU policies must be formulated in such a way that Local Food Systems are recognised and valued for the benefits they bring.

39. Devolving responsibility for public health functions to a local level could be highly beneficial, given the ability of local authorities to see and realise the benefits of Local Food Systems. However, this step needs to be accompanied by a sufficient ring-fenced budget (recognising the enormous potential cost savings that could be made if attempts to tackle obesity and reduce health inequalities are successful). It also needs food policy to be seen to be a key aspect of improving public health, and to ensure that successful experiences from across the country are built on, rather than starting again from scratch. Public consultation and engagement (at a cross-departmental local level) will be key.

40. At the same time, Local Food Systems must be made more visible at a national and EU policy level so that local initiatives are not fatally undermined by top-down policies in a wide variety of areas (eg food procurement, hygiene regulations, planning law, poorly directed subsidies, or red-tape for small businesses). Some examples of issues highlighted by the FAAN project are listed below.

41. *Hygiene regulations and abattoirs:* The FAAN project found that Regulation (EC) No.852/2004 on the hygiene of foodstuffs had been implemented badly in many countries (particularly in Eastern Europe) restricting local sales of products such as jams from farms. This does not appear to be such an issue in the UK, where the regulations have been implemented more flexibly. However, the closure of abattoirs due to onerous hygiene inspections is a continuing problem for Local Food Systems.³⁸ For example, closure of abattoirs in Cumbria has made hill farmers averse to new cooperative and branding schemes to market Cumbrian lamb.³⁹ Whilst participants in the project recognised the importance of food safety they felt that the regulations had been devised and implemented with the needs of large-scale agri-businesses in mind, ignoring their own needs. This has been a problem throughout the EU: however the FAAN project did identify one positive initiative in Austria, where an abattoir was purchased co-operatively by about 550 farmers, two smaller butchers and one large processor and distributor of meat delicacies, in order to market specialty meat from oxen to high animal welfare standards (the ALMO initiative in Almenland).

42. *Planning law:* The example of Rennes Métropole's planning system, which was used to facilitate local food production on green belt land (cited above); and initiatives to improve access to land for growing food in cities (as in Manchester) require the benefits of Local Food Systems to be recognised by the planning system. National systems such as enterprise zones could potentially undermine similar local initiatives if they do not give due consideration to the potential use of land for growing food.

43. *Red-tape for small businesses:* The same bureaucratic requirements that all small businesses sometimes struggle with can be a problem for Local Food Systems. Thus, measures to reduce paperwork and unnecessary bureaucracy would generally be welcomed.

44. *Education and training:* Training and education for farmers and community growers as well as public education in its broadest sense was widely recognised to be of key importance by FAAN study participants.

45. *Science and innovation policies:* The idea of the Knowledge-Based Bio-Economy (KBBE) underpins R&D funding at an EU and UK level. It treats agriculture as a biomass factory supplying raw materials for diverse industrial products. Innovation is seen as a process by which ideas are "translated" into patents and marketable products, excluding broader issues and innovation in processes (such as farmland management) from investment. In contrast, agro-ecological accounts see agricultural methods as a means to incorporate and enhance farmers' knowledge of natural resources, as a basis for them to gain from the value that they add.⁴⁰ Thus current science and innovation policies tend to undermine Local Food Systems—by diverting resources and by adding costs (eg the costs of segregating GM crops, which would fall on conventional and organic farmers^{41, 42, 43, 44, 45})—rather than supporting them.

How could Government procurement practices be improved to promote better practice across the food sector?

46. The UK government ostensibly supports efforts by local authorities to procure local food and there have been some high profile successes, including, for example, initiatives facilitated by the Food for Life Partnership in schools.⁴⁶ These initiatives see procurement as only one part of a process of engaging children in growing and cooking food and building links with local farms, and thus transforming food culture.

47. However, tensions continue between the lowest price versus “best value”, and criteria remain unclear for justifying a higher price. DEFRA’s Sustainable Procurement Strategy emphasises social and environmental benefits as criteria which can be included. But official guidance gives no clear direction or incentive for decisions to include sustainability criteria such as local regeneration or production methods. Official reviews have emphasised efficiency savings from “aggregated procurement”—gaining lower prices through greater bargaining power. That emphasis favours larger suppliers, while disadvantaging local ones, unless they can aggregate diverse supplies. Consequently, local procurement officials remain cautious about favouring local food, for reasons which may conflate the constraints of UK and EU rules. Government policy emphasises nutritional criteria, while looking to supermarket chains as a major means to provide more nutritious food, even local food, rather than to small local businesses.⁴⁷

48. This approach risks knowing the “price of everything but the value of nothing” in terms of the added social, educational, health and local economic benefits that supporting Local Food Systems can bring.

49. In the FAAN local case studies, we found that local suppliers were effectively excluded from food procurement in Manchester, although the council was supportive of Local Food Systems in other ways. In contrast, support bodies in Cumbria had done much to support local businesses that wished to tender for procurement contracts. For example, local organisations (eg Cumbria Organics, Distinctly Cumbrian, Cumbria Community Foundation), which support local food businesses have provided training for small businesses on how to tender for large orders, and food procurement contracts have also tended to be split into smaller parts. Cumbria Rural Enterprise Agency has helped small-scale food producers bear the burdens of compliance with hygiene regulations by providing the necessary shared infrastructure—eg commercially equipped kitchens, refrigeration, storage etc.⁴⁸ Small grants have also made a difference: for example, the RDP funded one small-scale manufacturer to buy a machine for making small-sized (rather than its existing large-size) meat pies, enabling it to gain contracts to supply schools and old people’s homes.

50. Government could do more to facilitate local food sourcing in public procurement, for example by collecting experiences of local sourcing through quality and environmental criteria (which may sometimes justify a higher price) and sharing best local practice nationally. Local food procurement also needs to be expanded to include prisons, old people’s homes and hospitals, as well as schools.

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30 March 2011

Written evidence submitted by the Royal Society for the Protection of Birds

EXECUTIVE SUMMARY

1. To achieve sustainability of the UK farming system, government must create a policy framework ensuring that environmental principles are adopted at the farm level and supported by retailers and other parts of the food chain.

2. While there are trade-offs between the amount of food that can be produced and other ecosystem services provided by land, careful planning and management can minimise these trade-offs and achieve the required balance of services.

3. The RSPB's long-standing and ongoing involvement in scientific research, policy development and land management advice, and our experience as a farming organisation, makes us uniquely placed to help in the development and implementation of solutions to help agriculture become more sustainable.

INTRODUCTION

4. The RSPB welcomes the opportunity to respond to the EAC's inquiry into sustainable food.

5. Environmental impacts occur at all stages of the food supply chain from farming to food consumption and disposal of waste. Sustainability of the agriculture sector will hinge on all three pillars of sustainability—environmental, social and economic. In this response, we focus on the impacts of the production of food from farming and on biodiversity specifically, as this is our relevant area of expertise.

6. The RSPB's agriculture vision is for *sustainable systems of farming that produce adequate supplies of safe, healthy food; protect the natural resources of soil, air and water that farming depends on; help to protect and enhance wildlife and habitats; provide jobs in rural areas and contribute to a diverse rural economy.*

7. The RSPB strives to achieve this vision by engaging with agriculture in a variety of ways. Our long-standing science programme includes monitoring farmland bird populations, researching causes of declines and testing solutions. We work with farmers to develop and promote farm management that benefits biodiversity, and with government to develop agricultural policies that support more sustainable farming. We have first-hand experience of the challenges of farming—delivering good yields, a healthy profit margin and good environmental outcomes—through ownership and running of Hope Farm, a conventional arable farm in Cambridgeshire.⁸³ We also have a lot of experience in managing our own livestock and working with livestock farmers and graziers on our reserves, as part of our conservation delivery work.

⁸³ For further information see <http://www.rspb.org.uk/ourwork/farming/hopefarm/>

How can the environmental and climate change impacts of the food we choose to eat best be reduced?

8. Farming is often associated with positive externalities; indeed many species and habitats have evolved to co-exist with farming practices. However, since 1945 significant changes have taken place in UK agriculture. A dramatic increase in production has been achieved, but a side-effect has been a range of negative environmental impacts including declines in biodiversity,⁸⁴ reduction of water quality, soil degradation, and increased emissions of greenhouse gases.

9. Reforms of the Common Agricultural Policy (CAP) to date, in particular decoupling subsidies from production and the introduction of agri-environment schemes, have been important first steps to addressing these issues. Environmental benefits have also arisen from the fact that farmers are applying fewer inputs (pesticides and nitrogen fertilizers) now than they have for some years, partly driven by price increases. However, despite the best efforts of a growing number of farmers and land managers in the UK, there is still much more to be done to achieve an environmentally sustainable UK farming sector. In the long term a significant shift is likely to be required to move away from intrinsically unsustainable practices. In the short term the priority should be uptake of best practice and proven solutions via a range of policy and non policy levers, in the following key areas.

10. Protect and enhance biodiversity. Biodiversity has an intrinsic value but also plays an important ecosystem service role in agricultural production eg pollination services provided by bees are estimated to be worth €153 billion each year globally.⁸⁵ We must make space for wildlife in the farmed landscape (through agri-environment measures and less intensive farming methods such as organic); maintain farming systems with High Nature Value, and protect the UK's remaining semi-natural habitats from conversion to intensive agriculture. There are some immediate opportunities for the direct and indirect negative impacts of farming on biodiversity to be minimised, eg through good implementation of the Water Framework Directive, the Sustainable Use Directive and the Nitrates Directive.

11. *Reduce agriculture's contribution to climate change.* Agricultural greenhouse gas emissions are linked to soil management, fuel and nitrogen fertiliser use and livestock management. Climate change mitigation measures must be assessed and implemented as part of a broader approach to addressing all environmental objectives at the national, regional, landscape and farm levels. Some proposed actions, such as intensifying livestock farming with the aim of decreasing emissions per unit of production, risk potentially irreversible negative impacts on biodiversity and resource protection, as well as missing significant opportunities for achieving long term reductions in emissions. Furthermore, they may not reduce total net emissions because of impacts beyond the farm gate. Maintaining natural and semi-natural habitats, on the other hand, has been shown to be one of the most cost-effective approaches for mitigating climate change,⁸⁶ while better soil management can help safeguard significant carbon stores as well as benefiting biodiversity and resource protection.^{87, 88} Accounting methods used to calculate emissions must include all of the greenhouse gas emissions that arise from farming decisions, including indirect emissions such as from land use change, to enable mitigation approaches to be properly assessed and compared.

12. *Build sustainable climate change adaptation into agricultural systems.* UK agriculture will need to adapt to the effects of climate change including changes in rainfall and temperature, more frequent extreme weather events and a potential increase in invasive alien species. As with mitigation, this should not be pursued in isolation from wider environmental objectives. The farming sector also has a responsibility to contribute to the adaptation of wider society and the natural environment. Changes must be made in the wider countryside to build biodiversity's resilience to climate change, including extending and buffering existing areas of semi-natural habitat and creating new habitat in places of strategic importance to wildlife.⁸⁹

What are the land-use trade-offs that affect food production and supply and how should these be managed?

13. Land is needed for food production, but there is increasing competition from other uses such as urbanisation and bioenergy production, as well as the need to provide other ecosystem services such as flood management and carbon storage. It is apparent that a more coherent, consistent approach is needed for managing the growing demands on land.⁹⁰

14. Agricultural production vs. biodiversity. Agricultural production competes directly with wild biodiversity for space and resources (water, nutrients etc). We need to find and implement ways to minimise the trade-off and achieve the required balance. Agri-environment schemes in the UK have created the potential for this to be achieved across the landscape, as well as in priority areas important for particular species. The RSPB's

⁸⁴ Robinson, R A *et al* (2002) Post-war changes in arable farming and biodiversity in Great Britain. *Journal of Applied Ecology* 39, 157–176.

⁸⁵ Gallai, N *et al* (2008) *Economic valuation of the vulnerability of world agriculture confronted with pollinator decline*. *Ecological Economics*, doi:10.1016/j.ecolecon.2008.06.014.

⁸⁶ Turner *et al.*, (2009) *A force to fight global warming*. *Nature* 462, 278–279.

⁸⁷ Miers R H (1970) *Design of underdrainage based on field evidence in England and Wales* MSc thesis, Newcastle University.

⁸⁸ Holman, I P (2009) *An estimate of peat reserves and loss in the East Anglian Fens*. Commissioned by the RSPB; Natural England (2009) *England's peatlands: carbon storage and greenhouse gases*.

⁸⁹ Lawton, J H *et al* (2010) *Making Space for Nature: a review of England's wildlife sites and ecological network*. Report to Defra.

⁹⁰ Foresight (2010) *Land Use Futures Project Executive Summary*. The Government Office for Science, London.

Hope Farm demonstrates how this balance can be achieved using broad and shallow options offered under Entry Level Stewardship (ELS).⁹¹ This is a conventional arable farm incorporating a package of agri-environment options designed to provide the “Big Three” needs of farmland birds.⁹² Since the RSPB purchased the farm in 2000, we have recorded farmland bird population increases of 201%. The farm has increased its profitability during the same time period, and produces above-average yields. The contractors who carry out the farm work have been able to integrate agri-environment measures efficiently with the overall management of the farm. Measures to benefit biodiversity, such as sowing wild flower seed mixes, have been implemented in parts of the farm that are awkward to cultivate, such as oddly-shaped corners and less well-drained areas, minimising the impact on overall farm productivity and in some cases actually increasing the efficiency of operations. Only 3.2% of the arable land is currently out of production, and since this tends to be the less productive areas, the sacrifice in production is even smaller.

15. There is still much more to be done. We need to develop and use frameworks and tools to balance not only the needs of biodiversity and production, but also a range of other environmental obligations and objectives, such as reducing diffuse pollution from the agriculture sector and reducing net greenhouse gas emissions. We are trying to do just that at Hope Farm over the next five years, and we will be actively seeking help as well as providing input to others as we learn from this experience.

16. While there are some wildlife-friendly farming systems that support high species richness, a large proportion of wild species globally cannot survive in even the most benign farming systems. To conserve those species, protection of wild lands will remain essential, including retaining current protection for Sites of Special Scientific Interest (SSSIs) and Natura 2000 sites, and biodiversity hotspots around the world.⁹³

17. Competing ecosystem services.⁹⁴ Multiple ecosystem services can frequently be delivered from the same area of land through careful land use and management decisions. Different environmental objectives often overlap to a great degree. For example, actions to improve water quality by reducing agricultural run-off can also deliver lower greenhouse gas emissions along with soil quality and biodiversity benefits. Agri-environment schemes provide a means of addressing multiple objectives including biodiversity, climate mitigation and resource protection.⁹⁵ There is a trade-off, however, in that all ecosystem services cannot be maximised on the same parcel of land. Usually, an area of land will have a primary function (dictated by factors such as soil, topography and land use history) which is maximised while allowing the provision of other services as far as possible. On Hope Farm for example, the primary function is food production, but the land is managed so as to provide biodiversity enhancement as well, while reducing pollution and greenhouse gas emissions by following best practice. We need to build into our farming decisions a way of finding a balance between ecosystem service delivery objectives at a very local level.

How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

18. The UK enjoys a high degree of food security and there is no immediate threat to that situation, nor any short-term need to increase production in the UK.⁹⁶ Although global food production will need to increase over the coming decades, the UK’s contribution to this growth will not be large. There is no scope to significantly increase the land area in the UK devoted to production. There *is* scope for the UK to *sustainably* increase its total food production by bringing farms that are currently under-performing up to the standards of the “best” farms (in terms of both yield and environmental management). However, given that the UK holds only 0.34% of the world’s agricultural land, this would not have a significant impact on global food supplies. UK agriculture should focus primarily on protecting the ecosystem services that are vital for continued food production into the future.

19. The principles of sustainable agriculture should be applied at farm level, but in order to be successful farmers and landowners must be supported by a policy framework that facilitates and rewards actions that make their enterprises more sustainable. It is clear from the continuing farmland bird declines that the current balance of regulation and incentives is not fit for purpose to support the level of delivery required into the future.

20. The forthcoming reform of the CAP represents a critical opportunity for creating a framework of “public money for public goods”. There are also some relatively straightforward steps that Government could take immediately to make better use of millions of pounds of taxpayers’ money to deliver real results on the ground.

21. *Regulation.* Regulatory approaches have a strong track record of securing and improving environmental quality, but inspection and enforcement of environmental protection regulations is currently inadequate. The

⁹¹ Entry Level Stewardship is the “broad and shallow” strand of England’s Environmental Stewardship agri-environment scheme.

⁹² The Big Three are a safe place to nest; food in spring and summer for chicks; food and shelter over the winter.

⁹³ Phalan, B, *et al* Minimising the harm to biodiversity of producing more food globally. Food Policy (2010), doi:10.1016/j.foodpol.2010.11.008.

⁹⁴ The Millennium Ecosystem Assessment defines ecosystem services as the benefits people obtain from ecosystems, including provisioning services such as food; regulating services such as regulation of floods; supporting services such as soil formation; and cultural services such as recreational benefits. See <http://www.maweb.org/en/Condition.aspx>

⁹⁵ Natural England (2009) Agri-environment schemes in England 2009: a review of results and effectiveness. http://www.naturalengland.org.uk/Images/AE-schemes09_tcm6-14969.pdf

⁹⁶ Defra (2009) UK Food Security Assessment <http://www.defra.gov.uk/foodfarm/food/pdf/food-assess-approach-0908.pdf>

current legislative framework for agriculture fails to fully ensure a “do no harm” approach is taken or that the Polluter Pays Principle is reflected.

22. Address the failure of the market to internalise the negative externalities of food production, particularly livestock farming. Although livestock farming can provide important environmental benefits, intensive production can bring significant negative environmental impacts including overgrazing, pollution and loss of habitat and carbon stores domestically and overseas where feed crops are produced.⁹⁷ Environmental taxes and other financial levers, for example on chemical inputs and feed produced overseas, could be a way of internalising these externalities.⁹⁸

23. *Agri-environment schemes.* Agri-environment schemes are a critical tool for making farming more sustainable, through addressing specific problems in a targeted way and rewarding good practice that goes beyond the regulatory baseline. The continuation of adequately resourced and well-designed agri-environment schemes should be a priority for Government in its negotiations on the future of the Common Agricultural Policy (CAP). Targeted agri-environment measures (such as Higher Level Stewardship in England) need significantly more resourcing than they currently receive to ensure priority sites and species are managed appropriately.⁹⁹ “Broad and shallow” schemes need to be structured so as to ensure they deliver the desired ecological outcomes. The success of RSPB’s Hope Farm in reversing farmland bird declines demonstrates that the right tools are already available within Entry Level Stewardship. This success could be replicated across the country if the scheme was restructured to ensure the right combinations of options went into each agri-environment agreement to deliver the needs of farmland birds.

24. Policy levers should be used to incentivize High Nature Value farming systems. The CAP could play a significant role by recognising and rewarding high quality and sustainably managed extensive grazing systems that deliver multiple “public goods”.¹⁰⁰

25. *Cross compliance.* Although cross compliance has the potential to improve baseline environmental standards across Europe, a number of structural weaknesses currently prevent it from delivering effectively for biodiversity and the environment.¹⁰¹ Cross compliance inspection and enforcement should be strengthened in the UK to address the known problems.¹⁰²

26. *Climate change mitigation.* Government has chosen to rely initially on voluntary action by the agriculture industry to deliver greenhouse gas emission reduction targets, through the UK Greenhouse Gas Action Plan. In 2012 there will be a review of progress, and interventions—through regulation, tax etc—will be made if voluntary action has not been sufficient. However, there are currently no robust indicators or systems of monitoring progress in place. This needs to be addressed. The action plan is also not based upon a holistic approach to reducing emissions in rational, cost-effective and sustainable ways. For example, the promotion of reseeded grasslands with high sugar ryegrasses, or of increasing production of maize silage (both identified as a means to reduce emissions of methane from livestock), could be disastrous for both biodiversity, for resource protection (both soil and water), and counter-productive from a mitigation perspective (because of negative impacts on carbon stores and sequestration rates).

27. *Research and development.* R&D is crucial to develop more sustainable production methods, and to ensure that the potential impacts of new systems are fully assessed. Agricultural R&D investment has however declined in recent decades, alongside a shift from public to private sector investment. Private research generally pursues a profit objective, while public funded research tends to investigate areas with “public good” potential. Government must provide adequate funding and good, transparent governance for agricultural research to meet the good of society.

28. *Food assurance schemes.* Consumers place importance on food assurance schemes,¹⁰³ so it is important that they represent genuine environmental benefit. There is evidence that terms such as “grass-fed” and “outdoor-bred” are increasingly being misused. Specific concerns have been raised that the Red Tractor Logo brings little “added value” for the consumer.¹⁰⁴ Defra could revisit the Sustainable Development Commission’s recommendation to transform the RTL into a “green tractor” for domestic food production.¹⁰⁵ Development of

⁹⁷ IAASTD (2008) *Agriculture at a crossroads. Global summary for decision makers.*

[http://www.agassessment.org/reports/IAASTD/EN/Agriculture%20at%20a%20crossroads_Global%20Summary%20for%20Decision%20Makers%20\(English\).pdf](http://www.agassessment.org/reports/IAASTD/EN/Agriculture%20at%20a%20crossroads_Global%20Summary%20for%20Decision%20Makers%20(English).pdf)

⁹⁸ RSPB (2010) *Financing nature in an age of austerity.*

http://www.rspb.org.uk/Images/Financingnature_tcm9-262166.pdf

⁹⁹ LUPG (2009) *Estimating the Scale of Future Environmental Land Management Requirements for the UK.* <http://lupg.org.uk/Default.aspx?page=158>

¹⁰⁰ The defining characteristics of public goods are non-rivalry and non-excludability, meaning that no-one can be excluded from enjoying them and users cannot be charged for them. Examples include farmland biodiversity and an attractive landscape. See also Cooper, T *et al* (2009) *The provision of public goods through agriculture in the European Union.* Report prepared for DG Agriculture and Rural Development, Contract no. 30-CE-0233091/00-28, Institute for European Environmental Policy: London.

¹⁰¹ Birdlife International (2009). *Through the green smokescreen: How is CAP cross-compliance delivering for biodiversity?* http://www.birdlife.org/news/news/2009/11/green_smokescreen.html

¹⁰² European Court of Auditors 2008. *Is cross-compliance an effective policy?* Special report No 8:27–29.

¹⁰³ Defra (2009) *UK Food Security Assessment*

<http://www.defra.gov.uk/foodfarm/food/pdf/food-assess-approach-0908.pdf>

¹⁰⁴ Sustainable Development Commission (2005) *Sustainability Implications of the Little Red Tractor Scheme.*

¹⁰⁵ Sustainable Development Commission (2008) *Green, Healthy, Fair: A review of the government’s role in supporting sustainable supermarket food.*

such a standard should involve a range of stakeholders with different areas of expertise and should adhere to ISEAL principles.¹⁰⁶

How can consumers best be helped to make more sustainable choices about food?

29. The food industry and government must not “pass the buck” to consumers on the issue of sustainability. Consumers rightly expect that a certain amount of “choice editing” will be carried out by government and retailers, so that the least sustainable or otherwise unethical products will not be offered in shops. It is therefore vital to have a strong regulatory baseline in place.

30. *Labelling.* Accurate labelling helps to inform consumers about methods of food production. Improved labelling for environmentally-beneficial farming systems could be encouraged, for example, by developing new labels (such as “HNV farming” defined by appropriate standards), or by improving the environmental requirements for existing assurance schemes. There are limitations to relying on labelling, including the potential to confuse or disengage customers by providing too much information, and the risk of perpetuating social inequity by putting a price premium on products with an “ethical” label. In the long term, the food industry should move away from sustainability as a niche market and instead continue to raise the basic standard of all products.

31. *Information campaigns.* Education and awareness raising can inform consumers of the impacts of different systems of production and advocate more sustainable choices. Nutritional advice should be fully integrated with environmental sustainability.¹⁰⁷

Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

32. Forms of resource-intensive agriculture currently prevalent in the UK and other developed countries are fundamentally unsustainable.¹⁰⁸ The following paragraphs outline some of the many challenges, and serve to demonstrate the breadth of issues that must be addressed to achieve sustainability of the farming sector. Some environmental impacts can be mitigated, for example through precision farming techniques, but long-term solutions, particularly in the face of peak oil and phosphorus, will need to be developed.

33. *Biodiversity loss in the UK.* Farmland biodiversity is declining in the UK: for example the breeding farmland birds index was 49% lower in 2009 than its 1970 level.¹⁰⁹ In the UK lowlands, changes in livestock farming practice, including increased nitrogen input, higher stocking densities, a switch from hay to silage, loss of mixed farming and widespread field drainage, are considered a major cause of farmland bird declines. In arable areas, agricultural intensification and simplification of the landscape have driven biodiversity loss.¹¹⁰ The RSPB’s Hope Farm demonstrates that declines in widespread farmland bird species can be reversed by making fairly small changes to conventional lowland arable farming. For High Nature Value farming systems, profitability tends to be marginal, and the current system of payments under the CAP does not adequately support them, so they are likely to go out of business or intensify their farming practices,¹¹¹ both of which can be detrimental to biodiversity. Pesticide use is another major threat to biodiversity, by direct killing of a species or removal of its food source. The principles of Integrated Pest Management need to be widely adopted by the farming industry to decrease the proportion of food lost to pests and pathogens while reducing reliance on pesticides.

34. *Water use.* Water is necessary for both agricultural production and other ecosystem services including biodiversity. Demand for water extraction from agriculture is likely to increase with climate change, just as the resources available are likely to decline. Water availability will limit the quality, quantity and type of produce grown in the UK and may also affect the soils quality.

35. *Water pollution.* Diffuse pollution from agriculture is a serious problem in the UK with both nutrients and pesticides adversely affecting water quality. The UN Millennium Ecosystem Assessment¹¹² has identified eutrophication as one of the most serious threats to biodiversity and ecosystem function. Pollution also represents the escape of valuable plant nutrients into the wider environment, where their ability to boost crop production is lost.

¹⁰⁶ <http://www.isealalliance.org/content/about-us>

¹⁰⁷ WWF (2011) *Livewell: a balance of healthy and sustainable food choices.*
http://www.wwf.org.uk/what_we_do/campaigning/food_campaign/livewell_2020/

¹⁰⁸ IAASTD (2008) *Agriculture at a crossroads. Global summary for decision makers.*
[http://www.agassessment.org/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Global%20Summary%20for%20Decision%20Makers%20\(English\).pdf](http://www.agassessment.org/reports/IAASTD/EN/Agriculture%20at%20a%20Crossroads_Global%20Summary%20for%20Decision%20Makers%20(English).pdf)

¹⁰⁹ UK Common Bird indicator
<http://www.defra.gov.uk/evidence/statistics/environment/wildlife/kf/wdkf03.htm>

¹¹⁰ Robinson, R A *et al* (2002) Post-war changes in arable farming and biodiversity in Great Britain. *Journal of Applied Ecology* 39, 157–176.

¹¹¹ Beaufoy, G *et al* (2010) *CAP reform 2013: last chance to stop the decline of Europe’s High Nature Value farming?*
http://www.birdlife.org/eu/pdfs/HNV_Policy_document_proof6_010910.pdf

¹¹² <http://www.maweb.org/en/index.aspx>

36. *Soil loss.* Soil erosion or degradation can significantly affect our capacity to grow crops. 2.3 million tonnes of soil were lost in the UK between 1995–1998, mostly due to agricultural practices.¹¹³ Inversion tillage and drainage have reduced the amount of organic matter left within many soils in the UK.¹¹⁴ The stability and quality of soil must be improved if the UK's productive capacity is to be maintained, especially given that future farming systems will need to rely less on artificial fertilizers and manage changeable water availability. Soil loss into water bodies through agricultural run-off is also a source of pollution, degrading water quality and leading to biodiversity losses.

37. *Emissions from land use.* Greenhouse gas emissions from land management and land use change both in the UK and abroad are difficult to quantify but are extremely significant. Further research is needed to fully understand net emissions from land management to enable us to assess and compare different farming systems.

38. *Imported soy.* Much of the UK livestock sector (especially pigs and poultry) is dependant on overseas grown protein crops, particularly soy, to achieve quick growth rates.¹¹⁵ Large areas of land in Brazil, Paraguay and Argentina have been converted for soy production, causing deforestation, greenhouse gas emissions and the loss of valuable wildlife habitat.¹¹⁶

39. *Dependence on finite resources.* The dominant model of UK agriculture is highly mechanised and input intensive. This produces high yields and can be extremely efficient in terms of labour, land use and capital, but is intrinsically unsustainable as it depends on finite resources, notably oil and phosphorus.¹¹⁷ The need to develop and adopt low carbon approaches to food production is important both for energy security concerns and to reduce agriculture's contribution to climate change.

40. Many authors have reported the environmental problems in other parts of the food chain including the impacts of food packaging, transport, retail and waste disposal.¹¹⁸ As well as reducing their own environmental impacts, food processors and retailers must encourage, facilitate and pay for environmental protection and enhancement.

1 April 2011

Written evidence submitted by the Department for Environment, Food and Rural Affairs

1. The world needs more food, at less cost to the environment, and sold at a price which supports production, but without increasing food poverty. Global food security requires the UK, and other governments in the developed world, to help farmers everywhere to adopt methods of sustainable intensification. This can help to build the farming practices that will provide the abundant food we need for the future.

2. The complexity of the challenges requires action across the entire food chain: working closely with processors, manufacturers, retailers and consumers to reduce the impact of their activities.

3. The UK Government supports ambitious reform of the CAP to ensure the increased flexibility of Pillar 2 and that the dual aims of improving productivity and sustainability are tackled together to the benefit of farmers, consumers, taxpayers, other parts of the food chain and the environment.

4. The Government is committed to using research and development to identify win wins & trade-offs in the above scenarios.

5. The Government is committed to a sustainable future for farming and food production and consumption in which farmers, food chain businesses, consumers and Government all have a role in operating efficiently, sharing research and knowledge, and eliminating waste.

6. Increasing production sustainably is a Departmental priority for Defra. One of the aims in Defra's Business Plan is to promote increased domestic food production, as we recognise the benefits that regional and local and seasonal food can bring to both producers and consumers alike.

7. The Government is committed to setting out a clear and consistent position on Government Buying Standards—which will for the first time set out what constitutes healthier and more sustainable food and catering services for the public sector. It will allow Central Government to lead by example and provide a model for the wider public sector and the food industry to follow.

¹¹³ Environment Agency (2004) *The State of Soils in England & Wales*
<http://publications.environment-agency.gov.uk/pdf/GEHO0304BKBH-e-e.pdf>

¹¹⁴ Bellamy P H, Loveland P J, Bradley R I, Lark R M & Kirk G J D (2005) *Carbon losses from all soils across England and Wales 1978–2003*. *Nature*, 437, 245–248.

¹¹⁵ Defra and the Food Standards Agency (2009) *GM Crops and Foods: Follow-up to the Food Matters Report by Defra and the FSA*.

¹¹⁶ Friends of the Earth (2008) *What's feeding our food—the environmental and social effects of livestock sector*.

¹¹⁷ The Soil Association (2010) *A rock and a hard place: Peak phosphorus and the threat to our food security*
<http://www.soilassociation.org/LinkClick.aspx?fileticket=eeGPQJORrkw%3D&tabid=57>

¹¹⁸ See for example: Friends of the Earth (2005) *Checking out the Environment? Environmental impacts of supermarkets*; Sustain (2011) *The Food Miles Report*; Defra (2010) *Food 2030*.

Q1 *How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed?*

By understanding the Global Food Challenge

1. The world needs more food, at less cost to the environment. Global food security requires the UK, and other governments in the developed world, to help farmers everywhere to adopt methods of sustainable intensification. This can help to build the farming practices that will provide the abundant food we need for the future.

2. The recent Foresight Report “The Future of Food and Farming: Challenges and Choices for Global Sustainability” identified the factors that will increase pressure on our finite land resource as the century unfolds. These include climate change, demographic shifts, and changing patterns of work and habitation that will all create major challenges and intensify the demands we make on our land. It showed that this is already happening as we seek to maximise economic returns, and increasingly recognise the potential of land to yield multiple benefits in diverse areas such as ecosystem services, mitigating climate change, and wellbeing. It concluded that deciding how to balance these competing pressures and demands is a major challenge for the coming century.

3. The Government will shortly be publishing a Natural Environment White Paper which will consider the importance of food as an ecosystem service, and the relationship between food production and environmental objectives.

4. Because the impacts of the food we consume in the UK have an international impact, the Government is committed to tackling global climate change and is providing £2.9 billion towards tackling issues related to land use and food production abroad, with a significant amount of this money to be used for addressing illegal logging, deforestation and ensuring forestry contributes to climate change mitigation. The key international mechanism for this is the Reducing Emissions from Deforestation and Forest Degradation or REDD programme.

By adopting a Whole Food Chain Approach

5. The complexity of the challenges requires action across the entire food chain: working closely with processors, manufacturers and retailers to reduce the impact of their activities. It also requires consumers to have the information and knowledge they need to make more sustainable choices.

6. Tackling food waste is crucial to reducing the environmental and climate change impacts of our food and is a priority of this Government. We’ve been working with industry to prevent food waste as part of the Courtauld Commitment, and as partners in the *Love Food Hate Waste* campaign, and we’re starting to look at how responsibility deals like Courtauld can be used to tackle waste in other sectors. The Government’s aim is to work towards a zero waste economy and we’re conducting a thorough review of waste policies which will produce its preliminary findings in May.

By reform of the Common Agricultural Policy (CAP)

7. The CAP supports sustainable environmental practices through Pillar 2, which is focussed on ensuring that farmers manage the land effectively to ensure long-term resilience to climate change and environmental degradation. In England, Pillar 2 is enacted through the Rural Development Programme for England (RDPE).

8. As part of the RDPE, strong agri-environment schemes are a primary tool to tackle environmental challenges such as climate change, water management and biodiversity. They provide appropriate targeting of environmental benefits where they are most needed, and are capable of providing a significant level of benefit to agricultural land.

9. Well managed farms are best placed to manage the land sustainably and provide valuable public benefits, for which they should receive compensation through Pillar 2 of the CAP. Some competitiveness actions in RDPE, for example around resource efficiency, will have a positive impact for both the farmer financially and the environment, particularly in the areas of water and air quality, GHG emissions, and soil protection. A more flexible structure for Pillar 2 would make measures producing multiple outcomes easier to incentivise in the future.

10. The UK Government supports ambitious reform of the CAP to ensure the increased flexibility of Pillar 2 and that the dual aims of improving productivity and sustainability are tackled together to the benefit of farmers, consumers, taxpayers, other parts of the food chain and the environment. This must be founded on a twin-track approach, building competitiveness and so reducing reliance on subsidies, enabling farmers to better deliver environmental goods that the public demands. In the medium term, payment for ecosystem services may provide the most appropriate measure under a flexible programme.

By using Research and Development to identify win wins & trade-offs

11. The UK Government invests £400 million per year on agriculture and food research to help the industry increase productivity, improve resource efficiency and reduce environmental impacts across the food chain.

Defra itself contributes approximately £65 million of this—£29 million on farming and food research and the remainder on animal health and welfare.

12. The UK's main public funders of food-related research are working in partnership (for example, through joint research programmes such as the Global Food Security and Living with Environmental Change) and at the EU level via EU Framework Programmes. The Global Food Security programme in particular aims to help meet the challenge of providing the world's growing population with a sustainable and secure supply of safe, nutritious and affordable high quality food. Defra is also funding work with the devolved administrations to the tune of £12.6 million. into research to improve our understanding of greenhouse gas emissions from farming.

13. In terms of trade-offs farmers need to adapt to the likely effects of climate change to continue to produce food sustainably and deliver public benefits. Future land-use trade-offs should pay close attention to this need as farming's contribution to the UK is a complex one, with our landscapes, biodiversity, food security, and the viability of many of our rural communities shaped by the productive activities of farmers and food production. A number of actions have multiple positive results in supporting both sustainability and food production. For example, increased resource efficiency helps farmers adapt to climate change, increases the competitiveness of the industry and has environmental benefits. It will also consider the sustainability behaviour of consumers.

14. Taking difficult decisions and identifying these trade-offs can only be done effectively on the basis of a robust evidence base. Defra, the Biotechnology and Biological Sciences Research Council (BBSRC) and the Technology Strategy Board's Sustainable Agriculture and Food Innovation Platform will see investment of up to £90 million over the next five years in innovative technological research and development in areas such as crop productivity, sustainable livestock production, waste reduction and management, and greenhouse gas reduction. Following a first call on crop protection, there are planned calls on sustainable protein and food technology.

15. Defra is also co-funding research with the livestock industry on the environmental consequences of replacing soya with home grown legumes in pig diets; on the life cycle analysis of poultry production systems and on an analysis of nutrition regimes for ruminants to reduce greenhouse gases.

16. More widely across the food chain Defra has also supported the development of tools for businesses to appraise and report environmental performance such as PAS2050, guidance on green claims and corporate reporting guidelines. We are also funding research to develop the evidence on sustainable healthy diets.

By Working in Partnership

17. The Government is committed to a sustainable future for farming and food production and consumption in which farmers, food chain businesses, consumers and Government all have a role in operating efficiently, sharing research and knowledge, and eliminating waste.

18. To that end we are working closely with the agricultural industry's task force on its action plan to reduce greenhouse gases from farming and with livestock levy bodies and their partners on product roadmaps to reduce environmental impacts. We are also working closely with the food industry and interested organisations, manufacturers, retailers, NGO's, social enterprise organisations and community organisations to establish a cohesive way forward where actions and delivery are shared between those who can achieve the best results.

Q2 How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

Q3 How can consumers best be helped to make more sustainable choices about food?

By giving consistent evidence based population level messages on an affordable sustainable balanced diet and by working closely with a wide range of partners to ensure wide dissemination of these messages to all.

HEALTHY & SUSTAINABLE FOOD

19. Government advice is that most people will get their energy and nutrients from a healthy balanced diet that has—

- plenty of fruit and vegetables (at least 5 portions of a variety every day);
- plenty of starchy foods, such as bread, rice, potatoes, and pasta, choosing wholegrain varieties whenever possible;
- some milk and dairy foods;
- some meat, fish, eggs, beans and other non-dairy sources of protein;
- and just a small amount of foods and drinks high in fat and/or sugar.

20. The "eatwell plate" provides a visual representation of the balanced diet, as described above and is widely used across Government, food industry, civil society organisations and health professionals.

21. Government has recently issued advice to cut down red and processed meat consumption¹¹⁹ to the UK average of 70g a day as this can help reduce the risk of bowel cancer. Advice focuses on achieving behaviour change by eating smaller portions or by eating red and processed meat less often ie. having a meat free day.

22. Advice nudges people towards choosing fish from sustainable sources and choosing a variety of fruit and vegetables, whether in season, fresh, canned, frozen, juiced and/or dried can also prove to be a more affordable option.

23. Advice also nudges people to plan meals ahead of shopping, reduce food waste, think about healthy, affordable and sustainable trade-offs and make the most of social enterprise and community schemes.

By using research and evidence to show the impact of production and consumption patterns

24. Defra is funding research to support sustainable food production, by developing and testing options to reduce negative impacts on the environment (emissions to air and water, natural resource depletion) and support biodiversity.

25. Defra is also funding research to develop the evidence base on sustainable healthy diets and understanding the impacts of the food chain.

26. Aquaculture has the potential to provide a sustainable food source (with a minimal contribution to climate change). The Government is supportive of the role aquaculture can play, and is assisting the industry to produce an Aquaculture Plan for England setting out how the industry will develop itself, and is conducting a review of relevant regulations as part of this process.

By reviewing the affordability of food

27. Government will review the results of spend on food in 2010 when Family Spending and Family Food 2010 are published later this year. These publications look at the *proportion of spend by households on food*—it is currently predicted that for the population in the lowest fifth by income their share of spend on food and drink will have decreased slightly in 2010.

28. The expenditure on food in low income households has declined since 2008 when it experienced a peak due to food price rises. Only Netherlands and Sweden have a lower percentage spend on food for their low income households.

29. The 2008 Competition Commission investigation found that generally the *groceries market was delivering a good deal for consumers*. However we do know that healthy foods cost more per calorie. Analysis by Defra statisticians using Family Foods 2008 data indicates that fruit and vegetables can be over ten times more expensive than fats and oils on a per calorie basis.

30. Fruit and vegetables may be under-consumed because individuals, particularly children, are not sufficiently aware of the future health benefits of such consumption. This is partly due to imperfect information in the marketplace and, as behavioural economics shows us, because individuals tend disproportionately to discount distant costs, such as the future health problems sown by a poor but pleasurable diet in the present.

31. The Department of Health's most recent *Health Survey for England* (December 2010) claims that, "For both men and women, the proportion that consumed five or more portions per day increased significantly to a peak in 2006, from 22% in 2001, to 28% in 2006 among men, and from 25% to 32% among women. However, the proportion of adults consuming five or more portions a day was lower in 2008; when 25% of men and 29% of women reported consuming five or more portions". *Health Survey for England—2009: Trend tables*—<http://www.ic.nhs.uk/statistics-and-data-collections/health-and-lifestyles-related-surveys/health-survey-for-england/health-survey-for-england—2009-trend-tables>

32. Estimates of edible food wasted of 15% (16% by calorie) suggest that consumers could reduce waste in order to keep food costs down. The highest levels of waste are for bread, vegetables, potatoes and fruit.

By Supporting Consumers

33. The Government is committed to *honesty in food labelling* including the sustainability of the food we buy.

34. Government's guidance on Green Claims is aimed at business to help them communicate the environmental benefits of their products in a way that is clear and easy to understand for consumers.

35. Published research on the environmental labelling of food and internet information on food sustainability provides clear information on the choices available to consumers and the impacts of their food buying choices.

36. Government is also working in partnership with industry and stakeholders to share information and ensure that the best possible advice is available.

¹¹⁹ Based on advice from the Scientific Advisory Committee on Nutrition (SACN), which reviewed the evidence of the links between red and processed meat and bowel cancer and concluded that red and processed meat probably increases the risk of bowel cancer.

37. We are also engaging in the current EU debates on eco labels for food including their economic and social implications.

By supporting consumers on their sustainable choices

38. We will provide consumers with evidence about how much sustainable produce they are buying. This can be broken down by their understanding of the issues, their beliefs and ethics, and the extent to which they claim to actively seek to buy sustainable products.

39. Another area where action is *food waste* and making an effort to waste less food is a key “sustainable choice” consumers can make. For example, UK households create 8.3Mt of food waste a year and at least 60% (and up to 80%, potentially) of this is avoidable, ie could have been eaten at some point.

40. Waste and Resources Action Programme (WRAP) research has revealed the reasons consumers waste food to include:

- issues around habits, attitudes, values, motivations, skills and knowledge; and
- the retail environment, range of products and provision of information.

41. Thus the strategy for tackling household food waste is twofold:

- Target consumers’ habits, attitudes, values, motivations, skills and knowledge, eg the government-funded *Love Food Hate Waste* campaign.
- Changing the retail environment, making it easier for consumers to waste less.

By introducing creative initiatives

42. Also we are supporting consumers by launching initiatives such as “*Fishing for the Markets*” which is looking to encourage consumption of under-utilised, sustainable species that are often discarded we aim to better understand fish eating/purchasing habits and attitudes among fish eaters, and give a clear strategy for actions to help encourage consumption of the more sustainable species. There are also other initiatives being taken forward by UK Devolved Administrations focusing on improving the uptake of sustainable fish of national and local origin.

43. Also we are supporting campaigns to reconnect people with food from encouraging education to food growing (see more detail at Q5).

Q4 Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

44. In 2007 farming and fishing accounted for around a third of GHG emissions from the food chain in the UK. Around 25% were attributable to net trade, and 9% from commercial transportation of food for UK consumption. The total food waste from the whole supply chain amounted to 11.3 million tonnes, and total packaging 5.1 million tonnes. Households accounted for more than 70% of each total.

45. The food industry has already taken a number of steps to improve its resource efficiency. Emerging research indicates that measures already taken to save energy and waste have also saved the food and drink sector approximately £275 million, and it is estimated that a further £76 million can be saved from more efficient water usage. Defra supports the recently launched industry Greenhouse Gas Action Plan which allows industry leaders to show their commitment to securing a long-term sustainable future for British farming by reducing emissions.

SKILLS

46. However, a major barrier to improved sustainability in the food industry remains a lack of quality skills and knowledge in this area among the workforce. Stakeholders have raised concerns about this and the difficulties in recruiting new employees. Indications are that the gap is at all levels, from basic processing skills up to the level 4 and 5 skills required by food scientists and technologists.

47. Raising skills is equally important for farming, because agriculture’s impacts on the environment are wide-ranging. Nutrient and nitrogen use in fertiliser and manures is vital for crop growth, but it raises nitrate levels in rivers, releases poisonous ammonia into the air, and produces the GHG nitrous oxide. The indicators published by Defra and available online measure farming’s effect on the environment, including on water and air quality—but the story they tell applies only at an aggregate level.

NUTRIENT MANAGEMENT AND EMISSIONS

48. Broadly, the last 10 years have seen a step-change in nutrient management prompted by the implementation of Nitrate Vulnerable Zones (NVZs), the spread of good conduct through tools such as Defra’s fertiliser manual, and considerable uptake of the nutrient management components of Environmental Stewardship schemes. Not only has this saved farmers money and helped them become more competitive, but there have been clear environmental benefits: ammonia emissions from agriculture fell 23% between 1990 and

2008 to 282 thousand tonnes, while the industry's methane emissions fell 19%. Since 2000, the total percent of Britain's river lengths whose nitrate content exceed 30 mg NO₃ per litre (the EC nitrates directive limit is 50 mg) has gradually fallen from 39% of river lengths to 29% in 2009.

49. However the 19% fall in methane emissions should be seen in the context of a roughly 20% fall in the size of the national dairy herd. Thanks to greater productive efficiency, the total of milk produced in the UK fell by only around 7% in this period, masking the true cause of this apparent sustainability success. In order to both maintain these improvements and grow more food (in line with Foresight recommendations), even greater advancements in productivity will be necessary.

SUSTAINABLE WATER USE AND MANAGEMENT

50. Another area of food production and the supply chain which has implications for sustainability is water supply and the efficiency with which freshwater is being used for food production. A recent study commissioned by WRAP and undertaken by WRc plc pulls together sources of data, examining the use of freshwater as a resource for human activities including food production, via data on industrial and commercial use of water. (draft "*Freshwater availability and use in the United Kingdom, 2010*").

51. It is clear from available data on water use and abstraction that climate change is expected to play a role in reducing available water in future, and work is under way to assess the scale of the impact of climate change on water resources. Therefore in assessing future levels of abstraction and direct use of freshwater for agriculture and food processing, it will be necessary to take account of climate change. In addition, trends in food consumption and population effects will need to be mapped to see the effects on water scarcity in different parts of the UK, as well as the potential effect of new technologies which may bring efficiencies in resource use. The Federation House Commitment (FHC) aims to help reduce overall water usage across the Food and Drink sector by 20% by the year 2020. It is run jointly by WRAP and the Food and Drink Federation.

FISHERIES

52. Fisheries contribute to food sustainability and security both directly and indirectly. Fish provide essential nutrition to millions of people across the world. Yet globally, fish stocks are over-exploited. The necessary governance is often ineffective or absent, and the potential to capture wealth from this valuable resource is being dissipated. Efforts to manage stocks sustainably continue to be undermined by a high value trade in illegally caught fish while capacity-enhancing subsidies serve to provide further incentives for over-exploitation, which can damage the marine eco-systems on which fish depend.

53. Lack of market demand for the full range of edible or otherwise useable fish species caught in UK fisheries leads to the wasteful practice of discarding. It also means that fishermen and the food industry are failing to maximise revenue from existing catches. As mentioned above, the *Fishing for the Markets* initiative will also seek to recommend business development and marketing skills in the fishing industry that are required to get different fish to the market.

54. The UK imports the majority (around 60%) of the fish we eat, and this rises to 90–100% in respect of some of the most popular species (cod, Alaskan pollock or tuna). Our supply of fish is therefore closely linked to the continued availability of global fish stocks and the sustainable use of this valuable natural resource. And this at a time when we are being encouraged to eat more fish, to supplement a healthy diet. As a result we have a considerable global footprint when it comes to fisheries, and we have a responsibility to help deal with the global problems that result.

Q5 How might the changing powers of local authorities and the localism agenda hinder, or be used to encourage, more sustainable production and supply of food?

55. Increasing production sustainably is a Departmental priority. One of the aims in Defra's Business Plan is to promote increased domestic food production, as we recognise the benefits that regional and local food can bring to both producers and consumers alike.

By using Big Society

56. The Big Society is a localism vision for reforming government which means a decentralisation of power to local areas, neighbourhoods and individuals. "Localism" can help in reconnecting people to their food supply through educational activities, such as "grow-your-own". Government activity to support this is focused on reducing barriers to people growing their own food, including funding the development of a meanwhile lease which would help provide access to land on a temporary basis for community groups and individuals wanting to grow; it has also funded the piloting of a community landbank that would act as broker between landholders and community groups

57. However, the environmental benefits of "local food" are not conclusive. The recently launched Foresight report concludes that "food miles" is an incomplete way of judging whether the food we eat is sustainable. We believe it is better to consider the environmental, social and economic impact of a food over its entire life cycle (from farm to fork) when assessing its sustainability.

By supporting Enterprise

58. Government's role is to remove barriers and support green growth. With the changes at the regional tier we are therefore working with key partners (including the English Food & Drink Alliance), to make sure that the sector is able to access the support available via the Local Enterprise Partnerships, and to encourage local food hubs which bring growers, processors and small food businesses together as part of building a strong and sustainable green economy.

By acknowledging the role of Localism

59. The Localism Bill also contains a number of measures intended to empower communities and give them the right to challenge their local authorities. Most relevant in this context is the power to petition for a referendum on a local matter, this could be used, for example, in relation to the food served in schools.

60. Greater *transparency* is at the heart of enabling the public to hold politicians and public bodies to account. Departments are required to publish tender documents and new contracts over £10k and will also be required to publish performance data on their websites to drive improvements and the reform of their operations.

61. We do not believe that the Government should regulate how every local public body should provide healthier, more sustainable food. However, as part of localism, Government can provide the tools—for example Government Buying standards, to encourage more sustainable production and supply of food at a local level.

Q6 How could government procurement practices be improved to promote better practice across the food sector?

By setting out a clear and consistent position

62. The Government agrees that there is a need for a new approach on public procurement of sustainable food. This is why Defra and the Department of Health are developing *Government Buying Standards* (GBS) for food and catering services. This will for the first time set out a clear and consistent position on what constitutes healthier and more sustainable food and catering services for the public sector. It will allow Central Government to lead by example and provide a model for the wider public sector and the food industry to follow. The lack of such a framework has been cited as one of the key barriers to progress in driving up standards of public sector food in the past.

63. GBS are mandatory for central government and their executive agencies and are promoted to the wider public sector. The Greening Government commitments include an aim to ensure government buys more sustainable and efficient products—including by embedding GBS in departmental and centralised procurement contracts, within the context of Government's overarching priorities of value for money and streamlining procurement processes.

By ensuring they are robust

64. They are based on a robust analysis of costs and benefits and input from industry, NGOs, Government departments, and other interested parties. This process ensures that the standards are practical and that, overall, they achieve net savings, on a whole life cost basis. The standards cover the three main areas of sustainable procurement:

- Foods produced to higher sustainability standards.
- Foods procured and served to higher nutritional standards.
- Procurement of catering operations to higher sustainability standards.

65. The Impact Assessment identifies the costs and benefits of the policy. When these are aggregated the total benefit from the policy is quantified at £39 million over 10 years, with additional unquantified benefits identified. We expect to launch the GBS for food and catering services shortly.

By acknowledging the role of localism

66. For the wider public sector, the Government's work on localism and transparency will give local people the tools and information they need to address issues that are important to them (see question 5). We do not believe that the Government should regulate how every local public body should provide healthier, more sustainable food. Each of these organisations will have a different set of requirements and the people concerned with them (parents, patients, governors) will have different priorities, placing them best to decide how to achieve the objectives we are aiming for. This local prioritisation is even more pertinent given the current financial pressures on all public expenditure.

67. We are also developing a sustainable food procurement *training* module aimed at procurers in Local Authorities and other public bodies. In addition, Defra is working with other government departments, in particular the Departments of Education and Health, to explore how we can encourage the incorporation of GBS into school and hospital food contracts in the future. To this end the NHS Operating Framework makes

it clear that NHS organisations are encouraged to consider the Government Buying Standards for food and catering.

5 April 2011

Written evidence submitted by the NFU

The NFU represents more than 55,000 farming members in England and Wales. In addition we have 41,000 countryside members with an interest in farming and the country. The NFU welcomes the opportunity to make a submission to the Environmental Audit Committee's inquiry into Sustainable Food.

INTRODUCTORY COMMENTS

1. Most farmers are passionate about the environment. Living close to nature they know better than anyone that a healthy environment is essential for a sustainable farming system. They want to pass on their land in better health than when they took it on. That is why harnessing farmers' enthusiasm and local knowledge is the key to environmental improvement. The recent Foresight Report on the future of global food and farming set out the scale of the challenge of feeding a growing global population against the backdrop of climate change and finite natural resources. The need for "sustainable intensification" in producing food will require an entirely new approach to food policy, and one that will need every part of government committed to the same outcomes. The importance of this coherence of approach, with all Government Departments and delivery bodies working with a common purpose, cannot be overemphasised. Too often positive words about the importance of sustainable production from Defra are not borne out elsewhere in Whitehall.

2. Farmers are sometimes caricatured as being profit driven at the expense of the environment—a perception which, if true, would be of real concern in times of increased food insecurity. In fact, a recent Defra survey found that 99% of farmers agreed with the statement that they place protecting the environment as their top priority, against 79% who place maximising profit as their primary task.¹²⁰ The oft quoted farming saying: "live as if you will die tomorrow, farm as if you'll live forever" has never been more apt.

3. The NFU is committed to working with government, industry and other organisations to promote the economic, social and environmental sustainability of farming in England and Wales. Farmers are actively engaging with government and a range of organisations in identifying the best way to achieve this—through changing farming practices on the ground, encouraging targeted investment in R&D that translates into tangible benefits in the field, and providing the right fiscal and regulatory environment to encourage sustainable farming without hindering the industry's ability to compete.

4. The NFU believes that sustainable food production is best encouraged through voluntary action and best practice, not through legislation and regulation. Of course, regulation is necessary as a backstop to prevent actual damage, but regulation rarely produces enhancement.

5. The term "sustainable" as it relates to farming is notoriously difficult to define. In its broadest sense, which has been held to include issues beyond environmental protection such as animal welfare, it is liable to fall foul of internal contradictions. For example, evidence suggests intensive methods of poultry production have a smaller environmental footprint than more extensive systems advocated by some animal welfare campaigners.

6. For this reason, the NFU has championed the industry-led approach, through initiatives such as the agricultural sector's Greenhouse Gas Action Plan, and the industry's Beef and Sheep Roadmap. These build on the positive work being achieved through schemes such as the Red Tractor, which guarantees that accredited farms meet high standards of production relating to food safety and hygiene, animal welfare and environmental protection. These voluntary approaches can accommodate the complexities of defining sustainability, and allow a swift and flexible response to new evidence or unforeseen consequences. We prefer this approach to attempts to enshrine sustainability in legislation, which risk hindering progress through legal challenges, arguments over definitions and contradictions in objectives.

7. Furthermore, the NFU strongly believes that farming acts with its greatest purpose and impact when acting under its own momentum. Farmers are not known for their fondness for red-tape and regulation, and legislating for sustainability would be counter-productive, forcing the heavy-hand of state intervention against farmers' freedom to go about the business of producing more while impacting less. Securing robust and meaningful evidence on which to base such legislation would also be extremely problematic, if not impossible.

8. Turning to the specific themes outlined in the committee's invitation for written evidence, we offer the following observations. We would be very pleased to give oral evidence once the committee's inquiry is underway.

¹²⁰ Defra Farm Practices Survey 2008.

How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed?

9. A range of actions and mechanisms are needed to ensure that farmers can retain the capacity to produce food whilst also continuing to safeguard the environment. These include:

- Investment in applied research and knowledge exchange. We need to better understand and better manage the interactions between the impacts of climate change, our use of natural resources, wildlife species and habitats and food production. This knowledge must be transferred to advisers and farmers promptly and practically. Demonstration, advice and information are critical and there must be a two-way flow of information between science and farming industry.
- Agri-environment schemes contribute positively to the protection of landscapes, soils, water and biodiversity. Continued universal access to agri-environment schemes is vital.
- Initiatives such as the Campaign for the Farmed Environment, the Voluntary Initiative, the Tried & Tested nutrient management initiative and the agriculture industry Greenhouse Gas Action Plan are excellent examples of good partnership working between government, its agencies and other key agricultural organisations. These should be supported and maintained.
- A broad range of tools, technologies and approaches must be given due weight and consideration in meeting the challenge of “sustainable intensification”. This includes precision farming, genetic improvement of both crops and livestock (including GM methods), understanding soils and water, resource-use efficiency, pest, disease and weed management. Essentially, all losses of yield due to the stresses of pests and weather, etc., or sub-optimal management constitute an unnecessary and wasteful environmental impact.
- The development of new mechanisms such as environmental markets for the goods and services that farmers provide should also be investigated.
- The planning policy framework must recognise the importance and value of food production alongside protecting the environment.

10. Furthermore, agriculture can make a big contribution to mitigating climate change by storing carbon in soils and vegetation and by generating renewable energy—reducing the use of fossil fuels within the industry and across the wider economy through the growing of energy crops, the production of biogas and the use of other renewables like wind and solar, ground-source and micro-hydro. In addition, the industry’s Greenhouse Gas Action Plan demonstrates the industry’s commitment to making a realistic reduction in its greenhouse gas emissions as its contribution to the UK’s climate change target.

How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

11. As set out in the introduction, the role of government in helping to deliver healthy and affordable food in a more sustainable manner must not impose burdensome and counter-productive regulation on primary producers. However, where markets are failing to provide fair returns to farmers, and therefore making farming as a business unsustainable, government should seek to intervene for the benefit of consumers and for food security. For instance, the introduction of a Groceries Code Adjudicator is a key element in ensuring a fairer functioning market in the future.

12. Elsewhere, government can create the right business environment to encourage farms businesses to be productive and competitive. This includes introducing the right fiscal framework, and other measures aimed at helping small businesses, as well as a planning framework that encourages sustainable development. Only then can farm businesses invest in the technology and expertise that will allow them to increase production sustainability. This will also require a sustained injection of agricultural research, which is actively translated into practice on the ground. All technologies must be explored on the basis of strategic considerations, not knee-jerk political or emotional reactions.

13. While we agree that food must be affordable and available to all, the industry is committed to providing quality and safe food for the market which meets high welfare and environmental standards. To continue to do, and even to improve in these areas, it may be that consumers will have to accept small rises in food prices. Food prices that are kept artificially low evidence a failure of the market, and mean producers will not get the sort of returns that allow them to invest in their businesses for the long-term—a key component of sustainability. Ultimately this leads to too much reliance on food imports, and with current concerns over global food security increasing, this can only lead to greater food price volatility in the absence of a reliable and trustworthy domestic production base.

14. With regard to healthy food, farmers and growers produce the raw materials for the whole processing and retail chain. Dietary balance, rather than individual foods, is central to good health, and achieving this must be a shared responsibility between consumers, government and industry. Defining (and encouraging people to eat) a diet that is at the same time healthy and environmentally sustainable is extremely problematic, given the number of contradictions involved at a product level. The high quality fruit, vegetables, whole grains, milk, eggs and meat that British farmers produce can certainly be the basis of a healthy, balanced and

sustainable diet if consumers are sufficiently engaged and informed to make judgements about their own needs and priorities.

How can consumers best be helped to make more sustainable choices about food?

15. Again we encounter the problem of how to define sustainable choices. It is very doubtful that clear and definitive guidance and information can be provided that will produce a formula that consumers can follow, even if they wanted to. An example would be the perceived welfare benefits of extensive livestock rearing systems set against the environmental benefits of intensive systems. Similarly, the commonly expressed view that a reduction or even elimination of meat and dairy products from our diet would not only be a more efficient use of the world's food resources but would help combat climate change is simplistic and flawed. It ignores the fact that large parts of this country are only suitable for grass production and humans cannot ingest grass directly. Ploughing up grassland to produce more crops would in fact contribute to, not mitigate, climate change. To attempt to regulate domestic supply would simply export meat and dairy production to countries where greenhouse gas emissions are typically much higher than in the UK.

16. On a more positive note, a general increased awareness of how food is produced (through TV and other media, or education in schools, for example) would give an essential starting point for discussions on sustainability, and this has started to happen in recent years. Food companies are developing sustainability-related operating systems, commitments and supplier requirements. Nevertheless, these are not always evidence-based or meaningful beyond marketing messages. Furthermore, while there seems to be growing evidence that retailers are attempting to source goods with sustainable credentials (whatever they may be), it does not seem that the catering and hospitality trade are not sourcing sustainably produce food to similar standards. There are clearly added difficulties with them doing so, but it remains an issue that needs addressing.

17. The NFU continues to work with a wide range of stakeholders across a number of forums which are trying to identify ways of giving consumers meaningful information about sustainability choices in what they eat. It is clear from discussion that this won't be easy, but we will continue to work on this issue. As mentioned above, information is crucial—consumers must be allowed to make their own lifestyle choices based on accurate and balanced information.

Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

18. Water remains an important issue in this regard. Agriculture needs a reliable supply of water to sustain livestock, and irrigation is crucial for high-value food crops. Agriculture in England and Wales only accounts for 1% of water use overall. Population forecasts suggest there may be 15 million more people living in England and Wales by the 2050s and farmers and other abstractors are likely to find it tougher to secure the water they need in the future because of rising demand. The challenge of climate change will put more pressure on the environment and on existing supplies. Demand for water for irrigation is expected to increase in England over the next 10 years, and could be 25% higher by 2020.¹²¹ Security of supply for farmers is critical. Water efficiency will need to be addressed in all sectors (not just agriculture) and we will need to find ways to store more water when supplies are more plentiful.

19. Waste also presents challenges, throughout the whole supply chain and into the home. As mentioned above, any sub-optimal yields due to inefficiencies, pests, weeds, diseases, or environmental stresses constitute waste to the system—a fact sometimes overlooked in considering the waste impacts of the food sector. Encouraging the uptake of technologies to maximise yield without increasing farming's environmental impact is essentially an exercise in waste-reduction. Furthermore, there is still too much food wasted along the supply chain, in the hospitality industry and in the home, often for no other reason than cosmetic unseemliness. It should also be borne in mind that waste is increasingly valued as a resource. Using wastes, or materials derived from wastes (such as compost or digestate) can displace the requirement to import some raw materials, contributing to the resource efficiency central to sustainable intensification.

20. Energy use of course remains a concern in terms of sustainability—heating and fuel in particular are increasingly costly inputs for farmers, both in financial and environmental terms, but are necessary in many systems. Again, operational efficiencies driven by technological innovation and knowledge transfer (for example as seen in the adoption of precision farming techniques) are key to addressing this challenge.

21. Finally, it cannot be forgotten that sustainability encompasses social and economic considerations as well as environmental ones. While we witness a failure of some parts of the food supply chain to pass financial returns fairly onto primary producers, those sectors will remain economically unsustainable. This has long-term ramifications for the well-being of local communities, and also for the continued ability of suppliers to source produce from UK farmers. Ultimately such a state of affairs exports our production base, where food may be produced to lower environmental, health and welfare standards, increasing rather than alleviating concerns about the sustainability of the food system.

¹²¹ Environment Agency Water Resources Strategy 2008.

How might the changing powers of local authorities and the localism agenda hinder, or be used to encourage, more sustainable production and supply of food

22. The localism agenda may encourage a greater understanding of the interconnected nature of the food chain. Rather than responding to external guidance and policy directives, local authorities will be looking at their own areas, encouraging them to examine local connections and what is important to their neighbourhoods.

23. However, the danger of emphasising “the local” is that many decisions, for instance in terms of spatial development, are better set in a wider context. This is clear in terms of the requirements for major physical infrastructure such as roads and railways. It is much less clear for food production which can be seen as something that happens purely locally. However as the recent Foresight Report stated, “The analysis of the Project has demonstrated the need for policy-makers to take a much broader perspective than hitherto when making the choices before them—they need to consider the global food system from production to plate”.¹²² There is a challenge, therefore, in linking the global food system functions to local decision making.

24. The Foresight Report also referred to the fact that globally, to retain biodiversity, no more land ought to be brought into food production. This is certainly true of England and Wales. The key is sustainable intensification, producing more food whilst impacting less. This inevitably means changes in food production which may be perceived to harm local interests but which nevertheless has an overall beneficial impact. Examples include more intensive forms of farming, such as livestock housed in larger buildings or more extensive use of greenhouse/polytunnels which engender local opposition.

25. Ultimately it is crucial that there is a co-ordinated approach to food policy within the UK. The current reform of the planning system must recognise strategic, national priorities such as food production and ensure that the planning system provides a fair balance between local priorities and concerns, and the need to promote sustainable production in agriculture.

5 April 2011

Written evidence submitted by the Food Ethics Council

SUMMARY

1. Resolving the tensions between social, economic and environmental objectives within the food sector requires changes in wider social and economic policy, including in trade, competition, employment conditions and benefit levels. People working in food and farming must find ways of exerting leverage on these wider policy issues, for example by collaborating with other sectors.

2. Priorities for government action include:

- Reducing inequalities in diet-related health by setting benefit levels and minimum wage rates at levels which allow families to achieve a minimum socially acceptable standard of living.
- Working with the Office Fair Trading to promote publicly accountable mechanisms whereby businesses can collaborate on sustainability initiatives.
- Developing resource-based accounting systems that take proper account of natural, human and community capital.
- Only buying food that has been produced fairly and sustainably, and helping the people catered for by the public sector to eat a healthy diet.
- Reforming the Research Councils to ensure that the intended beneficiaries of publicly-funded science are better represented in decision-making about research priorities relating to food security and sustainability.

3. Improving food labelling has only a limited part to play in helping consumers to make more sustainable choices, and government should commit to introducing fiscal measures and regulation where appropriate. Individualistic and incentive-based approaches to “nudging” consumer behaviour could erode government’s permission from the public to promote sustainable and healthy diets.

4. Our work has found that government has a mandate from industry, as well as from public interest groups, to take a clear lead in finding ways to promote sustainable consumption, as long as interventions are fair and practical.

INTRODUCTION

5. The Food Ethics Council (FEC) is a charity that provides independent advice on the ethics of food and farming. Our aim is to create a food system that is fair and healthy for people and the environment. In pursuit of this aim, we:

- Research and analyse ethical issues.
- Mediate between stakeholders.

¹²² Foresight Report The Future of Food and farming.

- Develop tools for ethical decision-making.
- Act as honest brokers in policy and public debate.

6. The 14 members of the FEC are all leaders in their relevant fields, and appointed as individuals. They bring a broad range of expertise to our work, from academic research through to practical knowledge of farming, business and policy. The members are listed at the end of this document.

How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed?

7. Much of the effort by academics and environmental groups to address the environmental impact of food has focused on environmental footprinting and modelling. This has been crucial in making the case that systemic changes are necessary and plausible. Environmental accounting of this kind suggests that, *in addition to* the many welcome improvements in resource efficiency that are already being pursued across the food and farming industries (eg sector roadmaps and the FDF’s environmental ambition), qualitative changes in food production and consumption will be necessary—we need to eat differently. Inasmuch as changing consumption behaviour reduces the overall resource demands of our food system, it can relieve the pressure on consumers, policy-makers and businesses to make difficult trade-offs, for example between animal welfare and resource efficiency, or among competing land uses.ⁱ

8. While changing consumption behaviour could reduce the pressure to compromise on some issues, it gives rise to additional trade-offs in other areas. In particular, it is seen to pose risks to farmers’ livelihoods. However, far less attention has been given to how we might eat differently in practice without serious unintended consequences. Modelling what a “sustainable diet” could look like provides no guarantee that advising consumers to follow it would in practice reconfigure complex behaviour, markets and supply chains along more sustainable lines. Within the food and farming industries, anecdotal experience suggests that well-meaning consumer campaigns intended to change diets on environmental or animal welfare grounds have in some cases caused short-term spikes or troughs in demand, resulting in emergency imports or increased food waste, rather than improved performance or investment in sustainable practices. While food producers may see a short-term vested interest in doing “business as usual”, just more efficiently, their concern about unintended consequences is pertinent also to the public interest.

9. The result has been a stalemate between environmental advocates arguing on the basis of environmental *accounting* that systemic change is necessary, and producers rebutting that proposed *mitigation* measures won’t work. The circularity and sensitivity of this debate—particularly when it comes to the consumption of livestock products and climate change—has made government wary of helping to steer a way through the complex issues involved. This is evident in successive government reports—most recently from Foresightⁱⁱ—that recognise the importance of sustainable meat and dairy consumption only to shy away from taking action or responsibility to bring about change.

10. Through work with WWF-UK and farmers’ groups on the consumption of livestock products and climate change, we have demonstrated that a process of dialogue can break this stalemate. Instead of reiterating the arguments in principle that changes in consumption are necessary, we focused on the practical interventions that government or others could take to reduce greenhouse gas emissions by influencing what people eat.ⁱⁱⁱ The process involved identifying an initial list of 27 plausible interventions, ranging from behaviour change campaigns to fiscal measures that could influence consumption by affecting the relative prices of meat, dairy and other foods, and in each case specified the potential barriers and unintended consequences for farmers’ livelihoods, the economy, the environment and animal welfare. Working through this in deliberative dialogue allowed the identification of “no or low regret” interventions, and highlighted cross-cutting actions that would clarify, pre-empt or address the most serious barriers. This approach has been welcomed by key producer organisations.^{iv}

11. Trade policy emerges from this work as central to promoting sustainable consumption and production in the food sector because much hinges on the UK’s position in international markets. A major concern for UK businesses is that environmental protection and animal welfare measures in the UK will simply “off-shore” economic activity and the problems that go with it.

12. The main message from the work of the FEC and WWF-UK on sustainable meat and dairy consumption is that government does have a mandate from the industry, as well as from public interest groups, to take a lead in promoting sustainable diets, as long as its approach is practical and fair. Our workshops and meetings with the industry have detected an emerging and cautious acceptance among producer organisations that diets which lower greenhouse gas emissions are not automatically a threat to farmers’ profitability.

13. Informed by this work, we urge government to:

- *Bring farmers, environmental advocates, health groups and animal welfare organisations to the table* in an ongoing dialogue to identify and implement practical ways of reducing our consumption footprint that support rural livelihoods and respect people’s liberty, building on the momentum created by the FEC/WWF-UK work and by a recent roundtable convened by Defra and Friends of the Earth. To be a credible process, government must demonstrate it is prepared to act as well as to convene.

- Explore with retailers, farmers and NGOs the strengths and limitations of *supermarket producer groups* as mechanisms for promoting more sustainable diets. Producer groups have been mooted as offering potential to support farm gate prices and ensure investment in sustainable production in a marketplace where consumers were encouraged to eat less but higher quality meat.
- Clarify what conditions would need to be in place for *import substitution* to offer a socially and environmentally acceptable way of reconciling reduced UK consumption of animal products with a thriving livestock sector.
- Focus research on tackling any *specific knowledge gaps* that frustrate practical efforts to reduce GHGs in specific supply chains, rather than commissioning further studies that discuss whether action is necessary.
- Show strong leadership and moral accountability in ensuring that the parameters within which environmental efficiency is pursued respect public expectations that food is produced fairly, sustainably and without cruelty to animals. *There is no good in doing the wrong thing more efficiently.*

How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

14. This question was a focus for the Food & Fairness Inquiry, a year-long investigation into social justice in food and farming undertaken by a committee of respected and influential figures from across the food sector, as well as experts in food poverty, sustainability and international development. The members included Fairtrade Foundation CEO Harriet Lamb, Andrew Opie from the British Retail Consortium, Melanie Leech, Director General of the Food and Drink Federation, Terry Jones from the NFU, Paul Whitehouse, Chair of the Gangmasters Licensing Authority, Helen Browning, now Director of the Soil Association, and Jeanette Longfield, who runs the campaign group Sustain.

15. As well as making specific recommendations for action, the Food & Fairness Inquiry report, Food Justice,^v provides wider advice on how government can best approach the challenge of squaring health, food access and sustainability. The four most pertinent findings can be summed up as follows.

16. First, *“cheap food” is no longer a legitimate social policy objective, since lower prices have come at massive environmental and social cost.* There is a shared responsibility for putting this era behind us. Citizens will need to accept food prices that reflect the full costs of production, including social and environmental costs. Frameworks for business must be such that business profitability is not dependent upon promoting and selling cheap food. And governments must ensure that income support and minimum wage levels are sufficient to pay for healthy food at prices that reflect the full environmental and social costs of production.

17. Second, *resolving the tensions between social, economic and environmental objectives within the food sector requires changes in wider social and economic policy,* for example on employment, benefit levels, competition and finance. The fact that many of the issues we face around food are shared with other sectors is a challenge which has largely been put to one side in other major reviews of food policy—notably the Cabinet Office Food Matters report, with which our staff and members were also involved—in order to focus only on problems and levers of change seen as unique to the food sector. By contrast, the Food & Fairness Inquiry found that people working in the food sector have a responsibility to press for wide-reaching change, and to try and influence relevant areas of policy that lie outside the food sector. Indeed, the committee found, if we fail to do so we stand little prospect of providing healthy food sustainably and affordably.

18. Third, *the market has to work differently.* A recurrent theme throughout the Inquiry was that the market does not currently enable consumers to act in accordance with their values—a situation that could be described as “ethical market failure”. Part of the reason is that price is a very poor proxy of the impact of food on sustainable development, so we need to develop forms of resource-based accounting to enable markets to provide the benefits of efficiency (which is what they are good at) in relation to environmental and social factors.

19. Fourth, *government has a stronger mandate to intervene than is generally reflected in policy.* Responsible business leaders are increasingly vocal in calling for more effective regulation in order to secure a “more level playing field”—to prevent less scrupulous businesses from under-cutting their more sustainable counterparts. A recent report for the Food and Drink Federation found that “there appears to be a strong desire from industry for government leadership through coherent and appropriate regulation and legislation”.^{vi}

20. In line with these findings, *we recommend that government:*

21. *Recognise that achieving adequate food and dietary intake of the least well off requires setting benefit levels and minimum wage rates at levels which allow families to achieve a minimum socially acceptable standard of living.* The committee found complex but significant evidence that poor people are less likely to be healthy, that this is partly down to their less healthy diets, and that this is partly due to the relative costs of healthy and unhealthy food. As well as being harmful to those people, this has significant costs to society.^{vii} Furthermore, improving resource-based accounting systems may see the prices of food rise over and above the increases being driven by supply side factors.

22. *Seeks to ensure that the structure of the market supports sustainability initiatives.* The fact that retailers capture a disproportionate share of the value chain compromises the effectiveness further up the supply chain to ensure the environmental and social costs of production are met; it is very difficult for producers to invest in sustainability measures that have a long pay-back period, or to envisage a lower-volume, higher-value market, when farm gate prices are below the cost of production. The Food Justice report also recommended that government should work with the Office Fair Trading and consumer groups to promote publicly accountable mechanisms whereby businesses can collaborate to make progress on sustainability initiatives—we explore this more fully in a recent discussion paper.^{viii}

23. *Shows international leadership in developing resource-based accounting systems that take proper account of natural, human and community capital* (in addition to physical and economic capital). We need to value the environment more than we currently do, for its own sake and to protect vulnerable people. Pricing in the environmental costs of production will be an important part of the solution, but must be supplemented by other policy approaches, including regulation, taxation and incentives. The forthcoming Natural Environment White Paper is expected to contribute to this.

24. *Only buys food that has been produced fairly and sustainably, and helps the people it serves to eat a healthy diet.* We echo the findings of many other reviews that public food procurement is the most crucial point at which government can exert direct leverage within the food sector, and is a test of its commitment to health and sustainability.

Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

25. Our comments above highlight trade, competition, employment conditions and social welfare as priorities for policy change to underpin sustainable food systems. In previous work we have shown that planning regulations and science policy also present important opportunities to improve sustainability in the food industry.^{ix} These areas lie outside the food sector, so a big challenge for people working within the food sector is to find ways of exerting leverage on these wider policy issues, for example by collaborating with businesses, NGOs and public servants working in other sectors that face similar problems. Efforts that duck this challenge, and seek to promote sustainable food systems through food and farming policy alone, can make only very limited progress.

26. We will shortly be in a position to report the biggest challenges and opportunities as seen by civil society organisations working on food and farming. A consortium of charitable foundations, co-ordinated by the Environmental Funders Network, commissioned the Food Ethics Council to undertake a survey of public interest work on food and farming. *Over 300 groups* responded, ranging from small community projects to some of the largest charities in the country. A report of the findings will be published in June.

How can consumers best be helped to make more sustainable choices about food?

27. The Food and Fairness Inquiry found that consumer demand is a major influence on retailers, who have developed a range of methods to take account of, and influence, that demand. Consumers therefore have a strong collective influence on retailers, but that influence is in aggregate. As individuals, they are in a weak strategic position to shape the retail environment. They may be able to choose where to shop (depending on where they live) but, once they are through the door, their options are heavily constrained by the retailer's decisions on stocking, sourcing, price and promotion. Even here, the degree of choice that consumers are left with is open to question—supermarkets provide a huge range of discrete items available for purchase, but whether this amounts to an opportunity to make significant discriminations is less clear. This leaves many consumers feeling “powerless, unable to impact the big picture, locked into high levels of harmful consumption”.^x

28. We have recently explored two aspects of this issue in particular depth: the prospects for improving environmental labelling on food products; and the current fashion in government for “nudging” the public towards greener and healthier lives.

29. In a report for Defra, jointly authored with the University of Hertfordshire and the Policy Studies Institute, we explored the strengths and weaknesses of the science behind environmental labelling, reviewing 70 existing labelling schemes in the UK and internationally, and considering the practicalities of labelling for consumers and businesses.^{xi} In particular, we explored the pros and cons of developing “omni-labels” that cover multiple environmental impact areas. We found that:

- Most existing environmental labels tell consumers how their food was produced, but they do not measure the direct environmental footprint of individual products. These “*practice-based*” labels play a valuable role in engaging shoppers with environmental issues, and are likely to remain more cost effective than “*outcome-based*” omni-labels.

- At present, *the science is not robust enough to develop a broad omni-label* that accurately tells consumers the environmental footprint of specific food products.
- Measuring environmental impact is crucial to helping businesses become greener, but our report for Defra outlines big technical challenges. We echo the recommendations on animal welfare labelling of the Farm Animal Welfare Forum that the best prospects for improving environmental labelling in the short-term lies in approaches that are “production system based with outcome safeguards”.^{xii}
- However, labelling is *more effective at improving best practice than eliminating worst practice*, so efforts to reduce the environmental impact of food should not focus primarily on labelling.

30. In relation to labelling, we recommend that government:

- Promotes a *scientific approach and common standards* in sustainable development impact assessment.
- Explicitly recognises limited potential of labelling to meet consumers’ reasonable expectations that their food has been produced sustainably, fairly and with respect for animal welfare, *committing to fiscal measures and regulation where necessary*.

31. On the broader question of how far government can and should “nudge” consumers’ eating habits, experts writing in the latest edition of Food Ethics magazine recognised that behavioural economics and psychology have a crucial role in helping change people’s behaviour, but they urged a better balance between nudges and government action.^{xiii} Informed by their analysis, we conclude that:

- *Independent scrutiny of policies relying on “nudges” is crucial*. There must be ongoing and rigorous evaluation of nudge policies, including the DoH’s Responsibility Deals, which will have implications for sustainability as well as for health.
- *Individualistic and incentive-based nudges could erode government’s mandate* from the public to change their behaviour. Instilling a sense of collective, rather than individual responsibility can be more effective: *people think “I will if you will” not “I will if you (government) don’t”*.^{xiv}

32. In a separate report for Making Local Food Work, we offer a community-based perspective on behaviour change in the food sector, outlining how communities can “nudge themselves” to more sustainable diets.^{xv}

How could Government procurement practices be improved to promote better practice across the food sector?

33. While the Food & Fairness Inquiry explored the challenges of improving public sector catering, that is not the only aspect of government procurement that has profound implications for the food sector. Another is research procurement, both in the strict sense of research commissioned by government departments, and the broader sense of science funding through the Research Councils.

34. Our successive reports on research and innovation in agriculture have identified a serious and as yet unanswered need for improvements in public sector governance.^{xvi} Crucially, the intended end beneficiaries of research need to be better represented in decision-making about research priorities. Partly, this is about ensuring *broader stakeholder involvement in the governing bodies of the Research Councils and their institutes*, and partly it reflects a need for claims about the social utility of *natural science research spending to be held to account against social research evidence*. The joint-Research Council Rural Economy and Land Use (RELU) programme illustrates the benefits of requiring natural and social scientists to work together in project design and research.^{xvii} However, RELU remains an exception, and the structure of the Research Councils frustrates efforts to develop further interdisciplinary initiatives relating to sustainable food and farming.

35. These issues are particularly important in the context of the current focus on global “food security”. Ensuring that farmers, particularly smaller-scale producers, have a fair say in setting agricultural policy and research priorities is essential to building long-term food security. The Food & Fairness Inquiry recommended that all publicly-funded institutions undertaking research to promote food security should explicitly ground their research strategies in the principles set out by the International Assessment of Agricultural Science, Knowledge and Technology for Development (IAASTD)—a major review of relevant research and practice, directed by Defra Chief Scientific Advisor Professor Bob Watson.^{xviii}

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7 April 2011

Written evidence submitted by the Public Health Nutrition Research Group, Rowett Institute of Nutrition and Health, University of Aberdeen

This submission is from a university research group which includes academic nutritionists, food scientists and health professionals. Our concern is to ensure that in debates on food security, due attention is paid to the nutritional quality as well as the overall quantity of food produced, so that the foods available would not only meet energy needs but also well-established nutritional requirements for health. We are also concerned to ensure that communication as to what constitutes a healthy diet and what behaviours producers, retailers and consumers need to adopt to reduce greenhouse gas (GHG) emissions is evidence-based, clear and consistent.

In summary, we argue that a shift away from a diet rich in animal products, particularly meat, and towards a diet with more cereals and vegetables, would be beneficial for both health and the environment. We also

believe that an overall reduction in food consumption and a reduction in food waste can play a major part in achieving a reduction in GHG emissions from the food chain. We believe that national government has a major part to play in supporting changes in food production and marketing, including pricing and promotion strategies, so that consumers are encouraged to select foods which are associated with lower GHG emissions, which benefit their health and is affordable. Local government can support local implementation of these changes and promote examples of best practice. Although more local production of some foods, particularly fruits and vegetables field grown in season, should be encouraged as this can contribute to lower GHG emissions, local self-sufficiency in food supply should not be the aim of local or national policy, since food security needs to take into account global food supply and demand, and to ensure that a healthy diet is available to all, especially those in lower and middle income countries who are most vulnerable to the effects of climate change on food supply.

1. How can the environmental and climate change impacts of the food we choose to eat best be reduced? What are the land-use trade-offs that affect food production and supply and how should these be managed?

1. Reducing the environmental and climate change impacts of the food we choose to eat will only be possible if we reduce the amount of meat and dairy products in the diet, since animal, particularly ruminant livestock production is associated with much more GHG emissions than plant food supplying the same energy. However, these foods make an important contribution to the intake of many micronutrients eg iron, zinc and calcium, so these should not be eliminated from the average diet but need to be consumed in lower quantities than at present.

2. For all animals, but particularly cattle, animal production methods which minimise greenhouse gas (GHG) emissions need to be promoted.

3. Producers and consumers need to be encouraged to include more of the whole carcass, particularly offal such as liver and kidneys, in the diet.

4. Production of a higher proportion of animals with a lower environmental impact than cattle and sheep, eg pigs and chicken would help to reduce GHG emissions. Pigs and chickens can be fed on food waste which would also contribute to reducing GHG emissions.

5. While some marginal land is only suitable for grazing animals, the optimum practices for animal production in these areas which are also environmentally sustainable need to be promoted.

6. With a shift away from animal foods towards plant foods, more land used for crops for animal feed will become available for production of fruit and vegetables (including potatoes), which should ideally be field grown in season to reduce GHG emissions. Local production by smaller scale producers could benefit the local economy as well as reducing transport costs.

7. Agronomic practices which ensure maximum crop yields by through eg crop rotation and plant breeding need to be promoted

8. Reducing food packaging and food waste during production, retailing and household use would also contribute to a reduction in GHG emissions. Local authorities can contribute to recycling of packaging and waste but also need to support programmes to reduce the need for recycling.

9. Development of novel packaging methods and new food preservation techniques which still ensure food safety but have a lower environmental impact is needed.

10. Since over half of the UK adult population is overweight or obese, reducing overall food intake would contribute to better health as well as reducing GHG emissions. Emphasis on prevention of obesity tends to focus on energy dense foods which are high in fat, sugar and salt (HFSS), particularly snack and fast foods which may be heavily packaged, and on sugar-sweetened soft drinks, which have high packaging, transport and refrigeration costs.

2. How can the Government help to deliver healthy food sustainably, whilst also delivering affordable food for all?

1. In a project funded by the World Wildlife Fund we have shown that a diet which meets current recommendations for health is compatible with a 25% decrease in GHG emissions (http://assets.wwf.org.uk/downloads/livewell_report_jan11.pdf). This suggests that promotion of current diet recommendations, as summarised in the Food Standards Agency's "Eatwell plate" (<http://www.food.gov.uk/multimedia/pdfs/publication/eatwellplate0907.pdf>), which encourage lower consumption of meat and higher consumption of fruit, vegetables and cereals, would not only be beneficial for health but would help meet GHG emission targets.

2. The government needs to continue to promote and communicate the messages on healthy eating to consumers, as many are confused by conflicting messages, eg on the benefits of low carbohydrate, high protein diets which are widely used for promoting weight loss but are often confused with messages about general healthy eating which involves lower consumption of meat and higher consumption of fruit, vegetables and starchy carbohydrates.

3. A healthy balanced diet does not need to be more expensive than an unhealthy diet if foods are selected carefully but practical information on how to achieve a healthy diet using lower cost foods such as pulses, root vegetables and cereals needs to be more widely available.

4. Since one of the strongest determinants of food purchase is price, the government should be willing to consider using taxes and subsidies on specific food groups to influence consumer behaviour. HFSS foods and drinks are low cost due to the low cost of corn-based syrups and oils and fats: changing price through agricultural policies and subsidies also need to be considered to change the diet of the population.

3. How can consumers best be helped to make more sustainable choices about food?

1. Clear, simple and consistent labelling on packaged and fresh food products is needed as confusion about the relative importance of different factors is created when producers can make a wide range of different claims (recycleable packaging, “food miles”, “organic”, local, carbon footprint, fair trade, lower fat, low salt etc.). The number of labels per product also needs to be restricted to prevent confusion.

2. Marketing practices (eg “buy one, get one free”, “value pricing” and “meal deals”) tend to promote over-consumption and food waste: legislation restricting or modifying these practices eg by making it compulsory to offer the same discounts for all pack sizes or always having water and fruit as alternatives to soft drinks and crisps in meal deals) should be considered.

3. Clear and consistent messages on how to achieve a healthy and sustainable diet with less meat are needed, as there are strong taste and cultural preferences for meat-based foods and dishes. Advice on how to adapt popular meat-based dishes by reducing the meat content and including vegetables and/or pulses are needed.

4. Consumer choice could be aided by reformulation of ready meals in the same way as suggested above to reduce the meat, fat and salt content. Minimum nutrient and food standards could be applied to “ready meals” in the same way they have been applied to school meals, which would help reduce GHG emissions at the same time as improving the nutrient quality of the meals.

5. Pricing strategies could also be used to encourage changes in purchasing patterns in favour of foods with lower environmental impacts. However this would require a robust method of calculating the environmental impact of individual products, which is not currently available.

4. Which aspects of the food production and supply chain are presenting the biggest problems for the sustainability of the food industry?

1. There is a lack of information on the GHG emissions and other environmental costs (eg demand for water end energy) associated with different production methods and food preservation techniques eg cook-chilled vs. home-cooked foods; dried vs. frozen foods.

2. Reduction of food waste due to the inappropriate use of “best before”, “sell by” and “use by” dates needs to be explored: consumers can be confused by the different dates and may discard food unnecessarily. Date labelling may not be needed on some foods, eg fresh fruit, if deterioration is obvious or poses no risk to health.

3. Food waste is increased by the exacting standards of size, shape and appearance of foods such as fruit and vegetables which are imposed on producers by large retailers, notably supermarkets.

4. Large retailers need to be encouraged to reduce food waste at key points in the food supply chain, not just those which are easiest for them to adopt but which may have relatively little impact on GHG emissions.

5. Consumers need to be encouraged to accept foods which do not meet these standards of appearance. Greater acceptance of variations in size and appearance could help to support all producers especially smaller scale local producers, with benefits to the local economy.

5. How might the changing powers of local authorities and the localism agenda hinder, or be used to encourage, more sustainable production and supply of food?

1. Giving local authorities more power to control food production and retailing practices could encourage more sustainable production by encouragement of small-scale local production of fruits and vegetables in season (and field grown), releasing land for allotments, recycling food waste, encouraging reduction in household food waste. Decentralising procurement could also encourage authorities to become more engaged in making efficient use of food procured and reducing waste, which would be beneficial for sustainability.

2. It has to be recognised that local food production may not always be sustainable, as locally produced foods (eg tomatoes grown in heated greenhouses) can have a higher environmental impact than food which can be produced with lower GHG emissions in other regions, even when storage and transport costs are taken into account.

3. Supporting producers in lower and middle income countries, who are likely to be most affected by climate change, is essential for sustainability of the global food supply. We need to take into account the impact of changes in local or national food production on producers in other countries.

6. *How could Government procurement practices be improved to promote better practice across the food sector?*

1. Government procurement of food for eg schools and hospitals should set an example for other organisations by taking into account GHG emissions of foods purchased and minimising food waste, while not compromising on the nutrient quality of the food provided.

2. Clear guidelines on how to achieve these goals need to be developed and disseminated as there is a risk that efforts could focus on initiatives which would have a relatively low impact on GHG emissions.

13 April 2011

Written evidence submitted by Colin Tudge, Campaign for Real Farming

Agriculture based on mixed and highly-integrated, labour-intensive, low-input (meaning quasi-organic), small-to-medium sized farms could feed everyone who is ever liable to be born on to this Earth to the highest standards of nutrition and gastronomy, with minimal collateral damage. In general structure, such farms are still the norm worldwide—though they need to be up-graded, which means above all that they need to be supported.

In structure, in husbandry, and in much or most of its technology, industrial agriculture of the kind that is now (anomalously) called “conventional” is quite opposite: monocultural, non-integrated, high-input (industrial chemistry and heavy engineering), and practiced on the largest possible scale. Industrial agriculture can produce spectacular outputs (10 tonnes-plus per hectare of wheat, 15,000 litre cows, etc) but is clearly unsustainable and it does not produce the food that is needed, or in the right places. So in a world where everyone could be well fed—in principle the task should be straightforward!—a billion are chronically undernourished, and a billion more suffer “diseases of excess”—of which the chief, probably, is diabetes. The collateral damage is enormous. Inter alia, it is conservatively estimated that half of all wild species are in imminent danger of extinction.

Yet big governments, such as Britain’s, put their weight and the taxpayers’ money behind industrial agriculture. More accurately, they have handed the task of “feeding the world” to the corporates. In effect, government has become an extension of the corporate boardroom. Good science is vital—much more basic information is needed to bring out the best in the mixed, labour intensive farms that could feed the world. But science too has become the handmaiden of the corporates. (The Royal Society and academe in general should be ashamed).

To put things back on course we have to go right back to fundamentals and ask what agriculture is *for*. The small-scale, complex farming that can actually feed people with minimum collateral damage—what I call “Enlightened Agriculture”, aka “Real Farming”—is rooted in basic principles of biology, and in a true desire to meet the needs of humanity. Industrial farming is designed primarily (indeed, virtually exclusively) to maximize wealth. It is commonly supposed to be “scientific”—guided above all by hard evidence—but in truth it is rooted in the dogma of neoliberalism, and in faith: faith in the omniscience of science, and in the omnipotence of technology—both of which are naïve indeed (and quite out of line with the modern philosophy of science).

Emphatically, my thesis is not anti-science: it is anti the misappropriation of science, in the interests of big business and power politics. Neither, despite possible appearances, is it anti-capitalism. This is not a Marxist tract. I believe that many of the mechanisms of capitalism, properly deployed, are the best equipped of all the economic systems that have emerged so far to serve the needs of humanity and of the world. But capitalism itself has lost its way. Like everything else, it now is designed to serve a powerful elite, rather than humanity at large. People worldwide should be far angrier than they seem to be. Anger bubbles over only when the shortages of food become apparent to people who are in a position to protest—which is largely what has now prompted the “Arab Spring”.

THE ROLE OF GOVERNMENT

As things are, I fear that governments such as Britain’s can do remarkably little to make the necessary changes. Britain’s government is far too locked in to the rules of the EU; far too committed to the idea that the global market must rule supreme; has far too much faith in the power of science and high technology to solve all our problems; and far too little faith in the ability of people at large to manage their own affairs. For all these reasons I personally feel that the future must lie with people’s movements of various kinds, both very small and very large, not simply to challenge the status quo, but between them to create a true alternative.

However, I do believe that most British politicians—certainly the ones I have met—seek to do good; and although they do not have the power, as things are, to make the radical changes that are now needed, they can certainly help things along. Two areas in particular come to mind, where government could use its present powers truly for the public good: in many areas of law; and in the restoration of independent science.

I. CHANGES IN THE LAW

Government has the power to modify or reverse the laws that have found their way on to the statute books in one way or another over the past few years and decades, and now are inhibiting the efforts of reformers to make the necessary changes. These include:

1. *Laws and economic rules that pertain specifically to agriculture*

Areas include:

1.1 Feeding livestock

Especially the present ban on feeding swill to pigs, which is very damaging in many ways—biologically, socially, economically. (It was introduced on health grounds, but the case for this is extremely weak).

1.2 Seed laws and all that goes with them

- Present directives from the EU restrict the *varieties of seed* that can be legally sold. This reduces the diversity available—at a time when diversity is particularly necessary to cope with changing conditions; and impacts on traditional ways of life; and so on. See the recent report *IEED Report on Participatory Research and On-farm Management of Agricultural Biodiversity in Europe*, May 2011 by Michel Pimbert.
- Existing laws of *intellectual property* worldwide again restrict what is available; puts more and more power into the hands of fewer and fewer companies. Again, see the 2011 IEED report.

1.3 Slaughter

At present farmers are often obliged to transport animals over many miles for the dubious privilege of slaughter, and then—if they have farm shops—to bring the carcasses back again. They are allowed to slaughter on site—but they cannot then sell the meat. There is huge waste and cruelty inherent in all this. The whole issue of slaughter needs re-thinking across the board—including the law.

1.4 The relationship between farming and forestry

The importance of agroforestry is now increasingly acknowledged worldwide—the integration of farming with significant numbers of trees. Contrary to some received opinion, all forms of farming—including arable and horticulture—can benefit from the proximity of trees. Grants are now available to plant and maintain woodland, in which trees by definition are closely grouped. But agroforestry needs trees that are not necessarily, or usually, grouped in woods but for example are arranged in rows—and for this, grants may not be available. Thus, again, existing law militates against systems of farming that are known to be most desirable.

1.5 Excessive Bureaucracy

This may be a matter for logistics rather than of law. However, it does seem that farmers are required to produce too much information in too detailed and complex a form—and there is evidence that the growing burden of paperwork is a major cause of unhappiness among small farmers, who often cannot afford secretarial assistance, and indeed is a significant cause of the suicides that now, tragically, are so common.

2. *More general laws that impact directly on agriculture*

2.1 Health and Safety

No-one doubts the need for laws to protect health and safety. However, many of the restraints that now (again!) make life so difficult for small farmers are primarily of relevance to big farms and large corporations. Small farmers, of the kind that Britain and the world now need, are caught in the cross-fire.

3. *Laws that impact on agriculture indirectly but sometimes critically*

3.1 Planning laws

If Britain is to introduce the small mixed farms which biological principle tells us are necessary then, as a matter of urgency, we need to recruit a million new farmers. In any case we need a new generation of farmers since the average age of present incumbents is now around 60. To create the new farms, existing estates must again be broken up. The new farmers who will run them need somewhere to live—but planning laws commonly scupper all reasonable attempts to provide new accommodation. This again is a matter of urgency.

3.2 Tenancy

Would-be farmers generally cannot buy enough land to start up because prices are now so high; and often find too that they cannot rent land for more than a year at a time or less. We need laws to enable long-term tenancies. Among other things, it seems necessary to change the laws of death duties so that landowners who allow long tenancies do not thereby lose their exemption from duties, as now seems to be case.

3.3 Land Reform

In the long term, it is surely necessary to re-examine the laws that enable 5,000 families to own half of England and Wales, and a handful of huge landowners to own most of Scotland (especially as those families acquired the land only because their ancestors gained the favour of some mediaeval monarch).

More immediately—and perhaps this would be enough—we need to divorce the mere fact of ownership from the right to dictate use. I.e, titular owners could be obliged to enable their land to be used for the general good (a principle that is already well established).

The above offers only a glimpse of what needs to be done. Much could be done more or less immediately just by cherry-picking from this list. But formal study is required. The Campaign for Real Farming would be happy to help assemble a suitable group of experts to undertake the necessary research and provide formal recommendations.

II. THE RESTORATION OF INDEPENDENT SCIENCE

Until the 1970s Britain had a network of independent agricultural science institutes that were supported by a range of Experimental Husbandry Farms, which between them produced a regular stream of improved crops, livestock, and techniques; and these improvements were delivered free to farmers via an independent extension service—the independent ADAS.

Now it is hard to find any agricultural research that is not financed by corporates, and improved lines of crops and livestock become available only if they are perceived to be immediately profitable. Farmers must do their own experimenting at their own expense (I belong to a group of farmers who are doing this), and there is no free, independent advice. The original research institutes, once the envy of the world and many of them household names (at least in rural circles), are now privatized or closed. As late as 1977 Sir Kenneth Blaxter FRS wrote in a book published by the Royal Society: “It seems wrong that ... the science related to producing food has to be used in a competitive fashion: the essence of science is its universality, and freedom from hunger should be the birthright of all mankind”. (“Options for British Farming” in *Agricultural Efficiency*). Now, such an opinion would be laughed out of court.

We need to restore the freedom of science, and the sense that the fruits of science are truly for the benefit of humanity and the fabric of the world. Government still has some power to begin this restoration.

The ideas in this text are spelled out at greater length in *Good Food for Everyone Forever*, and on the website of the Campaign for Real Farming: www.campaignforrealfarming.org.

15 June 2011

Supplementary written evidence submitted by Professor Sandy Thomas, Head of Foresight, Government Office for Science, Department for Business Innovation and Skills

FURTHER DETAIL ON RELEVANT AREAS TO THE EAC'S SUSTAINABLE FOOD INQUIRY

DEFRA

- Defra have committed dedicated resources to following up to the report and was the lead UK Government partner in developing the programme for the Foresight Report's European launch on 30 March 2011 in Brussels. This consisted of a presentation in the European Parliament, an all day seminar co-hosted by the Joint Research Centre and a Business Breakfast meeting. Director level representation chaired one of the seminar's meetings.
- Defra are leading a programme of themed discussions for policy-makers with input from the project's lead experts in the second half of this year. The programme of discussions will explore Defra's own response to the report and will facilitate policy leads in accessing the evidence base in further detail. The first of these events will take place in the autumn focusing on “*Producing more with less: unpacking Sustainable Intensification*”. Following themes will include International Fisheries, Trade and Markets, Global food security indicators, and International Biodiversity “the road to Rio+20”.
- Defra is undertaking a director level stock-take exercise to identify precisely how the report has fed into policy making and to address any areas where the Foresight evidence needs to be better integrated. The exercise will form the starting point for reporting on what Defra is doing to meet its Foresight Action Plan.
- The Foresight Report was referred to within the Natural Environment White Paper.

In response to the Foresight Report, Defra committed to the following Action Plan:

Action 1: Champion a more integrated approach by governments and international institutions to global food security that makes the links with climate change, poverty, biodiversity, energy and other policies.

Action 2: Continue to press for full integration of agricultural greenhouse gases into UNFCCC process; take forward Nagoya work on international biodiversity; and promote the importance of sustainable intensification of agriculture more broadly.

Action 3: Continue to press for reform of the CAP and CFP so that they are better focussed on long-term environmental sustainability and avoid harmful subsidies; support the EU as it seeks to negotiate a genuinely pro-poor conclusion to the Doha Development Round which includes a significant opening of agricultural markets; and plan an active role in talks in the G20, FAO and elsewhere aimed at finding ways of managing volatility.

Action 4: Showcase what can be achieved on food waste reduction within the UK, working with other countries and multinational companies to share and disseminate good practice.

Action 5: Work in partnership with our whole food chain including consumers to ensure the UK leads the way on sustainable intensification of agriculture, increasing the productivity and competitiveness of UK farming and food chain while reducing GHG emissions, protecting and enhancing the natural environment, using resources more sustainably, so that agriculture and the food sector can contribute fully to the green economy.

WASTE

- The Global Food and Farming Futures Report concluded that food is wasted at all stages of the food chain: in high-income countries waste tends to be concentrated at the consumer end, and in low-income countries more towards the producer end.
- The report therefore concluded that reducing waste by consumers and the food service sector in high-income countries such as the UK, can be achieved through:
 - Campaigns to highlight the extent of waste and the financial benefits of reducing it. Specific programmes aimed at consumers, companies in the food supply chain, and those providing meals in restaurants, firms, hospitals, schools and other institutions.
 - The development and use of cheap, mass-produced sensor technology that can detect spoilage in certain perishable foods. This would allow more sophisticated food management than reliance on estimated “best before” dates in retail food labelling and have the potential to ensure food quality as well as reduce waste.
 - Productive recycling of surplus food deemed as non-premium quality. This could be achieved through redistribution of good-quality surplus food to consumers via schemes such as “Fareshare” in the UK or the use of food no longer fit for human consumption as animal feed or a source of energy through processes such as anaerobic digestion.
 - Spreading best practice. For example, a project in the Netherlands involving modest funding shows how waste in the supply chain from food processing through to the home can be significantly reduced by a combination of education and simple technology.

18 July 2011

Supplementary written evidence submitted by the British Retail Consortium

Further to our written evidence and our oral evidence session on 26 October 2011, I thought it would be helpful to expand on a couple of points that were referenced during our time in front of the Committee. I would be grateful if you were able to circulate this letter to members of the Committee and, should the Committee have any further questions they would like to follow up, please do not hesitate to contact the BRC.

GOVERNMENT FOOD STRATEGY

As the Committee Session drew to a close, questioning briefly turned to the extent to which the BRC believes the Government lacks a coherent strategy for the food sector. The BRC was indeed disappointed that the Coalition Government decided not to proceed with the previous administration’s work on strategies such as “Food Matters” and “Food 2030”. We felt these pieces of work accurately summarised the issues affecting both the UK and the global food market, and were useful starting points for future action. The leadership shown by Defra in its recently-launched “Green Food Project”, whilst picking up on a number of the issues raised in these reports, does not go as far in exploring issues which are, by definition, global. The BRC would, therefore, like the Committee to press the Government on this issue and suggest taking a leadership role in Europe, and internationally, to deliver a comprehensive food strategy encompassing sustainable consumption and production, security of supply, new technologies, population growth and the industry.

GROCERIES CODE ADJUDICATOR

The Committee raised a number of questions regarding the Draft Groceries Code Adjudicator (GCA) Bill and the scope of the Adjudicator's role. For the record, I thought it would be helpful to set out of position on the GCA and its intended scope.

The BRC's preferred way forward would have been to allow a period of time to review the functioning of the Groceries Supply Code of Practice (GSCOP) before planning further regulation in this area. To date, we know of no disputes under the strengthened code resulting in arbitration, suggesting it is working well. However, given the introduction of an adjudicator or ombudsman was a commitment of the three main political parties at the 2010 election, we accept the implementation of this policy and wish to work constructively with the Government as it develops its thinking.

We are largely in agreement with the Government's proposals set out in the draft Bill and believe it strikes the correct tone in ensuring the Adjudicator's role is tightly defined. It should not launch category-wide investigations. Whilst we remain concerned with the practicalities of tracing a problem if anonymous complaints are allowed, we hope these issues will be ironed out in guidance.

During our evidence session, members of the Committee asked whether the adjudicator would have a role in embedding sustainability into the supply chain. Given its tightly defined nature, this would be outside its remit. However, there are many other ways in which the sector is taking this work forward, as also came out in the session.

The BRC is keen to engage on the full range of issues as the Bill is published and would be happy to discuss this position further with the Committee if this would be helpful.

I trust this clarification is useful. Please do not hesitate to contact me if you would like further information.

8 December 2011

Further written evidence submitted by the Agricultural Biotechnology Council

THE POTENTIAL FOR GM TECHNOLOGY TO HELP/HINDER THE DEVELOPMENT OF SUSTAINABLE FOOD SYSTEMS

1. *What are the benefits or drawbacks of GM crops to food production?*

- GM technology is one of a number of new techniques that have been developed to help farmers in different parts of the world improve the reliability of crop production.
- It is used extensively in many regions of the world, notably in North and South America, India, China, Australia and parts of Africa. Over 90% of those using the technology are resource-poor small-scale farmers working in developing countries. In 2010, GM technology was used on over 148 million hectares of land.¹
- Some of the benefits already accrued by such farmers include increased yield and greater pest and disease resistance. When used in conjunction with the right crop management techniques, the technology can also lead to a substantial reduction in inputs. Use of GM led to global emissions reductions of 17.6 billion kg of CO₂ in 2009 due to the reduced need to plough land.²
- Research indicates that the use of GM in the areas where it is grown has led to a 6–30% increase in yields on the same area of land,² reducing pressure on uncultivated areas. If the 229 million tons of additional food, feed and fibre produced by GM crops during the period 1996 to 2009 had not been produced, an additional 75 million hectares of conventional crops would have been required to produce the same tonnage.¹
- New traits under development include crops with better nutritional content and greater drought resistance for use in water stressed regions of the world.³
- The technology is subject to a strict safety assessment before it is used in the field which can lead to a long lag time between its development and use and benefit to the food system.

2. *What is the wider impact of restrictions on GMOs in the UK? Is it fair for Europe to restrict the use of GM crop technology in the face of an impending food crisis?*

- GM crops are not commercially grown in the UK, although there are some ongoing trials. Our food supply system does, however, rely on crops grown in other parts of the world, primarily to provide animal feed to satisfy consumer demand for meat products. A large proportion of these crops are now GM. Without this supply line, UK farmers would not be able to reliably source suitable protein for the dairy and meat industries, and would not be able to compete on price with other countries within the EU and further afield which do have such access.

- The existing regulatory approach in the EU makes it difficult for imports of GM products, such as soy, to proceed due to the lengthy time it takes for dossiers of new crop types to be approved. The regime in Europe also makes it very difficult and cumbersome for GM crops to be cultivated within the EU. abc is of the view that the whilst the existing regulatory approach is based on the science underpinning the development and cultivation of GM crops, the overlaying of a political voting step stifles progress in this area. abc notes, however, that the UK Government, in contrast to the wider EU, does base its decisions on the science and votes accordingly.
- The UK already has one of the worst food security ratios (imports versus domestic cultivation) in the western world, demonstrating its reliance on imports. As Europe has chosen, thus far, to heavily restrict the cultivation and importation of GM products, it has effectively “outsourced” the supply chain for commodities such as protein for animal feed to other parts of the world. The EU’s net agricultural imports are equivalent to outsourcing arable land almost the size of Germany.⁴
- Such reliance on other parts of the world worsens Europe’s food security; runs counter to the original self sufficiency aims of the Common Agricultural Policy and undermines European competitiveness.
- As the Foresight report highlighted, genetic modification is one of a number of new technologies that should be considered when attempting to deal with the challenge of rising demand and increasing stress on resources. Whatever the decision by regulators within Europe, the reality now is that other parts of the world are forging ahead with GM cultivation and Europe may come to rely even more on imports of certain food stuffs than is currently the case.

3. The Committee has heard about the claimed environmental benefits of GM crops, but what are the social benefits/drawbacks of GMOs? (this could include health benefits, producer pressures, or other farmer benefits)

- Advances in agricultural technology in the last 300 years have had an immense impact on the organisation of societies and the food available to them. In the 20th century great gains were made in increasing production and making food more affordable to more people, yet the challenge is not yet over. New technologies, including GM, have a role to play in boosting output and farmer incomes to help alleviate hunger and cope with the future food challenges facing policymakers.
- In 2010, over 15 million farmers in 29 countries cultivated GM crops. The reasons why farmers choose to do so include the potential yield increases and extra income that results—social benefits that impact on rural communities.¹ Over 90% (14.4 million) of famers who grew GM crops on 2012 were small resource poor farmers in developing countries—farm size has not been a factor in affecting their choice to do so.¹
- Most farmers who choose to grow GM continue to use it—for instance, 93% of Spanish farmers who grew GM maize in 2010 said they would do so again in 2011.⁵
- Independent research into the economic impact of GM cultivation demonstrates clear benefits. Net economic benefits at farm level from growing GM (as opposed to conventional) crops have been estimated at \$11 billion in 2009, or nearly \$65 billion over the period 1996 to 2009.¹
- At a macro level, there are other identifiable benefits to growing GM crops. These include greater worldwide food security in the light of an increasing world population with limited land for cultivation. Additional production resulting from the use of GM crops in 2009 can be quantified as equivalent to feeding 88 million extra people. World prices of maize, soybeans and rapeseed would probably be respectively +6%, +10% and +4% higher than current levels if there were no GM crops.⁶
- As an example, the following facts illustrate the impact the cultivation of Bt maize has had in Europe (in countries such as Spain):⁶
 - 91,000 ha of Bt maize are grown in the EU (in 2010).
 - 6.3% extra crop yields on average.
 - Up to 20% extra crop yields in particular areas.
 - 12% to 21% more profit for farmers.
 - 186 €/ha extra income (EU average 2007).
 - €20.6 million overall direct increase in farm incomes EU-wide (2007).

4. The Committee has heard that local, seasonal, small-scale farming systems might be the best options for sustainable food production. How would GM crops fit into this model?

- Access to high quality seed has been shown to work for small and large scale farmers alike. Likewise, the Foresight report sets out how new technologies should not be dismissed *a priori*⁷ and also that there needs to be a diverse mix of agricultural systems in place to help meet future food demand.

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- Large scale producers use GM, but as highlighted previously, 90% of the farmers currently using the technology are resource-poor, small-scale farmers in the developing world. They choose GM for a variety of reasons, but primarily because GM crops can offer them a better return on investment. Different technologies are suitable for different settings but few end up being used in exactly the way that they are expected to be—farmers choose what works best for them based on experience in the field. The same would be applicable to different farm types in a country like the UK with its diverse mix of farming approaches.
 - Farmers of all types continue to choose to use GM seeds, even if those seeds are sometimes more expensive, due to its greater overall economic benefit. If the economic case did not stack up, farmers would not use the technology.
 - The European Commission has published recommendations on the guidelines applicable for the development of national co-existence measures, which regulate where and how GM crops can be used. In the UK, SCIMAC has been leading the way in describing how coexistence would work in this country. Co-existence has been shown to successfully work in both the case of conventional versus organic agriculture and in terms of newer technologies. These rules apply equally to larger and smaller scale production methods.
 - It is ultimately for farmers and public policy makers to judge what type of cultivation is best for improving yield and food security. The use of GM and other technologies can play a role in achieving this regardless of farm type or size.

5. *What is the level of public support or opposition for the technology in the UK and Europe?*

- There remains a rigorous debate over the willingness of European consumers to purchase products containing GM ingredients. Attitudes vary considerably. For instance, in the UK 44% of respondents to an EU survey (EU barometer 2010) indicated their support for the statement that “GM food should be encouraged”, whereas in France the figure was 16%.⁸
- Several recent surveys have shown that the attitudes of UK consumers are becoming more open to the possibilities presented by GM food technologies (recent survey by the Institute of Grocery Distribution):⁹
 - 52% of UK consumers consider GM a means of tackling growing global food shortages (only 13% disagreed with this idea).
 - 47% of UK consumers say GM crops would help farmers deal with increasingly extreme weather conditions and combat plant diseases (only 12% disagree).
 - 64% of UK consumers agree with the statement “The European Union should encourage its farmers to take advantage of progress in biotechnology”.
 - On average, only 5% of consumers questioned expressed unprompted concern about GM food.
 - Consumers have not had the opportunity to express true choice over products containing GM ingredients due to the restrictive regulatory regime put in place by European decision makers. Despite this, the food supply chain is heavily reliant on GM ingredients such as soy for providing affordable meat that satisfies consumer demand.
 - Regulators should base their decisions on the available scientific evidence and real world experience. Consumers will not be able to truly choose or make an informed judgement until they can vote with their wallets. Thought should also be given to communicating how the existing role of technologies such as GM are crucial for ensuring a stable and reliable global food supply system and the relevance of this to domestic consumers.

6. *How well informed are the public about GM technology and what is the role of the Government in providing information on GM? What form should this education take?*

- Like many types of new technology, GM and associated innovations that improve the reliability of the food chain are not easily understood by all. Consumers have a right to factual information on the role that GM and all other new forms of agricultural technology can, and currently do, play and their track record in other parts of the world.
- Although deciding on the Government’s role in this debate is entirely a matter for officials and elected representatives, there could be a case for a more active role for political leaders in providing unbiased information on the science that underpins agriculture and the food system. Easy-to-access information on the role of GM and other technologies in the food chain could help inform consumer choice.
- Technology companies would like to continue to provide real world examples of where GM is being used throughout the world to assist this process if desired.

7. *Should the public have the final say in whether GM is allowed in the UK?*

- Concern about rising food prices may galvanise support for investigating what needs to be done to overcome the challenge of ensuring a secure and affordable supply of food in the face of increasing population numbers and resource depletion. However, it relies on an effective regulatory regime which is not currently being operated correctly.
- Decisions on whether GM products can be imported into the UK are made at European Commission level, based on information reviewed by the European Food Safety Authority. The UK Government has some power over the decision to approve new import dossiers and products being assessed for cultivation in line with the majority voting system used in decision making by the EU. There is therefore a clear democratic link to decisions on whether GM is able to be imported for use in the supply chain, or indeed cultivated, but the UK's ability to influence events reflects its status as one of a number of decision makers in the EU.
- It is for the UK Government to decide whether it should modify this arrangement. If based on a positive safety assessment by EFSA, a collective decision making process could be beneficial for streamlining the approvals process on a pan-EU basis, however the record shows that some countries remain implacably opposed to the use of the technology. This results in long delays for the approval of products for cultivation—only two commercialised products have resulted from this process, the latest taking 14 years to complete the process. Disagreement between member states on import dossiers is common.

RESEARCH FUNDING AND POLICY TO SUPPORT SUSTAINABLE FOOD SYSTEMS

8. *How is research currently coordinated to deliver sustainable agriculture and sustainable food systems?*

- The Biotechnology and Biological Sciences Research Council (BBSRC) is the UK's leading funder of academic research and training in non-clinical life sciences. Funding is focussed on three main areas: Food Security; bioenergy and industrial biotechnology; and basic bioscience. There is a recognition in the UK of the value of investing in research into new plant technologies, demonstrated by the £440 million allocated to BBSRC in 2011–12 from the Government science budget. Institutes invest significant sums in research into new technologies, including GM, in the UK and overseas. In September 2011, for example, Defra gave the go ahead for Rothamsted Research to conduct a trial into aphid resistant GM wheat.
- Overseas too, there are many examples of successful public sector led research projects, including:¹⁰
 - Developing Disease-Resistant GM Bananas for Uganda
 - The International Institute for Tropical Agriculture and the African Agricultural Technology Foundation have been developing a GM solution to the problem of Banana Xanthomonas Wilt (BXW), through a successful PPP arrangement with a Taiwanese biotechnology institute.
 - In central Uganda, one of the main banana-growing regions, BXW hit up to 80% of farms, sometimes wiping out entire fields. To eradicate BXW, it is necessary to dig up and burn the affected plants, disinfect all machinery and tools and allow the ground to lie fallow for six months before replanting. For small-scale farmers, leaving their gardens lying empty for this long is not an option, and they switch to other crops.
 - Bananas are the staple food of Uganda and are the country's second largest cash-crop after coffee. The disease is endangering the livelihoods of the nation's farmers, 75% of who grow bananas, and threatening an important food source in one of the poorest nations in the world. Damage caused by BXW is now estimated to cost farmers in the East Africa region half a million US dollars per year.
 - This is the first time it has been tried with bananas, although initial trials are promising, with six out of eight strains showing 100% resistance to BXW. Development of wilt-resistant GM bananas has now progressed to the confined field-crop testing stage and is showing promise.
- The agricultural biotechnology industry also invests significant sums in stand alone project and joint ventures with institutes such as Rothamsted Research, Sainsbury Laboratory and the John Innes Centre, and the Universities of Leeds, Cambridge, Edinburgh, Glasgow, Sheffield and Oxford, and research companies such as ADAS and NIAB.

BASF and the National Institute of Agricultural Botany

- BASF worked closely with NIAB in the UK in the development of "Fortuna", a culinary potato variety with natural resistance against late-blight taken from a South American wild potato.
- Fortuna offers economic and environmental benefits owing to its complete resistance to late blight, a devastating disease causing global losses estimated at £3.5 billion per annum.

- NIAB successfully hosted officially regulated trials with Fortuna in 2007 and 2008, the results of which contributed to an application, recently submitted to the EU authorities, for the approval of Fortuna for cultivation, food and feed use in the EU.
- abc member companies are partners in a number of initiatives for resource poor farmers, including in collaboration with the Bill and Melinda Gates Foundation. Such partnerships allow the benefits of this technology to be exploited in areas where no commercial business model exists. NGOs are increasingly involved in developing agricultural solutions to the problems affecting farmers; however many remain implacably opposed to the introduction of new technologies.
- The UK has successfully developed clusters of research expertise with biotech firms found in Oxford, Cambridge and Dundee, many of which are spin-offs from university research departments. This reflects the success that has been achieved in other sectors, such as healthcare technologies, where the UK has achieved significant SME growth and has attracted investment from global multinationals on the back of its scientific reputation.
- Research from the Rothamsted Institute found however that the UK is losing its expertise in applied sciences, with those employed in R&D reducing in number and increasing in age. There have been three significant closures of public research institutes in the UK associated with agriculture in the past decade: Long Ashton Research Station in 2003, Silsoe Research Institute in 2006 and the Hannah Research Institute in 2007. These closures have contributed to a decline in the domestic public agricultural research base.

9. *What should be the goals for research into sustainable intensification? Should the focus be reducing the environmental impacts of agriculture? Increasing yields? How can these priorities be joined up?*

- The Foresight Report sets out how “the global food supply will need to increase without the use of substantially more land and with diminishing impact on the environment: sustainable intensification is a necessity”⁷ due to the high carbon emissions associated with land conversion. It is clear that public and private sector research must focus on how to improve yields on existing land, thereby reducing pressure to bring currently uncultivated areas under the plough.
- As set out above, public sector research institutes, alongside private companies, have a key role to play in targeting research at achieving this ambition. New technologies, such as GM, are part of the solution to the challenge but are not and should not be regarded as a “silver bullet” able to solve all of the world’s food supply issues in isolation. Research must take a holistic approach aimed at identifying the range of measures that can be employed to help farmers become more productive. It is still the case, for example, that cereal yields in China are well below those achieved in western countries including the UK due in part to the need to improve farming practices.
- If a better system of regulation for GM is developed in Europe then there will be greater certainty for those investing in new crops focused on improved yields. This could also lead to larger joint public private sector projects where priorities can be harmonised.

10. *What is the role of Government in directing and improving research into sustainable food and agriculture?*

- The UK Government must ensure that it maintains existing investment levels in agricultural research as reflected in its current public spending commitments. This will provide certainty to public sector institutes at a time of severe pressure on taxpayer expenditure.
- Government departments also have a role to play in influencing where public sector research is targeted. For example, the UK Department for International Development is heavily involved in supporting agricultural projects in the developing world, through organisations such as the African Agricultural Technology Foundation. DFID also announced in February 2011 that it would be investing £25 million into a project being carried out by Cornell University in the United States into developing crops resistant to stem rust in wheat.¹¹
- Such publically funded research could have been carried out in the UK rather than the United States or Brazil. Government departments should use the conclusions of the Foresight Report as the impetus for ensuring that public sector led research at existing facilities in the UK is focused on improving yield and addressing the food security challenge.
- The UK Government also has a role to play in ensuring that barriers to market entry are reduced to encourage investment from the private sector in complimentary research. If there is greater investor certainty that research can potentially lead to commercial opportunities within the UK and Europe, then it is much more likely that funding will be forthcoming.

11. *Some witnesses have suggested that agricultural research should not be left to private companies, as their priority is profit rather than the public good. How would you respond to this?*

- As set out elsewhere in this submission, public sector research institutes—especially in the UK—play an important role in developing new crop technologies of all kinds. UK universities including the University of Leeds are involved in a number of projects looking at new technologies.

- Public private partnerships, in which companies work with the public sector and charities, are also crucial to developing technologies relevant to resource stressed or economically challenged parts of the world as the following example illustrates:¹²

Developing Drought-Tolerant GM Sorghum Fortified with Vitamins for Africa

- Sorghum is a cereal that has many characteristics comparable to corn. However, unlike corn, sorghum is naturally drought tolerant. It provides calories and minimal nutrition in dry areas of Africa.
- Efforts to enhance sorghum through GM are being spearheaded by Pioneer Hi-Bred International, which is developing sorghum that contains more Vitamin A, zinc and iron, and has improved protein digestibility characteristics. Pioneer Hi-Bred began working on the project in 2005 in conjunction with the African Biofortified Sorghum (ABS) Consortium, an Africa-led public-private partnership.
- The sorghum nutritional improvement project will permit greater levels of essential nutrients to be delivered to those who live in arid places where sorghum is relied upon as the staple food source. Additionally, the “biofortified” sorghum may become important in new geographies as a result of the effects of climate change.
- The introduction of this GM sorghum is expected to have a major impact on the health and life of targeted communities in Africa—not only by offering improved nutrition, but by providing the sorghum at minimal cost to growers. Biofortified sorghum will be distributed to underserved communities in multiple African countries, royalty free.
- High R&D costs and a long, unpredictable and costly approval process mean that smaller companies and the public sector often cannot expose themselves to the financial risks inherent in developing GM products. A quicker approvals process based on science would help to diversify the research base.
- A large proportion of the GM technologies currently being used or which are in development are the result of investments by companies. These have brought economic and environmental benefits to farmers in both the developed and developing world over the past 15 years. Farmers would not use such crops without there being a significant incentive to do so.
- Private companies will continue to invest in new technologies that benefit farmers. Despite the restrictive nature of regulation in the EU there are examples of where companies have focused research on developing solutions which will be applicable for European agriculture (see BASF Fortuna potato example, above).

12. *What is the role of publicly funded research in delivering sustainable food systems?*

- Publically funded research has a crucial role to play in developing new technologies to help address some of the specific problems facing agriculture. As set out previously, projects are ongoing at the moment in UK institutes to help improve the sustainability of the food supply.
- There is enthusiasm in the private sector for working with the public sector on shared research projects. For example, collaboration between Dow AgroSciences and Rothamsted to produce new wheat types using technology for more efficiently generating targeted mutations in wheat, as a tool for plant breeding is currently ongoing.
- Again, however, such investment and partnership working is in part reliant on there being a path to market entry. The regulatory regime in Europe does not allow this to happen by restricting imports and cultivation.

THE ROLE OF EU AGRICULTURAL POLICY IN DIRECTING AND INFLUENCING RESEARCH AND SOLUTIONS TO SUSTAINABLE FOOD

13. *How will/should CAP reform influence research and innovation in food production?*

- As summarized by Paolo de Castro MEP, Chair of the EU Agriculture Committee, the challenge of reforming the CAP is for European Agriculture to “produce more, pollute less”. European farmers currently meet some of the highest standards in the world on food traceability, environmental protections and animal welfare.¹³
- Yet, while the OECD-FAO Outlook sees the US, Canada, Australia, China, India, Russia and Latin America boosting farm output by 15–40% between 2010 and 2019, it forecasts that EU production will grow by less than 4%.¹⁴ Europe therefore currently utilises over 30 million hectares (the size of Germany) outside its borders to meet its own needs.¹³
- Unless CAP reform seeks to encourage agricultural innovations which increase yields whilst managing inputs, Europe will continue to be reliant on imports from countries with less stringent environmental standards. This will undermine attempts to “green” the CAP. Likewise abc cannot support measures which would penalise productive farming.

- Abc welcomes key elements of the CAP reform set out by the European Commission which focus on encouraging Innovation Partnerships and agri-environment initiatives. However, CAP should be more specific in incentivising agricultural practices, sectors and technologies to ensure that reform will effectively contribute to the objectives of President Barroso's EU 2020 strategy for smart, sustainable and inclusive growth.
- In addition to extra investment in innovation by the European Commission, abc would therefore also welcome proposals to reform the regulatory environment to encourage greater private investment in GM technology.

14. *How does EU GMO regulation influence research and innovation in food production?*

- The current regulatory environment in Europe has had a negative effect on investment in research and development, with elements of the science base moving to emerging markets with fewer market entry barriers, thereby making European agriculture less and less competitive.
- Research into agricultural biotechnology started in Europe, but practical applications are now often developed elsewhere. Europe is in danger of both failing to turn the available scientific knowledge into commercial opportunities and, more importantly, failing to contribute to the global knowledge base required to meet the food supply challenge.
- Abc is of the view that the European regulatory approach should and must be based on science to inform the approval or otherwise of new technologies. This is not currently the case as political considerations take precedence when new technologies are considered.

15. *Does the agricultural "vision" painted by the EU and its member states drive agricultural policy and research in a direction which will encourage more sustainable agricultural practices? ie Is EU agricultural policy making EU agriculture more or less sustainable on the whole?*

- The biggest barrier to investment in sustainable agriculture is not the CAP, nor the EFSA scientific approvals system, both of which function according to their remit and frameworks.
- Instead it is the delay to GM approvals caused by political decision making. This prevents farmers being able to access the technology and directs agricultural R&D investment away from Britain and Europe. The result is a limit on the potential contribution of UK science and farming towards mitigating the agricultural impact of climate change and increasing populations.
- The EU's "vision" for agricultural policy may be one of high environmental protection standards. Unfortunately, however, Europe is pushing its share of the responsibility for global food production onto farmers in other countries without realising any of the potential environmental benefits of GM crops.

16. *To what extent could the UK act unilaterally in adopting or restricting the use of or importing GMOs?*

- Under EU law, the UK currently has the power to allow the cultivation of GM products that are approved at a European Union level. However, neither of the two approved products currently commercialised are suitable for the UK agriculture market. MON810—a genetically modified maize—is designed to protect the crop from the European Corn Borer, but this particular pest is not prevalent in the UK. Amflora is a genetically modified potato approved for use in industrial applications because it produces a more effective form of starch for certain processes. The UK lacks the industrial base which would benefit from the cultivation and subsequent processing of this product and hence its use is limited to mainland Europe. The cultivation of GM in the UK is currently reliant on the European Union process for approving new products that are awaiting assessment, some of which may be relevant and useful for UK farmers.
- As stated earlier in this submission, decisions on whether GM products can be imported into the UK are also made at European Union level, based on information reviewed by the European Food Safety Authority. The UK Government votes at both the Standing Committee of the Food Chain and Animal Health (SCFAH) and at the Appeal Committee level on whether to approve or otherwise of the importation of GM products, in line with the normal comitology decision making process. The current system does not allow the UK to import non-EU approved products for food or feed use.
- The UK Government therefore has limited powers over the adoption or importation of GMOs. These powers are subject to the European Union decision making process in line with the UK's obligations as a member state.

The answers contained within this document reflect the opinions of the Agricultural Biotechnology Council's (abc).

abc, comprising of six member companies, works with the food chain and research community to invest in a broad range of crop technologies—including conventional and advanced breeding techniques, such as GM. These are designed to improve agricultural productivity by tackling challenges such as pests, diseases and changing climatic conditions, whilst reducing water usage, greenhouse gas emissions and other inputs. The companies are BASF, Bayer, Dow, Monsanto, Pioneer (DuPont) and Syngenta.

Further information is available at www.abcinformation.org.

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- 9 December 2011

Supplementary written evidence submitted by the Public Health Nutrition Research Group, Rowett Institute of Nutrition and Health, University of Aberdeen

At the committee meeting on the 7 December 2011, the chair asked if examples could be provided of the “win-win” situation for the environmental and health in terms of food choices. The following provides a few examples of some of the synergies and possible conflicts for sustainable foods and diets between health and the environment that could arise. A key issue for sustainable food is to consider it beyond the production stage to ensure that food produced for consumption in the UK will create a balanced sustainable diet for the health of the population. The issue of sustainable food needs to be taken through to the end point of the consumer and the types of diets they may consume rather than just considering individual food products. Singling out individual foods could lead to unintended consequences for health.

A “win-win” situation for health and the environment would be to diversify the diet by reducing meat consumption. This would reduce greenhouse gas emission (GHGE) and could also benefit health as meat and meat products are one of the greatest sources of saturated fatty acids in the diet. Ideally the meat would be replaced by plant based foods, such as vegetables, pulses and starchy foods (eg pasta, potatoes). An increase in plant based foods would be beneficial to health. However, it can’t be assumed that this is the type of substitution that would be made as equally it could be replaced by high fat alternative, and hence it is important to understand how the population and the food industry would adapt to reducing the amount of meat in the diet.

A recognised conflict is between the current recommended intake of fish (ie two portions/week) and the environmental sustainability of fish stock. Here it is important for the environmental and health sectors to come together to decide on a single consistent message to avoid confusion among consumers.

A possible conflict also exists within the dairy industry. While dairy products are recognised as a source of high GHGE they constitute an important source of many nutrients eg calcium in the diet of the UK population. In terms of health, however, they also contribute a high proportion of saturated fatty acids and therefore recommendations would be to choose reduced fat dairy products, but this creates an issue in terms of the by-product cream. For health it would not be desirable for this to simply re-enter the food chain in the form of other foods, especially as low cost high fat foods, but this has implication for waste.

In the work that we completed for the WWF-UK to explore the possibility of creating healthy, sustainable diet, it was found that it was possible to create a list of foods that achieved a significant reduction in GHGE (Livewell: http://assets.wwf.org.uk/downloads/livewell_report_corrected.pdf). A diet based simply on the greatest reduction in GHGE would consist of unpalatable quantities and combinations of food. This may not be obvious if the focus was only on food production and the implications for the whole diet, especially of those on low incomes, is not considered. Furthermore, if the focus is only on environmental sustainability, we will fail to address the issue of the excessive intakes of high fat and/or sugar foods, which tend to have lower environmental impacts than animal products, but have a significant impact on obesity and health.

The strategy document Food2030 highlighted climate change and obesity two of the biggest issues facing the population. Since food links these two issues they must be considered together for coherent policy and messages to the consumer.

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