

WWF UK's evidence to the Environment, Food and Rural Affairs Committee's enquiry into securing food supplies up to 2050: the challenges for the UK.

Summary

WWF's main asks are summarised as follows:

- WWF believes that the Government should support and develop policies to encourage a reduction in domestic meat and dairy consumption and an increase in demand for UK fruit and vegetables.
- The UK should publish a 2050 vision/roadmap for food and land use showing how much energy/food/fibre the world will need by 2050 and the UK's role in this
- whilst staying within key resource and environmental limits.
- The UK needs to actively address the issue of embedded water when considering the food system and water issues.
- The UK's and EU's fisheries policy needs to be reformed to plan for the long-term so that it is economically and environmentally sustainable. The Government should also support the accreditation of sustainable fisheries (eg. MSC certification) in the UK.
- There is a need for a regular audit of the national food supply and the supply chain and this should be conducted by DEFRA.
- The UK Government urgently needs a better definition of food security built around sustainable consumption, and the environmental and social performance of supply.

The global food system and the UK

1. World-wide, food production accounts for the use of 38% of the ice-free land surface. 70% of the water abstracted is used for irrigation. Agriculture and fisheries provide the main income for about 40% of the world's population. The world food economy directly accounts for more than a third of global greenhouse gas (GHG) emissions. Continued growth in agricultural land and the intensity of production driven by population growth and increased consumption of livestock products is a major driver behind habitat loss and degradation.
2. The UK has about 1% of the world's population but accounts for about 2% of the world food system on a commodity weight basis¹. Per capita consumption of meat in the UK is 2.4 times the world average.

One Planet Future and the role of food consumption in food security

3. WWF-UK is striving for a One Planet Future and has recently launched a One Planet Food Programme aimed at reducing the adverse impacts of UK food consumption - GHG emissions, water impacts within water scarce areas and impacts on biologically diverse places. WWF also helped establish the Marine Stewardship Council and sits on bodies such as the Round Table on Sustainable Palm Oil (RSPO) and for sustainable soy. WWF was therefore pleased that, when responsible for Defra, Mr David Miliband adopted the 'One Planet' concept in 2006 as a lodestar for guiding

¹ Based on analysis of FAO data.

the development of UK food and agriculture policy. The changes in global agricultural markets since then have brought the role of food consumption and production into even sharper focus. Due to a range of Government efforts, such as the recent work of the Cabinet Office on food policy², and Defra research such as the Cranfield study of resource use and environmental burdens from production on a life-cycle basis³, the UK is now a leading participant in international debate about the role of the food economy in natural resource protection, conservation, and social justice.

Inconsistencies in government policy

4. From a global perspective, food security is about whether enough food is being produced to meet demand⁴. WWF's principal overarching concern is that Government policy in relation to the security of supply, and economic and environmental performance of the UK food system is supply side focused. The currently widely quoted scenario of the need to double food supplies by 2050⁵ is associated with predictions of meat consumption rising from ca 16 kg/capita to ca 30 kg/capita in the developing countries (excluding China and Brazil) compared with 90 kg/capita in the UK today. There has been no real effort on the part of government to address the resource intensity of the UK diet. This gap in policy was reinforced by Mr Benn's speech to the Fabian Society on 10 December, 2008⁶, which ignored the demand side implications of the current western diet. We believe that the UK is well placed to lead debate on the demand side across the developed economies, and provide an example beyond with benefits for both the environment and health world-wide.
5. The evidence that the livestock product component of 'western' diets is a major factor determining the land use, emissions and resource depletion arising from developed economy food systems is compelling⁷. Resource intense meat and milk based diets draw heavily on global food supplies and set up the market conditions that drive high GHG emissions which in turn contribute to climate change and risks to future food security⁸.
6. The difficulty Defra has on the demand side is clear in the foreword to Defra's Farming and Food Strategy: 'Forward Look' which broadly set out Mr Miliband's vision for Defra farming and food policy in 2006:

"We need to redress the balance and move towards "One Planet Farming" – farming that reflects the need for us to live within the means of the planet, and farming which helps us live within the needs of the planet. Equally, as consumers we all have a role to play, in ensuring that our patterns of consumption respect environmental limits".

² Cabinet Office (2008) Food Matters: Towards a Strategy for the 21st Century

³ Williams, A., Audsley, E. and Sandars D. (2006). Determining the environmental burdens and resource use in the production of agricultural and horticultural commodities. Defra project report IS0205

⁴ Defra (2007). Ensuring the UK's food security in a changing world.

⁵ Food and Agriculture Organisation of the United Nations (2006). World agriculture: towards 2030-2050.

⁶ Bread and Roses: the Politics of Food - A Fabian Society Lecture by Hilary Benn, 10th December 2008.

⁷ Gerbens-Leenes W, Nonhebel, S (2005). Research Report: Food and land use. The influence of consumption patterns on the use of agricultural resources, *Appetite* 45 (2005) 24–31

⁸ Murphy-Bokern, D. (2008). The UK food system and the global environment. A report for the WWF UK.

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7. The rest of that Defra document focuses on developing **a profitable and competitive domestic farming industry which is a positive net contributor to the environment, while reducing the environmental footprint – at home and abroad – of our food consumption**. The debate about resource demanding diets based heavily on livestock products is acknowledged but no actions or even aspirations in relation to consumption are set out.

The supply side

8. Our emphasis on the demand side does not mean that we think that policy on supply is misguided. Defra research that has examined various supply side measures and interactions between customer choice and supply has been beneficial. We discuss this below in more detail in relation to the Enquiry's questions:

How robust is the current UK food system? What are its main strengths and weaknesses?

In the global context

9. Self-sufficiency of around 70% for indigenous foodstuffs and about 58% overall suggests that in terms of global supplies the UK food system is resilient in relation to necessities to all but the most disruptive supply shocks. This however masks reliance on imported farm inputs such as fertilisers, fuel, pesticides and animal health-care products. Moreover, there has been a decline in the production of a wide range of agricultural commodities in the UK since 1990. Production of beef, fruit, vegetables, pigmeat, sheepmeat and potatoes has declined, typically by 20 – 30%. Total self-sufficiency is declining faster than self-sufficiency in indigenous food reflecting the increase in the consumption of non-indigenous food products. UK capture fisheries and fishing capacity are in long-term decline due to the decline in fish stocks. Reflecting increased consumption and decreasing domestic production, imports of almost all food commodities rose between 1990 and 2005. This has 'exported' the consequences of our buying habits to other countries. GHG emissions, water impacts in vulnerable areas and biodiversity impacts in key ecoregions (for example from palm oil production in SE Asia, soya/sugarcane in Latin America) generate burdens shifted away from the UK. We currently we rely on Brazil for 80%⁹ of our soy for animal feed and WWF's research shows that up to 2006, the UK was responsible for 7 – 10% of the growth of the Brazilian beef industry, which in turn is a very significant driver behind Amazon deforestation¹⁰.

In the domestic context

10. The UK is characterised by vertically integrated supply chains dominated by four huge multiple retailers which control what is offered to consumers and have acquired a very powerful position in the food economy. This dominance has obvious, and, we suspect, profoundly negative implications for the resilience of the UK food supply system, particularly when combined with lean logistics and 'just-in-time' ordering and delivery and this system has displaced local food chains embedded in more diverse and dispersed producer/retailer networks. However this sophisticated retail system

⁹ Van Gelder, J.W., Kammersaat, K., Kroes, H. (2008) Soy consumption for feed and fuel in the European Union, Report for the FOE Netherlands.

¹⁰ Murphy-Bokern, D. (2008). The UK food system and the global environment. A report for the WWF UK. www.murphy-bokern.com

provides opportunities to design supply chains that transmit signals from consumers to producers to influence production practices and decouple the UK food system from environmental degradation, particularly deforestation.

11. The UK Waste Resources Action Programme (WRAP) estimates that UK households waste 30% of the food purchased and that about 60% of the food wasted is edible¹¹. 42% of the food wasted by consumers is fruit and vegetables. There is evidence that this level of wastage at the consumer level extends through the food chain and that one third or more of food grown is wasted¹². Defra research led by Imperial College London gathered anecdotal evidence from manufacturers of chilled foods that indicate that volatility in supermarkets' order quantities coupled with demand forecast inaccuracy make it difficult for suppliers to estimate material requirements and to plan production. This causes over-supply and waste¹³ and ultimately adds to the environmental burdens arising from the food system.

How well placed is the UK to make the most of its opportunities in responding to the challenge of increasing global food production by 50% by 2030 and doubling it by 2050, while ensuring that such production is sustainable?

12. The UK and the rest of Western Europe cover one of the most productive agricultural regions of the world. In addition, the North-east Atlantic is one of the world's great fisheries. The UK's food system is sophisticated and the Government has helpfully participated in a public debate in the UK that could be beneficially replicated in other European countries and North America.

13. The UK can ensure through Government leadership and trade that the key tenants of sustainable development are upheld within the food industry and that equitable prices are paid, and workers rights and the environment are respected.

14. The UK could become a leader in responding to the challenges of a changing food system by creating a 2050 vision/roadmap for food and land use showing how much energy/food/fibre the world will need by 2050 and the UK's role in it whilst staying within key resource and environmental limits.

In particular, what are the challenges the UK faces in relation to the following aspects of the supply side of the food system:

Soil quality:

15. The EU Soil Framework Directive is driving much of the UK's current soil protection policy¹⁴. The role of the Directive in leading UK soils policy reflects a lack of a strategic leadership in the UK to soils and resource protection generally, compared to other European countries. The UK approach to the nitrogen cycle is fragmented,

¹¹ WRAP (2008). The food we waste.

¹² Measure, S. (2008). The £20 billion food mountain: Britons throw away half of the food produced each year. The Independent: 2 March 2008.

¹³ Imperial College (2007). Sustainable waste management in the chilled food sector. Defra research project report FT0348.

¹⁴ BERR (2006) Science review of Defra. Annex 6: Soil monitoring case study.

brigaded and driven by the need to address the various emissions from it (nitrous oxide, ammonia and nitrate) rather than to conserve nitrogen through systems approaches. The same applies to phosphorus which in the long term is the key and irreplaceable nutrient determining agricultural productivity.

16. The negative impacts of soil erosion due to inappropriate land management have become increasingly apparent. Factors responsible for this include animal and crop production on inappropriate land, bad timing of agricultural practices and degradation of river banks and streams by stock. Soil erosion has significant social, economic and environment impacts. In addition to reduced future farm productivity, soil entering freshwater ecosystems can cause major damage, for example choking spawning gravels used by fish. Pollution of water by soil carries phosphates into freshwater bodies and the marine environment, exacerbating the problems of eutrophication. A range of policy options are in place to address soil pollution, including regulatory Instruments, whole farm planning, farmer self-help groups, co-operative agreements and grant aid. The use of participatory techniques in developing natural resource management solutions has proved increasingly successful in recent years, in developing countries, the EU, and Australia.

Water availability:

17. Water for agriculture has significant affects on freshwater supplies, through the use of pesticides and fertilizers to the water needed to grow the crops.
18. In the UK the industries which use the most water are agriculture, food and drink. The Food Industry Sustainability Strategy looks at the amount of abstracted water used by companies in their operations but does not look at embedded water. There is a strong policy focus on improving water quality associated with agricultural practice. As with soil, the majority comes from Europe, such as the Water Framework Directive and the Nitrates Directive.
19. Future Water¹⁵ sets out the Government's strategy for the UK water sector. The linking of policy on abstraction, demand and surface water flood protection is welcome but it does not address the wider UK water footprint determined by embedded water. Globally the water footprint of products has to be reduced in order to ensure that there is enough freshwater for the growing population and to protect ecosystems and wildlife.
20. WWF-UK has recently published "Water Footprint: the impact of the UK's food and fibre consumption on global water resources." It evaluated the embedded water in the commodities we consume, fundamental to which is the way food and biofuel production in the UK and abroad drive the over-abstraction and pollution of freshwater eco-systems. Foods with high UK demand and footprints include oil palm, soybeans, coffee, beef, cocoa beans and milk. WWF has highlighted the cost of food imports from the Mediterranean region and how our increased demand for crops from here has put undue stress on its water resources and ecosystems and our need to address.
21. WWF would like to see Defra and the UK Government measure the water needed to meet food security/consumption for the UK, the EU and globally and the implications for UK policy support. WWF would support the UK Government in facilitating

¹⁵ Defra (2008). Future Water. The Government's water strategy for England.

dialogue and links (at UK and EU levels) between business and government with regards to the impacts on water sources at production sites. Defra should ensure UK water resources are managed more sustainably and the degraded ecosystems or rehabilitated or restored, wherever possible.

The marine environment:

22. Improved fisheries management is the primary way in which the UK can work towards improving the productivity of its seas and improving food security through its marine resources. In most cases the responsibility for management is shared with other Member States through the Common Fisheries Policy. The UK Government needs to work more actively in remedying the problems resulting from the current policy, which manifest in declining levels of output, degraded ecosystems and declining profitability. To reverse these trends, the policy needs to plan for the longer term by ensuring the UK has an economically efficient fleet which works within a framework delivering a healthy marine ecosystem. Current management is primarily concerned with the short-term profitability of fishers. In addition to reforming the CFP, a robust Marine Act which introduces an ecosystem based approach to marine planning would also help. If implemented correctly, this policy shift is likely to deliver greater yields to producers at reduced fishing effort, which would lead to improved food security for UK consumers, because healthy ecosystems are more productive and resilient to environmental perturbations.
23. The UK is currently a net importer of fish because of the types of fish which UK consumers demand cannot be supplied by the UK fleet. However, this trade deficit could in part be alleviated if consumers varied the types of seafood they consumed. Fish such as mackerel and herring are caught in large quantities and are currently exported. As an added benefit, many of these species are more ecologically resilient than many depleted species such as cod and they are typically caught in fisheries with significantly lower levels of bycatch and impacts to marine habitats. The market can also stimulate demand for sustainable fish. In recent years, the Marine Stewardship Council (MSC) has markedly increased its profile and brand, WWF believes it is the best indication for consumers and fisheries that their fish is sustainable. We encourage the Government to support fisheries accreditation schemes as a way of improving food security.

The science base

24. In the UK, the last twenty years has been characterised by a lack of direction and degradation in the public research machinery with respect to agricultural development and the ability of the private sector to deliver knowledge and technology in agriculture being over-estimated. It is quite difficult to ascertain what Defra's strategy for agricultural and food science is. The last relevant and coherent articulation of science policy was in 2004¹⁶. The section on farming and food science predicted the food crisis but also set out the intention to reduce spending on agricultural research in the UK and increase reliance of investment from outside the UK and from the private sector.

What trends are likely to emerge on the demand side of the food system in the UK, in terms of consumer taste and habits, and what will be their main effect? What use could be made of local food networks?

¹⁶ Defra (2004) Evidence and innovation: Defra's needs from the sciences over the next 10 years.

25. WWF believes that the Government should support and develop policies to encourage a reduction in meat and dairy consumption and an increase in demand for UK fruit and vegetables. There will be less packaging, a consequence of increased public awareness and reaching peak oil, a move away from perfectly formed fruit and vegetables due to price constraints and less food waste. All part of an increase in demand for food that is seen as meeting the requirements of the concept of eco-nutrition.

What role should Defra play both in ensuring that the strengths of the UK food system are maintained and in addressing the weaknesses that have been identified? What leadership and assistance should Defra provide to the food industry?

26. Defra should lead on food security and policy, supported by the department of health and the Food Standards Agency (FSA). Defra should create and deliver a road map for the UK and global food systems and be driving forward the Sustainable Procurement action plan to create a low-carbon resource efficient sector.

27. Defra has gone some way to address the strengths and weaknesses of the UK food system through 'Roadmaps'¹⁷. They use life cycle analysis to complete a 'cradle to grave' picture of the environmental impacts for a product and highlight areas where efforts can effectively be concentrated to reduce those impacts. This 'clean-design approach is welcome in stimulating debate and improvements in sectors with respect to environmental performance of production practices. However, we doubt this industry led dialogue will sufficiently address the need for profound system changes in some areas. Defra, alongside industry, could develop a "Green Tractor" for domestic food production by 2010 that goes beyond the current Red Tractor with improved environmental and social standards. Defra's ecosystem services Action Plan should be implemented across local areas to ensure local ecosystem wide solutions on water pollution and the negative impacts on biodiversity are tackled effectively.

28. There is a lack of consumer understanding of food security. Yet experience showed how important food was for morale and how big dietary changes are made more palatable by understanding their rationale. This could be linked to exploration of ways to engage the public in building food supplies.

How well does Defra engage with other relevant departments across Government, and with European and international bodies, on food policy and the regulatory framework for the food supply chain? Is there a coherent cross-Government food strategy?

29. The UK food policy landscape is complex. Defra leads on food and agriculture. FSA sets and advises on food safety. The Department of Health deals with the consequences of poor diet. BERR leads on relationships and policies towards the retail sector. The Environment Agency (England and Wales), Scottish Environmental Protection Agency (Scotland) and NI Environment and Heritage Service (Northern Ireland) oversee waste, water and air quality legislation. The Department for Transport oversees the motorway and road infrastructure on which the retailers' logistics systems rely. Scotland and Wales have their own food policies. While the

¹⁷ The Sustainable Consumption and Production Taskforce (2008). The Milk Roadmap. Defra website.

regions and local authorities have remits connected to food. DFID, The Treasury, the Department of Communities and Local Government, The Cabinet Office, the Department for Culture Media and Sport, the Department for Education, English Nature amongst others all have food related policies.

30. Defra works on behaviour change, public sector procurement, the sustainable food chain, and has a departmental objective to reduce the global impact of UK food consumption and production on the environment, as measured by a decrease in net GHG emissions from the food chain. WWF suspects that Defra has not reconciled its global sustainable development and climate change objectives with domestic objectives relating to UK agriculture. WWF suspects that parts of Defra remain reluctant to develop policy that is opposed by farm sectors, the livestock sector in particular, and this is getting in the way of policy alignment.
31. The recent Cabinet Office report has made a useful contribution¹⁸. In order to create a coherent strategy the government needs to link the initiatives from other departments and all food related policies and developments should be overseen by one body, Defra.

What criteria should Defra use to monitor how well the UK is doing in responding to the challenge of doubling global food production by 2050 while ensuring that such production is sustainable?

32. The criteria should include what people are eating, what percentage of the diet is from sustainable and fair trade sources, how much of the overall diet is meat and dairy, and what are the GHG emissions from the food system.
33. There is a need for a regular audit of the national food supply and the supply chain, conducted by Defra.
34. The UK Government urgently needs a better definition of food security built around sustainable consumption, and the environmental and social performance of supply. It ought to be using a term such as 'sustainable food security'. Further research into appropriate indicators should be conducted.
35. This requires bringing existing public and scientific indicators under one policy 'roof'. Ecological, carbon and water footprinting should all be utilised in the process.
36. There needs to be specific studies of 'at risk' sectors. The fruit and vegetable sectors are prime candidates, currently. Consumption of fruit and vegetables remains below target in spite of a very public and persistent campaign to get people to eat 5 portions of fruit and vegetables a day. We only grow 10% of the total fruit consumed in the UK and for some indigenous vegetables, production is declining even while imports are increasing. Yet data on production of other than a few specific crops, or about consolidation within sectors, is hard to find.

¹⁸ Cabinet Office (2008) Food Matters: Towards a Strategy for the 21st Century