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Global Food Security

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The International Development Committee

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Additional written evidence may be published on the internet only.

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The current staff of the Committee are Dr David Harrison (Clerk), Chloe Challender (Senior Committee Specialist), Judy Goodall (Inquiry Manager), Louise Whitley (Inquiry Manager), Rob Page (Committee Specialist), Anita Fuki (Senior Committee Assistant), Annabel Goddard (Committee Assistant), Paul Hampson (Committee Support Assistant) and Hannah Pearce (Media Officer).

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Contents

Report

Summary

In 2012, the G8 launched a New Alliance for Food Security and Nutrition, an alliance of G8 countries, developing country governments and private companies. The G8 will return to the subject during the UK's Presidency in 2013. As well as hosting the G8 summit on 17-18 June, on 8 June the UK will host an event called 'Nutrition for Growth: Beating hunger through nutrition and science'.

The emphasis on nutrition is most timely. There have been two notable 'shocks' or 'spikes' in global food prices in recent years, peaking in June 2008 and February 2011. The 2008 price spike led to stagnation in the fight against hunger: while the proportion of the global population suffering from hunger had been declining before the price spike, the rate of progress declined when the spike occurred.

The price spikes reflect a number of changes, including fundamental changes in supply and demand. Demand is increasing. UK law requires 5% of total road transport fuel to be derived from biofuels. In addition, EU targets will require 10% of transport energy to be drawn from renewable sources by 2020, causing dramatic food price increases. We recommend that the Government revise the 5% target to exclude agriculturally-produced biofuels, and that it push for reform of the EU target.

Globally, demand for meat is increasing, leading to a growth in the production of grain-fed livestock, with crops used to feed livestock instead of humans. We recommend a focus on sustainable systems such as pasture-fed cattle rather than on grain-fed livestock. Additionally, as much of 30% of food produced globally is wasted. In developed countries such as the UK, a large amount of food is wasted by consumers and by the food industry. We recommend that the Government set targets for food waste reduction for producers and retailers and introduce sanctions for failure to meet the targets.

Rising world population, expected to increase from 7.1 billion today to 9.3 billion by 2050, will also add to demand. There is a great unmet need for contraception. DFID has made significant efforts to address this need, and must maintain this focus on women's reproductive rights.

Supply must be increased. Donor funding for agriculture has shown a slight increase in recent years, but the historical trend is one of decline: donor funding for agriculture fell by 72% between 1988 and 2003. Smallholders have a key role to play in food security. DFID should devote a greater proportion of its budget on supporting agricultural extension services. A small but potentially increasing number of smallholders are able to sell their produce on to large corporations. To support this, farmer organisations such as co-operatives are vital. We recommend that DFID support the formation of farmer organisations. Additionally, DFID should increase its funding for organisations such as the Africa Enterprise Challenge Fund (AECF) which help smallholders to engage with

large corporations.

In many developing countries, large corporations are buying up areas of land previously farmed by smallholders. Some allege that this is sometimes done without the informed consent of the smallholders. Implementation of the UN Voluntary Guidelines on the Governance of Tenure would help, as would work to establish land registers. We recommend that DFID launch additional projects on land registration.

Both smallholders and large commercial producers need an enabling environment. Investment in roads, storage and irrigation infrastructure is vital. Additionally, climate change is making it more difficult for farmers to decide when to sow, cultivate and harvest their crops. We welcome the Government's pledge to provide £2.9 billion of funding to tackle climate change over the next two years; building the resilience of the poor to climate-related shocks will also be crucial.

There have been various suggestions as to how food price volatility might be mitigated, but the wisdom of some of these suggestions is dubious. Export controls have served to exacerbate the situation. However, there may be a case for judicious use of stocks to reduce food price volatility. We recommend that the Government conduct further research into this. We recognise that misinformation about the level of stocks in China may have contributed to the 2008 price spike, but the Agricultural Market Information System (AMIS), formed in 2011, now requires participant countries to provide monthly data on stocks. This is a major step forward in the fight against food price volatility.

Social protection, including cash transfers and other social insurance and social welfare schemes, plays a vital role in protecting the food security of the poorest when shocks occur. In 14 of the 29 countries in which it has bilateral programmes DFID does not currently plan to fund social protection; we ask it to explain the thinking behind this. Where emergency interventions are needed to protect food security, cash- and voucher-based schemes are usually preferable to in-kind food aid. The World Food Programme's (WFP's) 'Purchase for Progress' scheme, under which food aid is procured from suppliers in developing countries, supports WFP's humanitarian work while also supporting local economies. We were pleased that the Parliamentary Under-Secretary of State agreed to consider scaling up DFID's support, and we reiterate our belief that this would be a wise thing for DFID to do.

Undernutrition has long-term health implications and represents a barrier to development more broadly. Although DFID works bilaterally in 29 countries, it only has bilateral nutrition programmes in 16 countries. We recommend that DFID launch additional bilateral nutrition programmes, with a particular focus on nutrition during pregnancy and early years.

Our report shows that real progress is achievable. With some of the measures we propose, the impacts will by nature be gradual, becoming apparent only in the medium- to long-term. For other measures, however, the impacts will be immediate, the reform of

biofuels targets being the most obvious example. All that is needed is political will.

1 Introduction

1. In 2012, the G8 launched a New Alliance for Food Security and Nutrition, an alliance of G8 countries, developing country governments and private companies. Over 60 companies are involved, half of which are African; total commitments from business are over $4 billion. The New Alliance aims to invest in countries which use reforms to promote investment and agricultural activity.[1]

2. The G8 will return to the subject during the UK's Presidency in 2013. As well as hosting the G8 summit on 17-18 June,[2] on 8 June the UK will host an event called "Nutrition for Growth: Beating hunger through nutrition and science".[3] Concurrently a large-scale campaign ("Enough Food for Everyone IF") is being run by over 200 UK- and Ireland-based NGOs.[4] In a specially-recorded message to coincide with the launch of the campaign, the Prime Minister stated that:

> Nearly a billion people around the world do not get enough food. And undernutrition holds back the growth and development of millions of children.
>
> This is simply not acceptable in 2013.
>
> That's why I welcome the NGO campaign on food. I know that this is an issue which people up and down the country feel strongly about and will be campaigning on this year. I'm determined that this Coalition Government will listen to their passion and lead the world.[5]

3. According to the website of the UN Food and Agriculture Organization (FAO), "Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life."[6] Food insecurity (the lack of such conditions) is one of the defining issues of our times. Across the world almost 870 million people suffer from hunger.[7] The Millennium Development Goals (MDGs) included a target to reduce the number of people suffering from hunger by half between 1990 and 2015,[8] and we anticipate that hunger will also feature in the post-2015 development goals when the MDGs expire. While progress against the MDG target on hunger has been better than some feared, this progress has been achieved largely in East Asia and Latin America: progress is lagging in South Asia, Western Asia and sub-Saharan Africa.[9]

1 Ev w111

2 "UK Presidency of G8 2013", *Inside Government*, www.gov.uk

3 Ev 107

4 "Who we are", *Enough Food for Everyone IF,* enoughfoodif.org

5 "David Cameron's message to anti-hunger IF campaign", *Inside Government*, 23 January 2013, www.gov.uk

6 "Food security statistics", *Food and Agriculture Organization of the United Nations*, www.fao.org

7 UN FAO, *The State of Food Insecurity in the World*, 2012, p 8

8 Official list of MDG indicators, effective 15 January 2008, www.un.org

9 Ev 59

4. For important crops such as rice, wheat, maize and soybeans, yield growth rates have slowed globally. The decline in yield growth rates has been observed in both developed and developing countries.[10] Overfishing also poses a serious problem: fish stocks are under strain from fishing which is either poorly regulated, unregulated or simply illegal. It has been suggested that all species of seafood which are currently fished will be extinct by 2048.[11]

5. At the African Union summit in July 2003, African leaders signed the Maputo Declaration, committing their governments to spending 10% of national budgets on agriculture, and achieving 6% annual growth rates in agriculture by 2008.[12] Yet in a study of African countries conducted by ONE, an NGO, nine of the 19 countries studied were found to have reduced their agriculture budgets since the signing of the Maputo Declaration. Only four of the 19 countries had met the 10% target, with another two close behind.[13] Donor funding for agriculture has shown a slight increase in recent years, but the historical trend is one of decline.[14] In its written evidence, ONE reports that donor funding for agriculture fell by 72% between 1988 and 2003.[15] Throughout this period NGOs played in valuable role in providing much-needed support to smallholder farmers.[16]

6. Box 1 illustrates the various ways in which DFID works on food security through its bilateral programmes.

Box 1

DFID's bilateral work on food security

There are three main strands to DFID's bilateral work on food security:

- Supporting the provision of public goods (e.g. infrastructure; research) and an 'enabling environment' for the agricultural sector, including work on land tenure reform;
- Supporting smallholders who may not otherwise be commercially viable, through work on resilience, diversification and social protection;
- Supporting the integration of smallholders into markets and value chains, e.g. by helping smallholder co-operatives to access credit and agricultural inputs.

Source: adapted from Ev 102

10 UN FAO, *Investing in Agriculture for a Better Future: The State of Food and Agriculture 2012*, p 105

11 Bernice Lee et al, *Resources Futures* (Chatham House, 2012), p 29

12 Ev w111

13 Ev w112

14 Ev 65

15 Ev w111

16 "Supporting smallholders in securing global food security", *Tearfund*, 10 August 2012, www.tearfund.org

7. There are a number of major international institutions and initiatives working on food security. Box 2 provides details of these.

Box 2

Key institutions and initiatives

UN World Food Programme (WFP): WFP focuses on humanitarian assistance, with two-thirds of its budget used for humanitarian purposes. In 2012, the UK was the fourth-largest contributor to WFP, providing over £126 million. Most of the UK's contribution to WFP (84%) was for specific projects. The UK has recently begun providing some of its funding on a multi-year basis. The UK sometimes provides in-kind contributions to WFP, and DFID also provides a 'core' contribution, having agreed to provide £100 million over a four-year period.

UN Food and Agriculture Organization (FAO): FAO offers policy advice, both at country level and global level, and co-ordinates the negotiation of relevant international standards and treaties. It leads the UN's humanitarian agriculture cluster, and will co-lead the food security cluster. The UK provides 'core' funding to FAO, making it FAO's fifrh-largest contributor. The UK also provides project-specific funding which is used for policy work, work on livelihoods (including livestock), emergency and rehabilitation work, and longer-term development work.

UN International Fund for Agricultural Development (IFAD): IFAD provides loans and grants to approximately 119 national governments, for work in rural areas. These loans and grants are used to fund work in rural areas, including projects on capacity building; female empowerment; yield improvement; smallholder adaptation to climate change; and natural resource management. The UK was the largest contributor to the most recent replenishment of IFAD. DFID has also made a specific contribution to IFAD's Adaptation for Smallholder Agriculture Programme (ASAP), to which it is the largest contributor.

Zero Hunger Challenge: This was launched by UN Secretary-General Ban Ki-Moon at the UN Conference on Sustainable Development (Rio+20) in June 2012. It aims to ensure sufficient food for all throughout the year.

UN Committee on World Food Security (CFS): The CFS seeks to facilitate co-operation between governments, international organisations, the private sector and civil society organisations (CSOs). Its functions are as follows:

- Co-ordination – initially at global level, but subsequently also at regional and national levels;
- Policy convergence;
- Support and advice to national governments and regional organisations;
- Development of monitoring, so as to facilitate accountability and sharing of best practice.

Source: adapted from Qq 69, 105; Ev 61, 84, 90, 100-101; Ev w46; DFID, Multilateral Aid Review, March 2011, pp 173, 183, 205.

Our inquiry

8. As a Committee, we recognise that the issue of food security is fundamental to international development. We produced a report on this area during the last Parliament, looking specifically at the work of the World Food Programme (WFP).[17] Given the increasing focus on food security during the UK's G8 Presidency, we feel that this is an opportune time to return to the issue. In this inquiry we consider what steps DFID could take to improve global food security, while also considering broader issues affecting the global food system. Some of the issues we cover also feature in recent reports by other Committees, including the Environmental Audit Committee's report on "Sustainable

17 International Development Committee, Sixth Report of Session 2006-07, Sanitation and Water, HC 493-I

Food"[18] and the Energy and Climate Change Committee's report on "The road to UNFCC COP 18 and beyond".[19]

9. Our report begins (Chapter 2) with a detailed examination of the long-term factors affecting demand for and supply of food. In Chapter 3, we consider how these factors, together with more short-term policy decisions such as export bans, have contributed to recent food price "shocks" or "spikes", and how to reduce the magnitude of these shocks. Finally, in Chapter 4, we consider how best to protect the most vulnerable when shocks occur.

10. We received 40 pieces of written evidence from a wide range of individuals and organisations including academics, corporations and NGOs. We also held three oral evidence sessions. Witnesses at the oral sessions included Lynne Featherstone MP, the Parliamentary Under-Secretary of State for International Development; Norman Baker MP, the Parliamentary Under-Secretary of State for Transport; and representatives of WFP, FAO, the International Fund for Agricultural Development (IFAD), the Global Alliance for Improved Nutrition (GAIN), the International Food Policy Research Institute (IFPRI) and the Government Office for Science. In support of this inquiry we visited Ethiopia, a country which has endured well-documented challenges related to food security in the past, but which has made considerable progress in recent years. We spent time in Amhara and Benishangul-Gumuz states as well as in Addis Ababa. Finally, we are grateful to Rob Bailey of Chatham House for serving as our Specialist Adviser in this inquiry.

2 Long-term trends

Overview of demand and supply issues

11. There are a number of structural factors which affect both demand for and supply of food, and which will continue to do so over the long-term. On the demand side, key issues include biofuel policy; food waste; increasing meat consumption; and an increasing population. On the supply side, key issues include the role of smallholders, the role of commercial farming, and the damaging net effects of climate change on agricultural productivity. This chapter explores these factors in detail.

Demand

Biofuels

12. Biofuels are liquid fuels produced from biomass, used as substitutes for diesel- or petrol-based transport fuel. The two principal types of biofuels are ethanol and biodiesel. Ethanol is produced by the fermentation of sugar crops (e.g. sugar cane, sugar beet) or carbohydrate crops (e.g. corn, wheat), and can be mixed with petrol. Biodiesel is produced

18 Environmental Audit Committee, Eleventh Report of Session 2010-12, Sustainable Food, HC 879

19 Energy and Climate Change Committee, Second Report of Session 2012-13, The road to UNFCC COP 18 and beyond, HC 88

from fats (including rapeseed, palm oil and soybean oil) by a process of esterification.[20] Biofuels can also be produced from non-food products: this is covered below.

13. The UK's Renewable Transport Fuel Obligation (RTFO) sets a target for the percentage of biofuel in total road transport fuel, which applies to all suppliers supplying at least 450 000 litres of fuel per year.[21] This target has been increasing annually, and reached 5% in April 2013.[22] Furthermore, from 2020 EU targets will require 10% of transport energy to be drawn from renewable sources.[23] By 2020, biofuel usage in the EU is expected to be almost equivalent to 30 million tonnes of oil.[24]

14. Many argue that the use of crops to produce fuel instead of food is undermining food security.[25] The EU target is expected to cause prices of oilseed, vegetable oil, maize and wheat to rise by 20%, 36%, 22% and 13% respectively by 2020.[26] Biofuels also create a link between food prices and energy prices, thus leading to increasing food price volatility.[27] If current patterns of biofuel usage continue, estimates indicate that the number of people at risk of hunger will increase by anything between 25 million and 135 million in Africa alone.[28] Moreover, biofuel production is in fact likely to increase, since increasing energy prices may make biofuels more economically more viable.[29] Some predict that biofuel production will increase by 50% during the remainder of this decade.[30] In his evidence the Parliamentary Under-Secretary of State for Transport argued that some biofuels are in fact no better for the environment than fossil fuels, due to the land use changes which occur as a result of biofuel production[31] (e.g. deforestation)[32]. ActionAid argues that biofuels may be responsible for extra net greenhouse gas emissions of up to 56 million tonnes per year.[33]

15. There is general agreement that UK and EU policies on biofuels should be revised. While the EU target will require 10 % of transport energy to be drawn from renewable sources by 2020, the European Commission (EC) has recently proposed that no more than 5% should come from food-based biofuels,[34] but the UK Government is unenthusiastic about this proposal. In his evidence to this Committee the Parliamentary Under-Secretary of State for Transport stated that:

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20 Rob Bailey, *The Trouble with Biofuels: Costs and Consequences of Expanding Biofuel Use in the United Kingdom* (Chatham House, 2013), p 3

21 "Renewable Transport Fuels Obligation",*Inside Government*, 5 November 2012, www.gov.uk

22 "Renewable Transport Fuels Obligation",*Inside Government*, 5 November 2012, www.gov.uk

23 ActionAid, *Biofuelling the global food crisis: why the EU must act at the G20*, January 2012, p 6

24 ActionAid, *Biofuelling the global food crisis: why the EU must act at the G20*, January 2012, p 6

25 Ev 64, 75; Ev w2

26 Ev w2

27 Ev w49

28 Ev w16

29 Ev 60

30 Ev 60

31 Q 125

32 Timothy Searchinger et al., "Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change", *Science*, vol 319 (2008), pp 1238-1240

33 Ev w115

34 Ev 64

> we prefer something that is better and greener... the introduction of ILUC [Indirect Land Use Change] factors, which take into account indirect land use change and its consequences, particularly in relation to greenhouse gas emissions, but also indirectly the use of land for food production... if we ended up with a cap, we would want a lower cap rather than a higher cap.[35]

The Parliamentary Under-Secretary of State for Transport argued that while ILUC factors do not formally include food security, the effect of their introduction would be to reduce the impact of biofuels on food security.[36] Many advocate a more radical revision of biofuels policies. The Secretary of State for Energy and Climate Change, Rt Hon Ed Davey MP, has been quoted as saying: "We've made a real mistake in the EU [on biofuels] and we've got to end that mistake, the sooner the better."[37] In 2011, ten agencies including WFP and FAO published a joint report advocating the abolition of biofuels mandates.[38] In his evidence Andrew Dorward, Professor of Development Economics at the School of Oriental and African Studies (SOAS), said:

> Is there anything that so many international organisations have agreed on? We had the FAO, the OECD and the World Bank... It is almost unique for them all to agree on something quite so strongly. That shows the strength of the consensus.[39]

16. **Biofuels are driving higher and more volatile food prices and are having a major detrimental impact on food security. In some cases biofuels may be even more damaging to the environment than fossil fuels. We recommend that the Renewable Transport Fuel Obligation (RTFO), which commits the UK to consuming biofuel equivalent to 5% of transport fuel volumes, be revised to exclude agriculturally-produced biofuels. We recognise that the revision of the RTFO would make it more difficult for the UK to meet its EU target of deriving 10% of transport energy from renewable sources. However, the EU target does not apply until 2020. Consequently there is nothing to stop the UK from revising the RTFO now.**

17. **In addition to revising RTFO, the UK must continue to push its European partners to revise the target under the Renewable Energy Directive (RED) which requires EU countries to derive 10% of their transport energy from renewable sources by 2020. This reform could include introducing Indirect Land Use Change (ILUC) factors into the RED, and imposing a cap on the level of food-based biofuel which can count towards the RED target. The introduction of ILUC factors and the imposition of a cap are not mutually exclusive options: both can be pursued concurrently. We recommend that the**

35 Q 129

36 Q 127

37 "Ministers hostile to biofuel limit", European Voice, 21 March 2013, www.europeanvoice.com

38 UN FAO et al, Price Volatility in Food and Agricultural Markets: Policy Responses, June 2011, p 27

39 Q 53

UK Government push for both, and that it push for the cap to be set at as low a level as possible.

18. During the coming weeks the Government will have several opportunities to raise the issue of biofuels on the international stage. The first is the meeting of the EU Energy Council on 6 June, while the second is the 'Nutrition for Growth' event on 8 June;[40] in her evidence to this Committee the Parliamentary Under-Secretary of State for International Development told us she was 'sure' that the issue of biofuels would be raised at the Nutrition for Growth event.[41] The third is the G8 summit itself. Lynne Featherstone told us that: 'The Government is not engaging directly with G8 countries on the issues of biofuels.'[42] This is disappointing. **We were pleased to receive the Parliamentary Under-Secretary of State for International Development's assurance that biofuels would be discussed at the 'Nutrition for Growth' event. We also urge the Government to raise the issue at the G8 summit itself, and at the meeting of the EU Energy Council on 6 June. The Government should explain the outcome of these discussions to us in its response to this report.**

19. While the use of food crops to produce biofuels poses a serious threat to food security, biofuels can also be produced from other sources (for example algae, agricultural and human waste, switch grass); from the non-edible parts of food crops; or on land which is unsuitable for growing food crops.[43] In China, IFAD has supported the development of family-owned biodigesters which use waste products to produce electricity and gas for domestic use; similar projects are now underway in Tanzania, Ghana and Vietnam.[44]

20. Oxfam points out that even non-food-based methods of biofuel production may still use up valuable resources which could otherwise be used for food production (e.g. water, soil and land),[45] while ActionAid argues for a focus on those forms of biofuels which do not require land (e.g. biofuels derived from waste products).[46] It is nevertheless clear that any non-food-based biofuel technologies are far less problematic than conventional biofuels. In his evidence to us the Parliamentary Under-Secretary of State for Transport expressed enthusiasm for algae-based biofuels,[47] and also underlined the potential of waste cooking oil as a source of biofuel, describing this as 'entirely beneficial.'[48] He also stressed that the RTFO incentivises these techniques: biofuels of this type 'count double' towards the 5% target.[49] It was partly as a consequence of this, he argued, that the percentage of biofuels in the UK derived from waste products had increased from 15% to 84% over a period of four to five years.[50] **We welcome the Government's support for non-food-based biofuels. We**

40 Ev 107; Ev w117

41 Q 148

42 Q 147

43 Qq 110, 113; Ev 61

44 Q 113

45 Ev 64

46 Ev w116

47 Q 128

48 Q 125

49 Qq 125, 128

50 Q 125

recommend that the Government give particular support to the use of biofuels such as those derived from waste products, whose production does not require land.

Food waste

21. A recent report from the Institution of Mechanical Engineers claimed that between 30 and 50% of food produced in the world (1.2–2 billion tonnes) was wasted.[51] The notion that wastage might be as high as 50% has been questioned in some quarters,[52] but more conservative reports still put wastage at up to 30%.[53] Valuable resources of land, energy, fertiliser and water are being consumed by the production of food which ends up as waste.[54] Some of this wastage occurs in developing countries as post-harvest losses, primarily due to a lack of technologies and inadequate infrastructure (see below), but in high-income countries (HICs) a greater degree of responsibility lies with the food services industry and the consumer.[55] Wastage at household level in the UK has declined in recent years, but still remains at the remarkably high rate of 20%.[56] In his evidence Tim Lang, Professor of Food Policy at City University, London, said:

> What we have is a model of systematic waste here in the West, where the contracts and specifications of the big retailers and the big traders… actually structure waste. They will not accept, through quality controls, some foods in.[57]

The 2011 Foresight report on The Future of Food and Farming made the following recommendations for reducing food waste:

a) Use of cheap, mass-produced sensor technology to detect when foods have gone off, thus reducing reliance on arbitrary use-by dates;

b) 'Productive recycling' of unwanted food: depending on whether the food is fit for human consumption, this could include FareShare and similar schemes, or using the food as animal feed;

c) Consumer campaigns to reduce waste.[58]

We recommend that the Government redouble its efforts to reduce the level of food waste in the UK. It should begin by taking on board the suggestions made in its own Foresight report on The Future of Food and Farming. For example, the Government should launch consumer campaigns to reduce waste and promote FareShare and similar schemes for unwanted food. The Government should also set targets for food waste reduction for producers and retailers and introduce sanctions for failure to meet the targets.

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51 Institution of Mechanical Engineers, *Global Food: Waste not, want not*, January 2013, p 2

52 "UK supermarkets reject 'wasted food' report claims", *BBC News Online*, 10 January 2013, www.bbc.co.uk

53 Ev 92

54 Institution of Mechanical Engineers, *Global Food: Waste not, want not*, January 2013, p 2

55 Q 45; Ev 92

56 Ev w42

57 Q 59

58 Foresight, *The Future of Food and Farming: Challenges and choices for global sustainability*, January 2011, p 19

Diet and livestock production

22. Globally, demand for meat is increasing.[59] This is largely due to increased demand in emerging economies: in 1985, average meat consumption per person per year in China was 20kg; this has now more than doubled to 50kg.[60] In the West, meanwhile, demand for meat remains high: consumption in the UK stood at 85.8kg per person in 2007.[61] Globally, meat production is expected to double between now and 2050.[62] The consequence of increasing demand for meat is the use of crops to feed livestock rather than humans: the expanding soy industry in Paraguay is one example.[63] The UK Food Group suggests that this causes a 'calorie loss' equivalent to the annual 'calorie need' of 3.5 billion people.[64] Increasing consumption of other animal products such as cheese poses the same problems.[65] Professor Stefan Dercon, Chief Economist at DFID, argued that:

> We know in the context of rising food prices in recent years, that the livestock demand clearly is a factor in getting prices very high. It is quite important to realise that once we get the pricing of cereals, including the environmental impacts and so on, right in the markets, the price of livestock will also keep on increasing, so there is a likely push also from markets to make meat, over the longer run, substantially more expensive.[66]

Professor Tim Wheeler, DFID's Deputy Chief Scientific Adviser, agreed.[67] Professor Tim Lang, however, argued that:

> The case for reducing meat consumption in the West from our astronomic levels is overwhelming; it is a public health gain if you reduce it… there is a win-win for the environment and for public health if you reduce our meat consumption [...] we are worried about this assumption that 50% of grain or 40% of grain to the world must be diverted down the throats of animals to then give us meat. There are cases when that can be useful, depending on the climate. To factor in a meat engine, which is like a juggernaut driving our definition of what a good food system is, is crazy. It is a crazy use of resources, it is crazy economics and it is crazy public health.[68]

Simply urging the Western world to stop consuming meat is neither feasible nor desirable. Moreover, nor is it necessary: meat production based on pasture-fed systems (e.g. pasture-fed cattle), as opposed to the mass production of grain-fed livestock, is markedly less problematic.[69] The Food Ethics Council therefore suggests a 'less but better' approach, with

59 Ev w43

60 Ev w101

61 "Meat consumption per person, kg, 2007", www.scribd.com

62 Ev w43

63 Ev w40

64 Ev 74

65 Q 62

66 Q 151

67 Q 160

68 Q 62

69 Q 62

meat promoted as a occasional product rather than an everyday staple.[70] **The rate of increase in global meat consumption is unsustainable: the consequence is a growth in the production of grain-fed livestock, with crops used to feed livestock instead of humans. Clearly this does not mean that the world should stop consuming meat: this would be disproportionate and unrealistic. However, in the longer-term it may be appropriate to focus on sustainable systems such as pasture-fed cattle rather than on grain-fed livestock, with meat promoted as a occasional product rather than an everyday staple.**

Population

23. The global population, which presently stands at 7.1 billion, is expected to reach 9.3 billion by 2050.[71] The rate of population growth is expected to decline in many areas, but to increase in parts of sub-Saharan Africa:[72] in future population growth is expected to be concentrated amongst the poorest and least food secure countries.[73] This will have implications both for chronic hunger and for vulnerability to shocks.

24. The rural-urban profile of the global population is also changing: by 2020, 86% of population growth is expected to occur in large urban centres in developing countries.[74] Urbanisation raises a number of issues for food security. On the one hand, it implies a reduction in the proportion of the population engaged in agricultural activities. Moreover, megacities pose a number of particular challenges related to, for example, transport of food, storage, contamination and nutrition.[75] Urbanisation also has particular implications with respect to shocks: we will deal with this in Chapter 4.

25. Alongside the huge predicted increase in world population is a massive unmet need for birth control. DFID has made significant efforts to address this need. In July 2012, the UK Government co-hosted the London Family Planning Summit with the Bill & Melinda Gates Foundation. The Government reports that the commitments made at the summit by international donors will provide access to contraceptives for 120 million additional women and girls between 2012 and 2020.[76]

26. **The global population continues to increase, and food production is expected to have to increase by 60-70% by 2050. In future population growth is expected to be concentrated amongst the poorest and least food secure countries; this will have implications for both chronic hunger and vulnerability to shocks. While detailed discussion of population-related policies is beyond the remit of this report, we urge DFID to maintain the strong focus on women's reproductive rights shown in last year's Family Planning Summit and maintain this sector as a priority for expenditure.**

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70 Ev w42

71 Ev w16

72 Ev w89

73 Rob Bailey, *Growing a Better Future: Food justice in a resource-constrained world* (Oxfam, 2011), p 14

74 Ev w3

75 Ev w89

76 "Family planning: London summit, 11 July 2012" and "Family planning: Historic breakthrough for 120m women", *Inside Government*, 11 July 2012, www.gov.uk

Supply

Smallholders

27. The precise definition of a smallholder varies: according to the World Bank's Rural Development Strategy, only those farmers with less than two hectares of land count as smallholders.[77] Others are less specific:

> the definition of smallholders differs between countries and between agro-ecological zones. In favourable areas with high population densities they often cultivate less than one ha of land, whereas they may cultivate 10 ha [hectares] or more in semi-arid areas, or manage 10 head of livestock.[78]

28. Smallholders in Africa generally have much lower levels of productivity than those in other regions,[79] and many suffer from hunger and poverty.[80] Yet while smallholders are generally poor, in many areas they are the main producers of food.[81] In his evidence Dr Shenggen Fan, Director of IFPRI, said:

> There are probably three types of smallholders. One is subsistence smallholders who will not be able to be converted into commercial enterprises. [...] They either have to move to the cities or move to another agricultural area where they can really make a decent living.
>
> The second type is subsistence farmers who have the potential to be converted into commercial enterprises. The third type is already commercialised smallholders.[82]

29. Globally, female smallholders make up 43% of the total agricultural workforce. In sub-Saharan Africa, this figure rises to 50%. Yet female smallholders face many challenges: they often lack access to quality seeds and fertiliser, or to land. Access to credit is also a challenge for female smallholders: only 10% of the total credit granted to smallholders is granted to women. Farm Africa and Self Help Africa, in their written evidence, argue that if female smallholders were given the same opportunities as their male counterparts, their levels of productivity would increase by 30%.[83]

Extension services

30. It is widely argued that agricultural extension services—effectively the provision of training and advice to smallholders— should be scaled up.[84] Extension services might cover

77 Ev w29

78 John Dixon, Aysen Tanyeri-Abur and Horst Wattenbach, *Smallholders, globalization and policy analysis* (UN FAO, 2004)

79 Ev w106

80 Rob Bailey, *Growing a Better Future: Food justice in a resource-constrained world* (Oxfam, 2011), p 53

81 Q 106

82 Q 106

83 Ev w37

84 Qq 28, 52; Ev w35

issues such as food safety, marketing,[85] balanced-input agriculture, sustainable land management, landscape approaches, integrated pest management, integrated plant nutrient management, watershed management and rangeland management.[86] The Fairtrade Foundation argues that low-tech solutions such as extension services are often overlooked in favour of more high-tech projects: estimates indicate that less than 2% of Nigerian farmers have access to extension services.[87] It also argues that extension services should be targeted especially at women.[88] **Agricultural extension services play a critical role in improving smallholders' food security. In order to be sustainable, extension services should be funded from locally-generated revenue flows. DFID should devote a greater proportion of its budget to supporting the development of agricultural extension services, particularly those targeted at women.**

31. Sir John Beddington, former Government Chief Scientific Adviser, suggests that agricultural extension workers could promote methods of farming which prevent, or help to mitigate, land degradation.[89] Common signs of land degradation include polluted waterways and aquifers; increasingly saline soils; increasingly dry river basins; reductions in groundwater levels; and loss of crop biodiversity.[90] Land degradation leads to reduced crop yields and increased requirements for fertilisers. Degradation now affects one-quarter of total global land area; almost half of the world's poor depend on degraded lands.[91] Farmers can use a variety of techniques to reduce the risk of degradation, including organic soil fertility management; low cost (solar panel) drip irrigation; and the use of wastewater for agricultural purposes.[92] Terracing, examples of which we heard about during our recent visits to both Ethiopia and Rwanda, might also be useful in this respect. **We recommend that DFID ensure that the agricultural extension workers whose work it supports address the issue of land degradation in their work.**

Integration with agribusiness

32. Much of the food produced by smallholders is used for subsistence purposes. However, very few farmers focus entirely on subsistence production.[93] Some of the evidence we received emphasised the need to integrate smallholders more effectively into markets. For example, Dr Fan stresses the need to 'convert[...] smallholder farmers into profitable businesses.'[94] For a majority of smallholders, this means domestic markets.[95] For a small but potentially increasing number of better-off smallholders, however, this means large corporations. As Business Action for Africa highlights, buying from smallholders is an

85 Ev w35
86 Ev 95
87 Ev w35
88 Ev w35
89 Ev 95
90 Ev 92
91 Ev 60
92 Ev 61
93 Q 24
94 Q 106; Ev 61
95 Ev w40

attractive option for corporations. As well as providing them with access to raw materials, using smallholders as suppliers as helps corporations to appeal to 'ethical' consumers.[96] The brewing corporation SABMiller sources supplies from 32,000 smallholders in Africa, India and Latin America, while Export Trading Group (ETG), in which CDC has invested, procured 80% of its African-sourced stock from smallholders.[97]

33. The formation of farmer organisations (e.g. co-operatives) has a key role to play in assisting smallholders to engage with corporations, as it reduces the transaction costs.[98] Only 10% of smallholders currently belong to such an organisation.[99] In his evidence Dr Fan underlined the need to build the management capacity of farmer organisations, and to strengthen their ability to negotiate with banks, credit unions, supermarkets and the like.[100] The International Fertilizer Development Center (IFDC), an NGO, has played an important role in building the capacity of farmer organisations in Mozambique.[101] As Business Action for Africa highlights, farmer organisations must be representative (e.g. inclusive of women and marginalised farmers); fairly and transparently governed; and effective.[102] **If we are to help smallholders to engage with large corporations, supporting the development of farmer organisations, including co-operatives, is vital. We recommend that DFID support the formation of farmer organisations, and seek to ensure that such organisations are fairly and transparently governed, with fair representation for women and marginalised farmers.**

34. Donors can support the engagement between corporations and smallholders in a number of ways. There are a number of examples of this. Working with SABMiller, the Africa Enterprise Challenge Fund (AECF), part-funded by DFID, has offered co-investment for pilot projects; provided funding for R&D for new models; funded the creation of and provided of training for smallholder groups; and funded corporate outreach work to farmers.[103] **The Africa Enterprise Challenge Fund (AECF), part-funded by DFID, has played a key role in helping smallholders to engage in corporate value chains. DFID should scale up its funding for initiatives such as AECF which help smallholders to engage with corporations.**

35. Supplying large corporations provides a number of benefits to smallholders. Most obviously, it provides them access to high-yielding seeds and fertiliser, and to training.[104] Smallholders who supply large corporations may enjoy better access to finance; they are also likely to have a more nutritious diet.[105] However, the Fairtrade Foundation documents a number of the challenges smallholders face in their interactions with corporations. It suggests that smallholders be provided with information on what happens to their produce

96 Ev w107
97 Ev w108
98 Ev w108
99 Ev w108
100 Q 108
101 Ev w109
102 Ev w108
103 Ev w109
104 Ev w107
105 Ev w107

after sale, as well as information on global markets and commodity prices.[106] During our visit to Ethiopia we saw the use of electronic display boards in the provinces, to provide live market information about agricultural commodity prices in the capital. Mobile technology could also play a role:[107] the Parliamentary Under-Secretary of State for International Development underlined its potential in her evidence.[108] Business Action for Africa suggests that smallholder groups have an important role to play in ensuring their members receive a fair share of the final profit: co-operatives should only enter into carefully-drafted contracts, adherence to which they are able to monitor.[109] **Smallholders should be provided with information on global markets. We welcome the Parliamentary Under-Secretary of State for International Development's acknowledgement of the potential of mobile technology; this can play a key role in providing access to market information to smallholders.**

36. The Fairtrade Foundation also makes a number of more general recommendations as to how smallholders might best be supported:

a) Companies which purchase crops from smallholders should offer payment in regular instalments throughout the year, rather than simply paying at harvest time;

b) As a form of pre-financing, companies should consider paying smallholders in advance, as a way of providing them with access to credit. The Fairtrade Foundation already operates this system: studies have shown that the smallholders with which it works have better access to credit and are more credit-worthy.110

We support the recommendations of the Fairtrade Foundation: companies which purchase crops from smallholders should contract to offer payment in regular instalments throughout the year, rather than simply paying at harvest time, and companies should also consider contracting to pay smallholders in advance.

Price stabilisation

37. Price stabilisation refers to a process whereby farmers are offered guaranteed prices for their crops, such as via a public marketing board. Some argue that this provides farmers with a degree of certainty and hence enables them to invest in their farms.[111] However, the Organisation for Economic Co-operation and Development (OECD) is less enthusiastic about price stabilisation, arguing that it undermines the development of risk management by farmers, and can destabilise world markets. It argues that price stabilisation should only ever be used for a restricted period of time with a 'clear exit strategy'.[112] In a report last year, we found that price stabilisation in Zambia had been highly problematic:

106 Ev w34

107 "M-Farm: giving Kenyan farmers the right connections", New Agriculturalist, March 2013, www.new-ag.info

108 Q 169

109 Ev w109

110 Ev w34

111 Qq 28–31

112 Ev w56

> In 2010 the Government's floor price for maize was set $100 per tonne above the regional market price. Following the record maize harvest in 2010 the Government was forced to buy 840,000 metric tonnes at a cost of $280million. While some is being exported, there will be a net loss to the Zambian treasury of around $140million (about 1% of GDP).[113]

Such objections, however, relate specifically to public sector price stabilisation. An alternative option is private sector price stabilisation, whereby corporations (as opposed to public marketing boards) offer guaranteed prices to farmers. The Fairtrade Foundation reports that in 29 out of 33 impact studies, price stabilisation benefited the income of Fairtrade producers.[114] The Parliamentary Under-Secretary of State for International Development acknowledged the potential of such schemes, and stressed that companies might also guarantee to buy a certain quantity, or quota, of crop from smallholders.[115] **Offering smallholders a guaranteed price for their crop encourages them to invest in their farms, but price guarantees offered by the public sector are often problematic. Price guarantees offered by private companies are preferable. We recommend that DFID encourage more of its private sector partners to offer guaranteed prices to smallholders, or to guarantee to buy a certain quota of crop.**

Large-scale commercial farming

Contribution to food security

38. Many argue that large-scale agricultural investment is beneficial for food security. The OECD sees commercial investment in agriculture as a welcome departure from decades of underinvestment in the sector.[116] The All-Party Parliamentary Group on Agriculture and Food for Development highlight the benefits of a 'hub-and-spoke' model whereby large commercial farms outsource some of their work to smallholders in the surrounding area: this model is seen as low-risk.[117]

39. Others are less convinced: it is argued that large commercial farms[118] (and indeed large fishing companies[119]) export much of their produce.[120] Oxfam argues that much of the food which is exported is in fact desperately needed on local markets.[121] However, it is argued

113 International Development Committee, Fifth Report of Session 2012-13, DFID's programme in Zambia, HC 119, para 12–14

114 Ev w33

115 Q 200

116 Ev w56

117 Ev w12

118 Ev 65

119 Ev 82

120 Ev 65

121 Ev 65

that some degree of consolidation (i.e. a shift towards a smaller number of larger farms) may improve the efficiency of the agricultural sector.[122]

40. **Both small- and large-scale farms have a role to play in feeding a growing population sustainably and in reducing rural poverty. For most countries a mixture of the two will be most appropriate. Determining the precise balance between small-scale and large-scale farms is a matter for each individual country: it is not our place to lecture developing countries about how their agricultural sectors should be structured. In some cases, a shift towards somewhat larger farms is likely to increase food production and improve the efficiency of the agricultural sector. However, in many cases, smallholders will retain a key role. In all cases, the generation of employment and the productive use of land will be paramount.**

Concerns about changing land use and tenure

41. In many developing countries, large corporations are buying up areas of land previously farmed by smallholders.[123] In some countries it is primarily domestic corporations which invest in agriculture in this way, whereas in other countries multinational corporations predominate.[124] Some raise concerns about the implications of such investment. It is argued that much of the land acquired by corporations is either used to grow non-food crops[125] or not farmed at all[126]: this would clearly have major implications for food security. Some refer to large-scale commercial land acquisitions as 'land grabs;'[127] the UK Food Group claims that: 'Far too often the land grabs have displaced people, without genuine prior informed consent, through forced evictions and without adequate compensation.'[128] Oxfam, citing World Bank analysis, argues that:

> most land deals happen in countries with the weakest protection of rural land rights and promised benefits rarely materialise: large-scale land acquisitions and abuse of land rights go together all too often. Affected communities rarely have a say, and women are the least likely to be consulted even though they are often the most seriously affected.[129]

In a speech outlining the UK's priorities for its Presidency of the G8 during 2013, the Prime Minister said: 'we're going to push for more transparency [...] on who's buying up land and for what purpose.'[130] In her evidence to this Committee, the Parliamentary Under-Secretary of State for International Development said: 'what we are really pushing

122 Ev w91; Paul Collier and Stefan Dercon, "African Agriculture in 50 years: Smallholders in a Rapidly Changing World?" (UN FAO, 2009)

123 Q 56

124 Q 56

125 Ev w45-46

126 Ev 65

127 Ev 64, 77; Ev w2

128 Ev 77

129 Ev 64-65

130 "Prime Minister David Cameron's speech to the World Economic Forum in Davos", *Inside Government*, 24 January 2013, www.gov.uk

for is effectively an open, worldwide land register.'[131] With respect to land transparency, two key issues have been raised. The first is the extent to which donor money is used to finance land deals; the second is the conduct of investors.[132] **We welcome the G8's focus on transparency. We recommend that the Government require UK-domiciled corporations to be transparent about land deals, and that it use its influence to ensure that the World Bank meets adequate standards of transparency and consultation in its own investments.**

42. An important step towards protecting the rights of smallholders would be the implementation of the UN Voluntary Guidelines on the Governance of Tenure. The principles of the Voluntary Guidelines are as follows:

a) Recognise and respect all legitimate tenure rights and the people who hold them;

b) Safeguard legitimate tenure rights against threats;

c) Promote and facilitate the enjoyment of legitimate tenure rights;

d) Provide access to justice when tenure rights are infringed upon;

e) Prevent tenure disputes, violent conflicts and opportunities for corruption[133]

The Voluntary Guidelines are not legally binding, but provide a basis which states can use when drafting their own national guidelines. They also provide a means against which national governments can be held to account.[134] In his evidence Max Lawson, Head of Policy and Advocacy at Oxfam, argued that developing countries should be provided with aid to help them to implement the Voluntary Guidelines.[135] The Parliamentary Under-Secretary of State for International Development told us that the Government would be pushing for implementation of the Voluntary Guidelines at the G8 summit,[136] and that it would work with developing countries on their implementation.[137] **Implementation of the UN Voluntary Guidelines on the Governance of Tenure would help to mitigate current concerns about commercial land acquisitions. We welcome the Government's support for the Voluntary Guidelines, and were pleased to be told by the Parliamentary Under-Secretary of State for International Development that the issue would be discussed during the forthcoming G8 summit. We ask the Government to explain the outcome of these discussions to us in its response to this report.**

131 Q 175

132 Ev 65

133 UN FAO, Voluntary Guidelines on the Governance of Tenure: At a glance, p 6

134 UN FAO, Voluntary Guidelines on the Governance of Tenure: At a glance, pp 2, 8

135 Q 19

136 Q 176

137 Q 177

Creating an enabling environment

Land tenure

43. Work to improve smallholders' security of tenure through land registers is critical to food security. Security of tenure provides smallholders with an asset against which to borrow, while also enabling them to invest in their land: as Business Action for Africa highlights, smallholders who lack secure tenure are often reluctant to invest in better seeds or machinery.[138] Additionally, security of tenure provides smallholders with greater security against 'land grabs.'[139] In her evidence Dr. Camilla Toulmin, Director of the International Institute for Environment and Development (IIED), underlined the importance of collective tenure of shared lands, especially for groups such as nomadic pastoralist communities.[140] DFID implemented a £40 million project on land tenure in Rwanda;[141] in its written evidence, it tells us that it is currently designing a similar programme in Ethiopia. In total, DFID works on land and property rights in eight countries.[142] **Work to establish land registers which improve smallholders' security of tenure, such as that conducted by DFID in Rwanda, has a dual benefit: it enables smallholders to invest in their land while also providing them with greater security against so-called 'land grabs'. We welcome the news that DFID is designing a similar programme in Ethiopia, and we suggest that it consider launching additional projects of this nature elsewhere.**

Infrastructure

44. The relationship between infrastructural development and food security is widely recognised.[143] Professor Tim Lang stressed the importance of roads.[144] The 2011 Foresight report on 'The Future of Food and Farming' stresses the importance of ports and ICT.[145] Improvements to roads, ICT (to provide market information) and storage, it is argued, would lead to considerable reductions in post-harvest losses of food.[146]

45. The question of access to water and irrigation is also of great importance: estimates indicate that by 2050, supply of irrigated water will be just 66% of demand.[147] In its 2007 report on Sanitation and Water, our predecessor Committee found that only 3.7% of arable land in sub-Saharan Africa was irrigated, compared to 26% in India and 44% in China. The Committee recommended a 50% increase in funding for irrigation by 2010; it also

138 Ev w107

139 Ev w12

140 Q 43

141 Ev w18

142 Ev 108

143 Q 106; Ev w57, w89; Foresight, *The Future of Food and Farming: Challenges and choices for global sustainability*, January 2011, p 12

144 Q 45

145 Foresight, *The Future of Food and Farming: Challenges and choices for global sustainability*, January 2011, p 17

146 Foresight, *The Future of Food and Farming: Challenges and choices for global sustainability*, January 2011, p 95

147 Ev 59

recommended the use of national water resources management strategies for efficient community-level use.[148]

46. Groundwater reserves are potentially of great value, as highlighted by the report of our predecessor Committee.[149] The British Geological Survey has recently discovered large-scale groundwater reserves in Africa. In their evidence Dr Toulmin and Sir John Beddington, then Government Chief Scientific Adviser, argued that these resources had great potential[150] (though Sir John warned that similar resources in India had become saline due to over-exploitation, while Dr Fan warns of the risks of pollution)[151]. Mapping of aquifers is constrained by the shortage of local hydrogeologists,[152] whilst in Africa, the number of World Meteorological Organisation climate stations per thousand square kilometres is only one-eighth of the recommended level.[153] **We warmly welcome the discovery of large-scale groundwater reserves in Africa by the British Geological Survey. In the long-term, this discovery may have major benefits for food security. DFID should support the development of scientific knowledge and capacity in these areas. For example, DFID could support an increase in the number of climate stations, and the training of hydrogeologists.**

47. On a more general level, low-tech solutions are often tremendously successful in improving access to water and irrigation.[154] In Gansu province in China, for example, surface run-off is captured in a catchment and stored in underground tanks. We were told that this had been extremely successful. [155]

48. The question of food storage is also of great importance. WFP and FAO have recognised this and are working to improve storage facilities at various levels: WFP is working with smallholder associations on community storage, while FAO is supporting on-farm storage and larger bulk storage facilities.[156] As Dr Fan highlights, technology can be harnessed to improve storage.[157] Low-tech solutions can be equally important: during our visit to Afghanistan in 2012, we were told about a simple system for potato storage which had been very effective. Improving storage facilities has duel benefits: it reduces the risk of food insecurity while also reducing waste.[158]

49. **Improving rural infrastructure would have a dramatic effect on food security. Across much of the developing world, inadequate roads and storage facilities lead to large-scale post-harvest crop losses. Particularly in Africa, a lack of irrigation**

148 International Development Committee, Sixth Report of Session 2006-07, Sanitation and Water, HC 126-I, para 162

149 International Development Committee, Sixth Report of Session 2006-07, Sanitation and Water, HC 126-I, para 129

150 Qq 45, 120

151 Q 120; Ev 59

152 *Water Adaptation in Africa*, POSTnote 373, Parliamentary Office of Science and Technology, April 2011

153 All Party Parliamentary Group on Agriculture and Food for Development, *Growing Out of Poverty*, February 2012, p11

154 Qq 92, 122

155 Qq 108, 122

156 Q 91

157 Ev 61

158 Ev w40

undermines agricultural productivity. DFID should give a higher priority to these issues.

Technology

50. There is a debate as to the contribution genetically modified organisms (GMOs) can, or cannot, make to global food security. Organisations such as the UK Food Group are opposed to their use,[159] while a report published as part of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) argues that the link between GMOs and higher yields has never been definitively proven.[160] In its written evidence, Friends of the Earth claims that none of the GMOs presently on the market are designed with increased drought resistant or improved yields in mind; instead the focus has been on resistance to pests.[161] Friends of the Earth in fact argues that yields of genetically modified soya beans are 5-10% lower than yields of conventional soya beans.[162] Additionally, the use of GMOs may prevent farmers from using the previous year's produce as seed.[163]

51. However, the Agricultural Biotechnology Council claims that resistance to pests and disease leads to higher yields,[164] while Research Councils UK argue that pest-resistant crops such as aphid-resistant wheat reduce pesticide use.[165] The Agricultural Biotechnology Council states that GMOs led to the production of 229 million tons of additional food, feed and fibre between 1996 and 2009. Were it not for the use of GMOs, 75 million hectares of additional land would have had to be cultivated to achieve this level of output. The inevitable consequence of this would have been deforestation.[166]

52. At our last evidence session, witnesses were highly critical of some of the main arguments against GMOs. Kanayo Nwanze, President of IFAD, and Dr Fan both pointed out that GMOs had been used in medicine for many years.[167] Sir John Beddington said:

> I think that there is a real dilemma here that there are organisations, particularly non-government organisations but also Governments, that in a sense believe that anything involving genetic modification is wrong. That is a fundamental misconception. I think that the key here is that we should ask questions about any genetically modified organism. Could that have been developed by conventional breeding? Is it safe? Is it sustainable? Is it safe for human health? The answers to those questions are for an individual organism not the technology as a whole. I think

159 Ev 74

160 Ev w45

161 Ev w45

162 Ev w45

163 "South Africa's Smallholders Lose Battle for Seed Security", *Reclaim the Fields*, 8 May 2012, www.reclaimthefields.org.uk

164 Ev w9

165 Ev w66

166 Ev w9

167 Q 118

> it is very unfortunate that some NGOs take up a view that anything that involves genetic modification is wrong. It is a political view; it has no scientific basis. I think that is very unfortunate.[168]

53. The Agricultural Biotechnology Council claims that some GMOs (e.g. those which are not global commodity crops), while beneficial in terms of food security, may not be commercially viable. It therefore advocates the use of public-private partnerships, with the companies involved waiving their intellectual property rights, in order to get these technologies off the ground.[169]

54. **We recognise that genetically modified organisms (GMOs) are controversial and clearly not a panacea. However, it could be argued that GMOs have the potential to make a valuable contribution to food security. DFID should ensure that any support it gives is beneficial to the poorest and most food insecure, and that any commercialisation or extension of GM seeds to smallholder farmers does not undermine their ability to save and store traditional seed varieties.**

Research

55. DFID has an Agriculture Research Programme, which is comprised of the following four main strands:

a) Approximately 15% of funding: research projects jointly with partners in developing countries, and with the UK Biotechnology and Biological Science Research Council (BBSRC), to provide the scientific basis for new technologies;

b) Approximately 50% of funding: funding to international research organisations such as CGIAR (formerly the Consultative Group on International Agricultural Research), and to regional research organisations in Africa and Asia, for the development of new technologies;

c) Approximately 25% of funding: providing farmers, especially women, with access to technology

d) Approximately 10% of funding: research on agricultural policy.[170]

56. Business Action for Africa argues that public investment in agricultural research should be increased.[171] The Food Ethics Council also suggests that spending on research be scaled up, with smallholder participation in research as a necessary condition. It argues that smallholders' views should be taken into account when deciding what research to conduct.[172] **Agricultural research has a key role to play in ensuring food security. We support the recommendation of the Food Ethics Council: DFID should make**

168 Q 117

169 Ev w10

170 Ev 103

171 Ev w109

172 Ev w41

agricultural research a high priority. We welcome the Government's current work on this, and we urge DFID and DEFRA to ensure that their work in this area is joined-up. Progress in agricultural research will have benefits in the UK as well as in developing countries.

Climate change

57. It is impossible to have a meaningful discussion about food security without considering the impact of climate change. The World Bank is now predicting an increase of over 3°C in global average temperatures,[173] and the speed of increase is faster than previously expected.[174] One-third of total greenhouse gas emissions are attributable to agriculture, such as emissions from livestock and emissions from agriculture-related deforestation.[175] The contribution of agriculture to climate change is expected to increase.[176] For the poorest people in the poorest countries, the effects of climate change are being felt sooner and more severely.[177] Climate change is making it more difficult for farmers to decide when to sow, cultivate and harvest their crops – dry periods are becoming longer and hotter, growing seasons are becoming shorter, and rainy seasons are becoming more difficult to predict.[178] Fertile mega-deltas have been especially badly affected by rising sea levels, increasing temperatures and soil acidification.[179] Climate change is expected to have numerous other impacts on food security. Benny Dembitzer argues that it will lead to problems in terms of storage and distribution.[180] Climate change is expected to lead to greater reliance on trade or aid,[181] while extreme weather events are likely to drive up food prices.[182] WWF-UK argues that climate change will lead to the rapid movement of viruses like foot and mouth, bluetongue and avian flu; plant diseases such as those spread by whiteflies; and pests like diamond back moth.[183]

58. Climate change mitigation is therefore of fundamental importance for food security. As Dr Toulmin told us:

> At a time when Obama might be trying to bring the US slightly more on track with a global regime, we need as many progressive Governments to be saying that this stuff really matters and it matters now.[184]

173 Ev w101
174 Q 47
175 Ev w101
176 Ev w101
177 Ev w101
178 Ev 63
179 Ev w101
180 Ev w16
181 Ev w90
182 Ev 63
183 Ev w101
184 Q 47

In his evidence to this Committee, Professor Dorward said:

> We can now say, with a pretty firm degree of confidence, that the increased number of high temperature drought weather shocks we have had in the world in the past few years are related to and caused by climate change. We have tended to have one every other year for the past three or four years. What happens if we get two in the same year?[185]

Through its International Climate Fund (ICF), the UK is providing £2.9 billion of funding to tackle climate change ('climate finance') during the period April 2011 – March 2015. £1.8 billion of this funding is provided by DFID.[186] In addition, at the Copenhagen conference in 2010, international agreement was reached to provide $100 billion of climate finance, additional to aid, each year from 2020.[187] Tearfund suggests that this should be funded partly by a global tax on emissions from the shipping industry,[188] while Oxfam urges the UK Government to seek global agreement on carbon pricing for international transport.[189] **We welcome the Government's pledge to provide £1.8 billion of funding to tackle climate change over the next two years. Making detailed recommendations as to how this money should be spent is beyond the remit of this report; however, it is crucial that the Government sticks to its pledge. The Government should also work with its international partners to ensure that the commitments made at the Copenhagen conference are met.**

59. Agriculture can make a valuable contribution to climate change mitigation.[190] Sir John Beddington argued that famers should be encouraged to engage in agroforestry— using trees and shrubs alongside crops and/or livestock, with a view to improving carbon sequestration. Sir John Beddington and Dr Toulmin both stressed the importance of creating incentives to encourage farmers to engage in such practices.[191] In 2010 the World Bank made a similar argument, stressing the importance of offering farmers incentives to intensify production on a smaller land area while protecting surrounding grasslands and forests.[192] Agroforestry also offers a much-needed opportunity to conserve biodiversity;[193] estimates indicate that the genetic diversity of agricultural crops has declined by 75% over the last 100 years.[194] **While much discussion focuses on the implications of climate change for agricultural productivity, DFID should not lose sight of the fact that agriculture can in fact make a valuable contribution to climate change mitigation. Agroforestry, for example, can help to improve carbon sequestration. Where appropriate DFID should support models of agricultural production that have the potential to contribute to emissions reductions.**

185 Q 51

186 "Taking international action to mitigate climate change", *Inside Government*, 20 May 2013, www.gov.uk

187 Ev w82

188 Ev w82

189 Ev 63

190 Q 114

191 Q 52; Ev 95

192 Ev 96

193 GFS 06

194 Ev w102

60. Farmers can boost their resilience to climate change in a variety of ways including crop diversification; insurance;[195] improved land management; more appropriate planting dates; and the use of more resilient crop varieties.[196] **For farmers, improving levels of resilience to climate change is vital. DFID should help farmers to boost their resilience through techniques such as crop diversification, insurance, improved land management, more appropriate planting dates, and the use of more resilient crop varieties.**

Implications

61. As this chapter has illustrated, there are a number of structural factors affecting demand for and supply of food. As a consequence, food prices have been increasing, a trend which is expected to continue for many years to come.[197] Research indicates that staple crops could double in price by 2030, with half of this increase attributable to the effects of climate change.[198]

62. In this context, it will be imperative for the international community to support measures both to curb the projected increases in demand and to increase the supply of food. It is widely argued, for example, that food production will have to increase by 60-70% by 2050.[199]

195 Ev w90

196 Ev 61

197 Ev 86-87

198 Ev 63

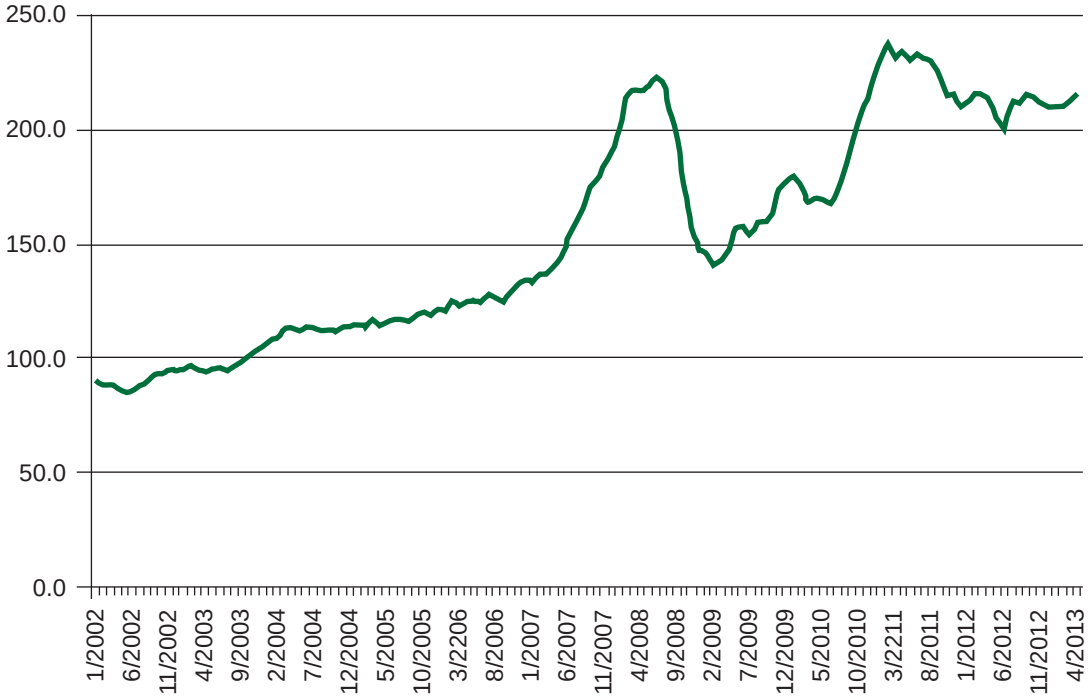
199 Q 160

3 Shocks and their drivers

Recent shocks and their impacts

64. Recent years have seen increasing levels of food price volatility. The FAO Food Price Index measures average global food prices, and as the graph below shows, there have been two notable price 'shocks' or 'spikes' in recent years, the first peaking in June 2008 and the second peaking in February 2011.[200] The food price spike of 2008, in particular, took most observers by surprise.[201]

Figure 1: FAO Food Price Index



Data source: FAO data.

The Food Price Index is composed of an aggregate of five separate FAO indices—the Meat Price Index; the Dairy Price Index; the Cereals Price Index; the Oils Price Index; and the Sugar Price Index. Graphs showing the changes in each of these indices are included as an Annex to this report. Of the five indices, the Dairy Price Index and the Sugar Price Index have shown the most dramatic increases: they stood at 258.8 and 252.6 respectively in April 2013, meaning price increases of 158.8% and 152.6% respectively 2002-04. The Meat Price Index has shown the least dramatic increase: the Index stood at 178.7 in April 2013, meaning an increase of 75.7% in meat prices since 2002-04.[202]

65. According to research by the FAO, the 2008 price spike led to stagnation in the fight against hunger: while the proportion of the global population suffering from hunger had

200 "FAO Food Price Index", *Food and Agriculture Organization of the United Nations*, www.fao.org

201 Qq 43-44

202 "FAO Food Price Index", *Food and Agriculture Organization of the United Nations*, www.fao.org

been declining before the price spike, the rate of progress declined when the spike occurred. The effect was especially marked in sub-Saharan Africa: the hunger rate had been declining before the price spike, but began to rise by 2% per year from 2007.[203]

66. While conventionally one would assume that an increase in food prices benefits net sellers of food, this may not have been the case in this instance, since the cost of agricultural inputs also increased.[204] Oxfam argues that many farmers were forced to sell their produce when prices were low, and thus found themselves having to buy once the price spike struck.[205] In Southern and East Africa, furthermore, most farmers are in fact net buyers of food in any case.[206]

Drivers of shocks

Tightening balance between supply and demand

67. In the previous chapter we illustrated various ways in which the balance between supply and demand was tightened. The consequence of this was that food prices became vulnerable to destabilising shocks and began to increase.[207] As we will see in this chapter, some of the policy responses to this price increase not only failed to solve the problem, but in fact served to exacerbate it.

Low stocks

68. Small-scale food stocks are commonly maintained for humanitarian purposes: this will be discussed in Chapter 4. What we are concerned with here is the question of larger-scale food stocks, and the extent to which they might be used to reduce food price volatility. At present, levels of food stocks are low.[208] Referring to the UK, Professor Lang told us: "We do not store, actually, it is all on the motorway. We have a just-in-time system of food."[209] The following graph shows how stock-to-use ratios for key crops (stock levels as a percentage of annual consumption) have fluctuated over recent years:

203 UN FAO, *The State of Food Insecurity in the World*, 2012, p 11

204 Ev 64

205 Ev 64

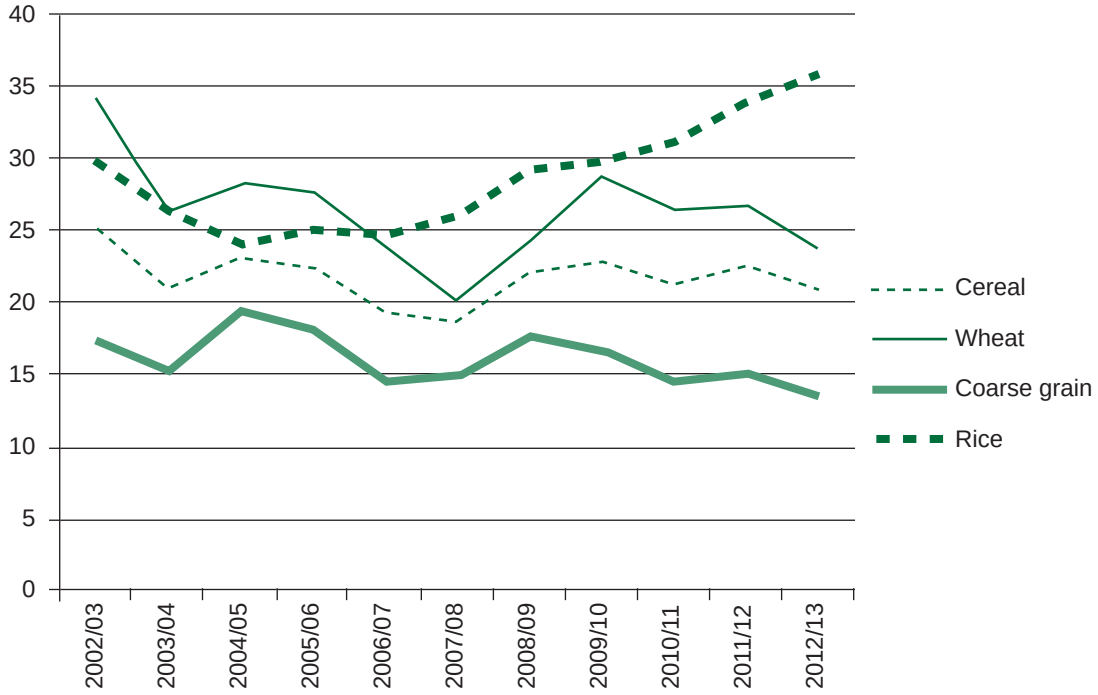
206 Ev 99

207 Qq 2, 43

208 "FAO Cereal Supply and Demand", UN FAO, 9 May 2013, www.fao.org

209 Q 45

Figure 2: Global stock-to-use ratios (%) for key crops



Data source: FAO data.

69. Stocks are important in helping to avoid price volatility: in his evidence Dr Fan argued that stocks were of 'fundamental' importance in this respect.[210] Professor Dorward agreed, arguing that while stocks can sometimes be inefficient and expensive, they nevertheless serve the purpose of relieving the 'tightness' in markets and thus reducing volatility.[211] Some argue that the availability of stocks in China and India helped to mitigate the impact of the 2008 food price spike for these countries.[212] However, witnesses from DFID, FAO and WFP were unenthusiastic about large-scale stocks.[213] **We recognise that maintaining large-scale food stocks can sometimes be problematic and costly. However, given the increasing volatility of food prices over recent years, we believe there may be a case for judicious use of stocks to relieve the tightness of markets. We recommend that the Government conduct further research into this. Specifically, the Government should consider under what circumstances it would be appropriate for a national government to pursue strategic stockholding for national food security purposes. It should consider what the costs, risks and benefits of this strategy would be, and what capacities would be required.**

70. In 2011, the G20 formed the Agricultural Market Information System (AMIS):[214] participant countries include all members of the G20 plus Spain, together with seven major agricultural exporters and importers (Philippines, Thailand, Nigeria, Egypt, Kazakhstan, Vietnam and Ukraine). AMIS has received funding from a variety of sources including

210 Qq 88, 123

211 Q 58

212 Q 87

213 Qq 87, 204

214 Ev 104

FAO, the Bill & Melinda Gates Foundation, the World Bank, the OECD, IFAD, and the Governments of Japan and France. Under AMIS, participating countries are required to provide monthly data on consumption, production, exports, imports, prices and stocks of 'AMIS crops' (maize, rice, wheat, soybeans). This data is then analysed and used to prepare short-term market forecasts for AMIS crops. AMIS also includes a Rapid Response Forum (RRF) consisting of senior officials from participating countries: the RRF meets annually, or more frequently if necessary, to discuss policy co-ordination.[215] In the long term, the success of AMIS will be dependent on the quality of information provided by participating countries.[216] In countries such as China and India, governments may lack accurate information as to the levels of stocks which exist on their countries' farms:[217] Professor Stefan Dercon, Chief Economist at DFID, argued that misinformation about the level of stocks in China in fact contributed to the 2008 price spike.[218]

71. **The launch of the Agricultural Market Information System (AMIS) is a major step forward in the fight against food price volatility. We commend all participant countries for supporting this initiative, but we recognise that its long-term success will depend upon the quality of information provided by participant countries.**

Export controls

72. Food price increases have been was exacerbated by the introduction of export bans by certain countries: in Russia, for example, cereal exports were outlawed in 2010.[219] The introduction of export bans led to a tightening of the market for other exporters, and encouraged importers to begin 'panic buying', thus driving prices up further.[220] Moreover, Dr Fan argues that export bans 'tend to inhibit a domestic production response.'[221] In its written evidence, the OECD argues that:

> Recent evidence suggests that the aggregate result of exporting countries imposing export restrictions, and importers temporarily reducing tariffs, has been equivalent to spectators standing up in a stadium in order to see better. The first movers may have had some advantage, but in the end there has been little benefit to adopters of those policies, while non-adopters have suffered and more countries have lost than have gained.[222]

More recently, there has been some progress in respect of reversing these damaging policies. At the G20 summit in 2011, it was agreed to remove any export bans or special taxes for food purchased by the WFP.[223] **The introduction of export controls by certain**

215 Agricultural Market Information System (AMIS), FAO Information Brief, April 2013, www.fao.org

216 Q 99

217 Q 124

218 Q 204

219 Ev 93

220 Ev 62

221 Ev 62

222 Ev w59

223 Ev 93

countries was regrettable, and served to make an already bad situation worse. The decision by the G20 to remove any export bans for food purchased by the World Food Programme is a welcome step in the right direction, but more needs to be done. The UK should encourage its international partners to remove any remaining export bans and to dissuade them from introducing any new ones. It should also commit to raising this issue at the forthcoming G8 summit.

Speculation

73. Some argue that financial speculation on food commodities may have contributed to food price increases, and that such speculation should thus be regulated. Christopher Gilbert, Professor of Econometrics at the University of Trento, has argued that speculation caused the prices of wheat, corn and soybeans to increase by up to 16.9%, 15.8% and 14.8% respectively between January 2006 and December 2008. [224] Excessive speculation is likely to distort the price discovery function of derivative markets,[225] which will result in misinformed planting decisions. Lawrence Haddad, Director of the Institute of Development Studies, has suggested a tax on food price speculation, albeit one linked to the speed of flows rather than their levels.[226] The World Development Movement, meanwhile, suggests that the UK and EU authorities should require all deals involving food derivatives to be cleared by a transparent, central clearing house.[227] In his evidence to this Committee, Patrick Mulvany, co-Chair of the UK Food Group, argued that the UK should impose 'position limits' – legal limits on the quantities which can be held by speculators.[228]

74. However, there are different views. Whilst speculation does appear to have led to price increases in the short term,[229] its long-term effects are far less clear. In a separate paper, Professor Gilbert finds no evidence to support the contention that index investments led to speculative bubbles on the US future markets for food crops.[230] A 2012 paper by Aulerich, Irwin and Garcia drew a similar conclusion.[231] Moreover, some argue that the imposition of excessively low position limits runs the risk of undermining hedgers' liquidity,[232] thus reducing the potential of hedging as a risk-management strategy. The Parliamentary Under-Secretary of State for International Development argued that speculation was not a major factor in food price increases, [233] and told us that the Government did not intend to

224 Christopher Gilbert, *Speculative Influences on Commodity Future Prices 2006-2008* (United Nations Conference on Trade and Development, 2010), p 26

225 Institute for Agriculture and Trade Policy, *Excessive Speculation in Agriculture Commodities: selected writings from 2008-2011*, April 2011

226 Ev w50

227 Ev w44

228 Q 33

229 Testimony of Michael W. Masters before the Committee on Homeland Security and Governmental Affairs, United States Senate, 20 May 2008, www.hsgac.senate.gov

230 Christopher Gilbert, *Price Volatility and Farm Income Stabilisation: Modelling Outcomes and Assessing Market and Policy Based Responses* (Paper prepared for the 123rd EAAE Seminar, 2012)

231 Nicole Aulerich, Scott Irwin and Philip Garcia, *Bubbles, Food Prices, and Speculation: Evidence from the CFTC's Daily Large Trader Data Files* (Paper prepared for presentation at the NBER Conference on "Economics of Food Price Volatility" in Seattle, WA, 2012)

232 Ev 82

233 Q 191

introduce position limits.[234] **Evidence as to the impact of speculation on food prices is inconclusive. While there has been a proliferation of recent research on this topic, there is still no consensus. We recommend that the Government study the latest research in detail, and that it use this research to inform its future policy on this issue.**

Implications

75. As we have seen, the tightening of the balance between demand for and supply of food has led to increasing levels of food price volatility, while additional factors, in particular the imposition of export controls, have served to exacerbate the situation. It will be important for the UK to use its influence on the international stage to discourage the adoption of similar policies in future. The Government should also conduct further research on some of the more contentious issues we have raised in this chapter, namely food stocks and speculation.

234 Q 192

4 Protecting the vulnerable from shocks

76. In the previous two chapters we saw that there has been a progressive tightening of the balance between demand for and supply of food, leading to food price shocks. In this chapter we will consider the impacts of shocks on the poorest and most vulnerable, and consider how best these impacts might be reduced.

Social protection

77. When shocks occur, the poor may have to sell their assets (e.g. livestock) in order to buy food. The loss of their assets increases their vulnerability to future shocks. The provision of social protection, including cash transfers and other social insurance and social welfare schemes, seeks to reduce the need for the poor to sell their assets.[235] It can also contribute to food security in various other ways such as helping households to save, invest in productive assets and obtain better credit terms.[236] At present, 60% of people in developing countries lack access to social protection, including 75% of households in sub-Saharan Africa.[237]

78. Social protection schemes often make a valuable contribution to food security. In Brazil, the coupon-based Bolsa Familia scheme played a key role in reducing hunger over a number of years.[238] We recently visited Ethiopia, where we heard about the Productive Safety Net Programme (PSNP). This programme was seen as a key factor in mitigating the impact of the 2011 Horn of Africa drought within Ethiopia.[239] For further details about PSNP, see Box 3.

Box 3

Social protection: the Productive Safety Net Programme (PSNP) in Ethiopia

During our visit to Ethiopia we were told about the Productive Safety Net Programme (PSNP). Under PSNP, beneficiary households receive a cash transfer of around 2,350 Birr per year, in return for contributing up to five days' labour per month on public works programmes, including construction of roads, schools and health posts. Construction of roads has provided villagers with better access to markets, allowing them to get a better price for their produce. The public works programmes have also including the fencing-off of water points to prevent contamination of water-supplies by livestock. This has led to declining prevalence of water-borne diseases.

PSNP also provides larger cash transfers to those who are unable to work (due to age, illness, disability or pregnancy). The first stage of PSNP, operational between 2005 and 2009, reached between 4 and 5 million beneficiaries per year; the second stage, operational since 2010, has reached on average 7.5 million beneficiaries per year. The scheme currently covers half of all rural Ethiopian districts.

PSNP is funded jointly by the Government of Ethiopia and ten donor organisations. The total cost of PSNP is £1.4 billion over the current (2010-14) five year phase, of which £210 million is provided by DFID.

235 Q 34; Ev w26-27

236 Ev w27

237 Ev 85

238 Ev w17

239 Rob Bailey, *Managing Famine Risk* (Chatham House, 2013), p 33

79. DFID plans to fund social protection in 15 countries by 2014. This represents a significant increase since 2009, when it was only funding social protection in nine countries,[240] but nevertheless suggests that in 14 of the 29 countries in which DFID is currently working bilaterally,[241] it does not currently plan to fund social protection. In a recent report, we expressed our regret that DFID was not supporting cash transfers in Malawi.[242] **When shocks occur, social protection plays a vital role in protecting the food security of the poorest. In 14 of the 29 countries in which it has bilateral programmes DFID does not currently plan to fund social protection. We ask the Department to explain the thinking behind this.**

Humanitarian assistance

80. When emergency interventions are needed to protect food security, assistance can either be provided 'in kind' (food aid) or via cash- and voucher-based schemes. WFP has traditionally provided conventional food aid, but since 2008, has been using cash and vouchers as well.[243] WFP's spending on these schemes increased from £27 million in 2009 to £134 million in 2011.[244] Provided markets are functioning and beneficiaries are able to access markets, WFP regards these schemes as superior to food aid: they stimulate markets and allow beneficiaries to access a greater choice and variety of foodstuffs (e.g. fresh fruit, fresh vegetables, animal products). Moreover, conventional food aid creates challenges of cost and supply.[245] **Where emergency interventions are needed to protect food security, cash- and voucher-based schemes are preferable to in-kind food aid provided markets are accessible and functioning. Where appropriate, we recommend that DFID and its partner organisations favour cash- and voucher-based schemes over in-kind food aid.**

81. Where in-kind food assistance is required, there are many advantages in purchasing food locally from developing country suppliers. In his recent Budget, US President Barack Obama announced that the US would scale up its procurement of food aid from developing country suppliers.[246] WFP, under its Purchase for Progress scheme, purchases its food from producers in developing countries either directly from farmers' organisations (through direct contracts, forward contracts or 'smallholder-friendly tenders') or from traders or NGOs who work with smallholders.[247] In Ethiopia, for example, WFP has signed forward delivery contracts to the value of $12.3 million, with 16 co-operatives, whose total combined membership is 500 000 smallholders. These contracts have enabled the co-

240 Ev 100

241 "Department for International Development: What we do", *Inside Government*, www.gov.uk

242 International Development Committee, Fifth Report of Session 2012-13, The Development Situation in Malawi, HC 118, Para 34

243 UN WFP, *Revolution: From Food Aid to Food Assistance*, 2010, p 4

244 Ev 87

245 Ev 87

246 Executive Office of the President of the United States, *Budget of the U.S. Government: Fiscal Year 2014*, p 133

247 "P4P Overview", *UN WFP*, www.wfp.org

operatives to access bank loans; previously banks were only willing to lend to exporters.[248] The scheme is currently being piloted in 20 countries (Burkina Faso, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Liberia, Malawi, Mali, Mozambique, Rwanda, Sierra Leone, South Sudan, Tanzania, Uganda, Zambia, Afghanistan, El Salvador, Guatemala, Honduras, Nicaragua).[249] It is funded by a variety of donors, including DFID.[250] An evaluation of the programme found that while there had been some challenges, there had been many positive impacts.[251] Ertharin Cousin, Executive Director of WFP, told us that she would scale up the Purchase for Progress scheme 'in a heartbeat' if donors were to make additional funds available.[252] The Parliamentary Under-Secretary of State for International Development described it as an 'amazing project,' and agreed to consider scaling up DFID's support.[253] **WFP's 'Purchase for Progress' scheme has a double benefit: it supports WFP's humanitarian work while also supporting local economies in developing countries. We were pleased that the Parliamentary Under-Secretary of State agreed to consider scaling up DFID's support, and we reiterate our belief that this would be a wise thing for DFID to do.**

Urban food security

82. As we saw in Chapter 2, urbanisation is a key issue: by 2020 86% of population growth is expected to occur in large urban centres in developing countries. While peri-urban agriculture can play an important role,[254] urban areas tend to depend more on the market for their food (as opposed to rural areas where a subsistence approach is more common), so the impact of price spikes is particularly stark in urban areas. Cash- and voucher-based schemes are especially appropriate in urban areas, and innovative new methods of targeting might be appropriate.[255] **Given that urban food insecurity is increasingly common, we urge DFID to think give more consideration to how it provides social protection in urban areas. Cash- and voucher-based schemes are especially important in urban settings.**

Emergency food stocks

83. In the previous chapter we discussed the role of large-scale food stocks in reducing price volatility. Here we are concerned with smaller-scale food stocks maintained for humanitarian purposes. In his evidence Professor Stefan Dercon, DFID's Chief Economist, expressed his support for humanitarian food stocks, [256] as did other witnesses, including Ertharin Cousin, Executive Director of WFP and Daniel Gustafson, Deputy Director

248 Ev 90

249 "P4P Overview", *UN WFP*, www.wfp.org

250 Ev 90; "P4P Overview", *UN WFP*, www.wfp.org

251 UN WFP, *WFP 2008 – 2013 Purchase for Progress (P4P) Initiative: A Strategic Evaluation (mid-term)*, October 2011

252 Q 85

253 Q 207

254 UN FAO, *Profitability and sustainability of urban and peri-urban agriculture*, 2007

255 Ev 86

256 Q 203

General (Operations) of FAO.[257] Professor Dercon argued that humanitarian food stocks should be sufficient for three to four months.[258] An important issue to consider is who should administer food stocks, and where they should be stored. Professor Dercon argued that management by individual countries was most desirable, as this would give the countries concerned greater ownership of the policy.[259] In terms of storage, IFPRI recommends that stocks be dispersed across the Global South.[260] Professors Dorward and Lang echoed this, with the latter underlining the importance of 'spreading where those stocks are and what the stocks are in.'[261] **The maintenance of food stocks for humanitarian purposes is of critical importance. These stocks should be managed by individual countries, as this gives the countries concerned greater ownership of the policy. Stocks should be stored on a decentralised basis. We recognise that some countries may lack the capacity to store and manage stocks satisfactorily; in these cases, we recommend that DFID support capacity building.**

Nutrition

84. Having access to an adequate quantity of food is not in itself a guarantee of food security if that food lacks the requisite nutritional quality. Inadequate access to important micronutrients (e.g. vitamins and minerals) gives rise to a phenomenon known as undernutrition. (Undernutrition can also be used in a more general sense, as an alternative term for hunger, but in this report all references to undernutrition refer to micronutrient deficiency.) Undernutrition is a common problem amongst the poor: in situations where the poor cannot afford a balanced diet, the first priority tends to be calorie-rich foods rather than nutritious foods.[262]

85. A distinction is drawn between acute undernutrition (transitory undernutrition, common during shocks) and chronic (long-term, irreversible) undernutrition.[263] Conventional wisdom states that nutrition is especially important during the 1,000 day period between conception and a child's second birthday;[264] moreover, if chronic undernutrition can be prevented during this period, the risk of acute undernutrition also falls significantly.[265] The latest research indicates that the risk of stunting in children is determined in part by maternal nutrition on the day of conception.[266]

86. Incidence of undernutrition is extremely high, with over 30% of the world's population suffering.[267] Undernutrition is profoundly damaging to both physical and mental

257 Q 87

258 Q 203

259 Q 206

260 Ev w18

261 Q 58

262 Q 34

263 Ev 98

264 Ev 55

265 Ev 88

266 Q 81

267 Ev w47. It should be noted that as well as referring to micronutrient deficiency, undernutrition is sometimes used as an alternative term for hunger. Throughout this report, however, 'undernutrition' refers to micronutrient deficiency.

development. One of the most obvious effects is stunting. In 2010 over 170 million children under the age of five— 26% of all the world's children—suffered from stunting (slowed growth).[268] In countries such as Ethiopia and Rwanda, over half of all children are stunted.[269] Vitamin A deficiency, a consequence of a diet high in rice and low in fruit and vegetables, affects between 100 million and 140 million children worldwide. As a consequence up to 250 000 children lose their sight each year, with half of these dying within 12 months.[270] In addition to its health implications, the scourge of undernutrition places a severe constraint on economic development. Some claim that undernutrition can reduce GDP by up to 10%.[271]

87. In this context, the importance of tackling undernutrition is clear. WFP claims that initiatives to tackle chronic undernutrition offer returns on investment of anything between 15:1 and 139:1. WFP also argues that preventing undernutrition is significantly more cost-effective than curing it.[272] Micronutrient fortification represents a particularly effective method of tackling undernutrition. In his written evidence, Sir John Beddington extols the virtues of Quality Protein Maize (QPM): compared to conventional maize, QPM contains nearly 100% more usable protein.[273] Efforts are currently underway to produce a number of other fortified crops, including wheat and rice high in zinc; beans and millet high in iron; and sweet potatoes and maize rich in beta-carotene, a precursor to Vitamin A.[274] WFP provides fortified Corn Soya-Blend to pregnant women and new mothers, and argues that nutrition is especially important for lactating mothers.[275] For children under the age of six months WFP encourages exclusive breastfeeding; for children between six months and two years, supplemental feeding is the preferred approach.[276] **Undernutrition affects over 30% of the world's population, and 26% of all the world's children suffer from stunting. We find this quite shocking and wholly unacceptable. Undernutrition has long-term health implications; more broadly, it also represents a barrier to development. Combating the scourge of undernutrition should be a top priority for the international community. We welcome the forthcoming 'Nutrition for Growth' event, and urge participants in the event to make substantive commitments.**

88. There is a strong correlation between female empowerment and child nutrition. If women are educated about nutrition and have decision-making power, food production within communities tends to be more varied and nutritious.[277] Additionally, given the latest evidence on the causal relationship between maternal nutrition on the day of conception and subsequent stunting, there is a need to focus particularly on meeting the nutritional requirements of all women of childbearing age.[278] **The importance of nutrition in the**

268 Ev w47

269 Ev w16

270 Ev 93

271 Ev 59

272 Ev 88

273 Ev 94

274 Ev 94

275 Ev 88

276 Q 79

277 Q 79

278 Q 81

1,000 day period between conception and a child's second birthday is well-recognised, but the latest evidence stresses the extent to which maternal nutrition on the day of conception influences the risk of her child suffering from stunting. Nutrition programmes should therefore focus on meeting the nutritional requirements of all women of childbearing age.

89. There are a number of major international initiatives to tackle undernutrition. Perhaps the most prominent is the Scaling Up Nutrition (SUN) initiative, which brings together governments, the private sector, academia, civil society organisations (CSOs) and the UN. Its aim is to support the development of country-owned strategies on undernutrition,[279] with a focus on innovation and on the critical 1,000 day period between conception and a child's second birthday.[280] Other important initiatives include Renewed Efforts to Address Child Hunger and Undernutrition (REACH).[281]

90. DFID currently has bilateral nutrition programmes in 16 countries. We asked the Department whether it planned to increase its number of bilateral nutrition programmes; we were told that its future plans on nutrition would be announced at the 'Nutrition for Growth' event on 8 June 2013.[282] Asked whether he thought DFID had enough bilateral nutrition programmes, Marc van Ameringen, Executive Director of GAIN, said that it 'definitely' did not.[283] Ertharin Cousin, Executive Director of WFP, argued that DFID could plausibly operate bilateral nutrition programmes in any country which has committed itself to fighting undernutrition (i.e. committed to the Scaling Up Nutrition initiative):[284] currently 35 countries have done so.[285] **At the 'Nutrition for Growth' event on 8 June 2013, DFID should launch additional bilateral nutrition programmes. The Executive Director of WFP suggested to us that DFID could operate bilateral nutrition programmes in any country which has committed to the Scaling Up Nutrition (SUN) initiative: we accept that this is unrealistic, since it would include a number of countries in which DFID has no bilateral presence. However in four SUN countries (Ghana, Kyrgyzstan, Rwanda and Sierra Leone), DFID has a bilateral presence but does not have a bilateral nutrition programme. In these countries, bilateral nutrition programmes should be launched., with a particular focus on nutrition during pregnancy and early years.**

Adaptation to extreme weather events

91. Extreme weather events are a major threat to the vulnerable. Climate change will exacerbate the situation.[286] Dry areas will become dryer while wet areas will become wetter, leading to more droughts and more floods.[287] Oxfam argues that extreme weather events

279 Q 79

280 Ev 89

281 Ev 89

282 Ev 107

283 Q 80

284 Q 80

285 *"SUN Countries"*, Scaling Up Nutrition, scalingupnutrition.org

286 Ev 63

287 Ev w101

could cause short-term price increases equivalent to two decades' worth of gradual price increases.[288] In view of this, it follows that climate change adaptation and disaster risk reduction are of the utmost importance. WFP emphasises that responses to extreme weather events should be proactive rather than reactive. It praises the UK Government for its work on this, and also praises the work of the Inter-Governmental Authority for Development (IGAD) Regional Disaster Resilience and Sustainability Platform during the 2011 famine in the Horn of Africa: under this platform, national governments focused on incorporating resilience into their national planning frameworks.[289]

92. There is widespread agreement that forecasting is crucial for disaster risk reduction: Geographic Information Systems can play a key role in this.[290] Professor Tim Benton, of the University of Leeds, highlights the role of remote sensing in predicting yields, and the importance of using models that are able to heed such predictions. He also stresses the potential of improved long-term forecasts and of predicting and mapping levels of pest infestation.[291] **Climate change and disaster risk reduction are of the utmost importance for food security, and it is important that the UK maintain its current proactive approach to these matters. Forecasting tools such as remote sensing also have an important role to play.**

93. Forecasting is clearly of little use if actors are unable or unwilling to respond appropriately to forecasts. In the case of the 2011 famine in Somalia, forecasting was perfectly adequate.[292] In his evidence to us Daniel Gustafson, Deputy Director General (Operations) of FAO, recognised certain shortcomings in FAO's own advocacy work following the forecasts; he also argued that other institutions failed to act in response to forecasts. Ertharin Cousin, Executive Director of WFP, took a slightly different view, arguing that the central problem was the difficulty in gaining access to al-Shabbab-controlled areas, particularly for multilaterals and especially for WFP.[293] **While forecasting is important in itself, ensuring adequate responses to forecasts is equally crucial, and this should be a priority for the international community. We recommend that DFID ensure appropriate accountability mechanisms are in place for triggering, escalating, recording and justifying responses to forecasts. The international response to the 2011 Somalia famine was inadequate. This was due to a variety of factors: we recognise the inherent difficulties in operating in insecure environments such as Somalia, but this does not absolve the international community entirely. We commend FAO for recognising certain shortcomings in its own advocacy work. More broadly, there is some disagreement as to whether agencies responded to forecasts as promptly as they should have done. DFID should press relevant actors to ensure that these allegations are fully investigated, with a view to minimising the risk of any such situation occurring in future.**

288 Ev 63

289 Ev 89-90

290 Ev 88

291 Ev w90

292 Q 100

293 Q 101

5 Conclusion

94. Progress against the MDG target to reduce the number of people suffering from hunger by half between 1990 and 2015 has been variable: while great strides have been made in East Asia and Latin America, the same cannot be said for South Asia, Western Asia and sub-Saharan Africa. As this report has shown, the fight against food insecurity has been made more difficult globally by a tightening of the balance between demand for and supply of food. On the demand side, policy-driven demand for biofuels and the consequent use of food crops for fuel is driving up food prices. The current rate of increase in meat consumption is unsustainable due to the large quantity of crops required to feed livestock. High levels of food waste pose an additional problem, and all this must be seen in the context of an increasing global population. On the supply side, farmers face a number of difficulties: the lack of good roads, irrigation and storage facilities leads to otherwise avoidable post-harvest losses in developing countries; insecurity of tenure prevents smallholders from investing in their land; and climate change poses a further challenge. In the context of these factors, global food prices have increased and become more volatile, and this situation is expected to persist. There have been various suggestions as to how such volatility might be mitigated, but the wisdom of some of these suggestions is dubious. While there may be a case for judicious use of stocks to reduce volatility, the imposition of export controls is thoroughly unhelpful. The challenge of preventing price spikes in future, and more broadly of ensuring that supply is able to meet demand, will not be easy.

95. However, as this report has shown, real progress is eminently achievable. There are a number of tangible measures which, if implemented, would have a significant impact on global food security. On the demand side, biofuels mandates should be reformed. Campaigns should be launched to reduce food waste in developed countries, while meat should be promoted as an occasional item rather than an everyday staple. On the supply side, donors should focus on creating an enabling environment for agricultural productivity in developing countries: this will include greater investment in infrastructure and land tenure projects. Smallholders have a vital role to play. They should be offered greater support through agricultural extension services, and should also be assisted to engage with large corporations. Climate change mitigation and adaptation should remain an overarching priority. Donors donors should focus on boosting the resilience of the most vulnerable to shocks and on protecting the poorest. Social protection is crucial, as is work to tackle undernutrition.

96. Our specific recommendations are repeated below. With some of the measures we propose, such as campaigns to reduce food waste, the impacts will by nature be gradual, becoming apparent only in the medium- to long-term. For other measures, however, the impacts will be immediate, the reform of biofuels mandates being the most obvious example. All that is needed is political will.

Conclusions and recommendations

Demand

1. Biofuels are driving higher and more volatile food prices and are having a major detrimental impact on food security. In some cases biofuels may be even more damaging to the environment than fossil fuels. We recommend that the Renewable Transport Fuel Obligation (RTFO), which commits the UK to consuming biofuel equivalent to 5% of transport fuel volumes, be revised to exclude agriculturally-produced biofuels. We recognise that the revision of the RTFO would make it more difficult for the UK to meet its EU target of deriving 10% of transport energy from renewable sources. However, the EU target does not apply until 2020. Consequently there is nothing to stop the UK from revising the RTFO now. (Paragraph 16)

2. In addition to revising RTFO, the UK must continue to push its European partners to revise the target under the Renewable Energy Directive (RED) which requires EU countries to derive 10% of their transport energy from renewable sources by 2020. This reform could include introducing Indirect Land Use Change (ILUC) factors into the RED, and imposing a cap on the level of food-based biofuel which can count towards the RED target. The introduction of ILUC factors and the imposition of a cap are not mutually exclusive options: both can be pursued concurrently. We recommend that the UK Government push for both, and that it push for the cap to be set at as low a level as possible. (Paragraph 17)

3. We were pleased to receive the Parliamentary Under-Secretary of State for International Development's assurance that biofuels would be discussed at the 'Nutrition for Growth' event. We also urge the Government to raise the issue at the G8 summit itself, and at the meeting of the EU Energy Council on 6 June. The Government should explain the outcome of these discussions to us in its response to this report. (Paragraph 18)

4. We welcome the Government's support for non-food-based biofuels. We recommend that the Government give particular support to the use of biofuels such as those derived from waste products, whose production does not require land. (Paragraph 20)

5. We recommend that the Government redouble its efforts to reduce the level of food waste in the UK. It should begin by taking on board the suggestions made in its own Foresight report on The Future of Food and Farming. For example, the Government should launch consumer campaigns to reduce waste and promote FareShare and similar schemes for unwanted food. The Government should also set targets for food waste reduction for producers and retailers and introduce sanctions for failure to meet the targets. (Paragraph 21)

6. The rate of increase in global meat consumption is unsustainable: the consequence is a growth in the production of grain-fed livestock, with crops used to feed livestock instead of humans. Clearly this does not mean that the world should stop consuming meat: this would be disproportionate and unrealistic. However, in the longer-term it

may be appropriate to focus on sustainable systems such as pasture-fed cattle rather than on grain-fed livestock, with meat promoted as a occasional product rather than an everyday staple. (Paragraph 22)

7. The global population continues to increase, and food production is expected to have to increase by 60-70% by 2050. In future population growth is expected to be concentrated amongst the poorest and least food secure countries; this will have implications for both chronic hunger and vulnerability to shocks. While detailed discussion of population-related policies is beyond the remit of this report, we urge DFID to maintain the strong focus on women's reproductive rights shown in last year's Family Planning Summit and maintain this sector as a priority for expenditure. (Paragraph 26)

Supply

8. Agricultural extension services play a critical role in improving smallholders' food security. In order to be sustainable, extension services should be funded from locally-generated revenue flows. DFID should devote a greater proportion of its budget to supporting the development of agricultural extension services, particularly those targeted at women. (Paragraph 30)

9. We recommend that DFID ensure that the agricultural extension workers whose work it supports address the issue of land degradation in their work. (Paragraph 31)

10. If we are to help smallholders to engage with large corporations, supporting the development of farmer organisations, including co-operatives, is vital. We recommend that DFID support the formation of farmer organisations, and seek to ensure that such organisations are fairly and transparently governed, with fair representation for women and marginalised farmers. (Paragraph 33)

11. The Africa Enterprise Challenge Fund (AECF), part-funded by DFID, has played a key role in helping smallholders to engage in corporate value chains. DFID should scale up its funding for initiatives such as AECF which help smallholders to engage with corporations. (Paragraph 34)

12. Smallholders should be provided with information on global markets. We welcome the Parliamentary Under-Secretary of State for International Development's acknowledgement of the potential of mobile technology; this can play a key role in providing access to market information to smallholders. (Paragraph 35)

13. We support the recommendations of the Fairtrade Foundation: companies which purchase crops from smallholders should contract to offer payment in regular instalments throughout the year, rather than simply paying at harvest time, and companies should also consider contracting to pay smallholders in advance. (Paragraph 36)

14. Offering smallholders a guaranteed price for their crop encourages them to invest in their farms, but price guarantees offered by the public sector are often problematic. Price guarantees offered by private companies are preferable. We recommend that

DFID encourage more of its private sector partners to offer guaranteed prices to smallholders, or to guarantee to buy a certain quota of crop. (Paragraph 37)

15. Both small- and large-scale farms have a role to play in feeding a growing population sustainably and in reducing rural poverty. For most countries a mixture of the two will be most appropriate. Determining the precise balance between small-scale and large-scale farms is a matter for each individual country: it is not our place to lecture developing countries about how their agricultural sectors should be structured. In some cases, a shift towards somewhat larger farms is likely to increase food production and improve the efficiency of the agricultural sector. However, in many cases, smallholders will retain a key role. In all cases, the generation of employment and the productive use of land will be paramount. (Paragraph 40)

16. We welcome the G8's focus on transparency. We recommend that the Government require UK-domiciled corporations to be transparent about land deals, and that it use its influence to ensure that the World Bank meets adequate standards of transparency and consultation in its own investments. (Paragraph 41)

17. Implementation of the UN Voluntary Guidelines on the Governance of Tenure would help to mitigate current concerns about commercial land acquisitions. We welcome the Government's support for the Voluntary Guidelines, and were pleased to be told by the Parliamentary Under-Secretary of State for International Development that the issue would be discussed during the forthcoming G8 summit. We ask the Government to explain the outcome of these discussions to us in its response to this report. (Paragraph 42)

18. Work to establish land registers which improve smallholders' security of tenure, such as that conducted by DFID in Rwanda, has a dual benefit: it enables smallholders to invest in their land while also providing them with greater security against so-called 'land grabs'. We welcome the news that DFID is designing a similar programme in Ethiopia, and we suggest that it consider launching additional projects of this nature elsewhere. (Paragraph 43)

19. We warmly welcome the discovery of large-scale groundwater reserves in Africa by the British Geological Survey. In the long-term, this discovery may have major benefits for food security. DFID should support the development of scientific knowledge and capacity in these areas. For example, DFID could support an increase in the number of climate stations, and the training of hydrogeologists. (Paragraph 46)

20. Improving rural infrastructure would have a dramatic effect on food security. Across much of the developing world, inadequate roads and storage facilities lead to large-scale post-harvest crop losses. Particularly in Africa, a lack of irrigation undermines agricultural productivity. DFID should give a higher priority to these issues. (Paragraph 49)

21. We recognise that genetically modified organisms (GMOs) are controversial and clearly not a panacea. However, it could be argued that GMOs have the potential to make a valuable contribution to food security. DFID should ensure that any support it gives is beneficial to the poorest and most food insecure, and that any

commercialisation or extension of GM seeds to smallholder farmers does not undermine their ability to save and store traditional seed varieties. (Paragraph 54)

22. Agricultural research has a key role to play in ensuring food security. We support the recommendation of the Food Ethics Council: DFID should make agricultural research a high priority. We welcome the Government's current work on this, and we urge DFID and DEFRA to ensure that their work in this area is joined-up. Progress in agricultural research will have benefits in the UK as well as in developing countries. (Paragraph 56)

23. We welcome the Government's pledge to provide £1.8 billion of funding to tackle climate change over the next two years. Making detailed recommendations as to how this money should be spent is beyond the remit of this report; however, it is crucial that the Government sticks to its pledge. The Government should also work with its international partners to ensure that the commitments made at the Copenhagen conference are met. (Paragraph 58)

24. While much discussion focuses on the implications of climate change for agricultural productivity, DFID should not lose sight of the fact that agriculture can in fact make a valuable contribution to climate change mitigation. Agroforestry, for example, can help to improve carbon sequestration. Where appropriate DFID should support models of agricultural production that have the potential to contribute to emissions reductions. (Paragraph 59)

25. For farmers, improving levels of resilience to climate change is vital. DFID should help farmers to boost their resilience through techniques such as crop diversification, insurance, improved land management, more appropriate planting dates, and the use of more resilient crop varieties. (Paragraph 60)

Recent shocks and their impact

26. We recognise that maintaining large-scale food stocks can sometimes be problematic and costly. However, given the increasing volatility of food prices over recent years, we believe there may be a case for judicious use of stocks to relieve the tightness of markets. We recommend that the Government conduct further research into this. Specifically, the Government should consider under what circumstances it would be appropriate for a national government to pursue strategic stockholding for national food security purposes. It should consider what the costs, risks and benefits of this strategy would be, and what capacities would be required. (Paragraph 69)

27. The launch of the Agricultural Market Information System (AMIS) is a major step forward in the fight against food price volatility. We commend all participant countries for supporting this initiative, but we recognise that its long-term success will depend upon the quality of information provided by participant countries. (Paragraph 71)

28. The introduction of export controls by certain countries was regrettable, and served to make an already bad situation worse. The decision by the G20 to remove any export bans for food purchased by the World Food Programme is a welcome step in the right direction, but more needs to be done. The UK should encourage its

international partners to remove any remaining export bans and to dissuade them from introducing any new ones. It should also commit to raising this issue at the forthcoming G8 summit. (Paragraph 72)

Speculation

29. Evidence as to the impact of speculation on food prices is inconclusive. While there has been a proliferation of recent research on this topic, there is still no consensus. We recommend that the Government study the latest research in detail, and that it use this research to inform its future policy on this issue. (Paragraph 74)

Social Protection

30. When shocks occur, social protection plays a vital role in protecting the food security of the poorest. In 14 of the 29 countries in which it has bilateral programmes DFID does not currently plan to fund social protection. We ask the Department to explain the thinking behind this. (Paragraph 79)

Humanitarian Assistance

31. Where emergency interventions are needed to protect food security, cash- and voucher-based schemes are preferable to in-kind food aid provided markets are accessible and functioning. Where appropriate, we recommend that DFID and its partner organisations favour cash- and voucher-based schemes over in-kind food aid. (Paragraph 80)

32. WFP's 'Purchase for Progress' scheme has a double benefit: it supports WFP's humanitarian work while also supporting local economies in developing countries. We were pleased that the Parliamentary Under-Secretary of State agreed to consider scaling up DFID's support, and we reiterate our belief that this would be a wise thing for DFID to do. (Paragraph 81)

33. Given that urban food insecurity is increasingly common, we urge DFID to think give more consideration to how it provides social protection in urban areas. Cash- and voucher-based schemes are especially important in urban settings. (Paragraph 82)

Emergency food stocks

34. The maintenance of food stocks for humanitarian purposes is of critical importance. These stocks should be managed by individual countries, as this gives the countries concerned greater ownership of the policy. Stocks should be stored on a decentralised basis. We recognise that some countries may lack the capacity to store and manage stocks satisfactorily; in these cases, we recommend that DFID support capacity building. (Paragraph 83)

Nutrition

35. Undernutrition affects over 30% of the world's population, and 26% of all the world's children suffer from stunting. We find this quite shocking and wholly unacceptable. Undernutrition has long-term health implications; more broadly, it also represents a barrier to development. Combating the scourge of undernutrition should be a top priority for the international community. We welcome the forthcoming 'Nutrition for Growth' event, and urge participants in the event to make substantive commitments. (Paragraph 87)

36. The importance of nutrition in the 1,000 day period between conception and a child's second birthday is well-recognised, but the latest evidence stresses the extent to which maternal nutrition on the day of conception influences the risk of her child suffering from stunting. Nutrition programmes should therefore focus on meeting the nutritional requirements of all women of childbearing age. (Paragraph 88)

37. At the 'Nutrition for Growth' event on 8 June 2013, DFID should launch additional bilateral nutrition programmes. The Executive Director of WFP suggested to us that DFID could operate bilateral nutrition programmes in any country which has committed to the Scaling Up Nutrition (SUN) initiative: we accept that this is unrealistic, since it would include a number of countries in which DFID has no bilateral presence. However in four SUN countries (Ghana, Kyrgyzstan, Rwanda and Sierra Leone), DFID has a bilateral presence but does not have a bilateral nutrition programme. In these countries, bilateral nutrition programmes should be launched., with a particular focus on nutrition during pregnancy and early years. (Paragraph 90)

Adaptation to extreme weather events

38. Climate change and disaster risk reduction are of the utmost importance for food security, and it is important that the UK maintain its current proactive approach to these matters. Forecasting tools such as remote sensing also have an important role to play. (Paragraph 92)

39. While forecasting is important in itself, ensuring adequate responses to forecasts is equally crucial, and this should be a priority for the international community. We recommend that DFID ensure appropriate accountability mechanisms are in place for triggering, escalating, recording and justifying responses to forecasts. The international response to the 2011 Somalia famine was inadequate. This was due to a variety of factors: we recognise the inherent difficulties in operating in insecure environments such as Somalia, but this does not absolve the international community entirely. We commend FAO for recognising certain shortcomings in its own advocacy work. More broadly, there is some disagreement as to whether agencies responded to forecasts as promptly as they should have done. DFID should press relevant actors to ensure that these allegations are fully investigated, with a view to minimising the risk of any such situation occurring in future. (Paragraph 93)

Formal Minutes

Tuesday 21 May 2013

Members present:

Sir Malcolm Bruce, in the Chair

Fiona Bruce	Jeremy Lefroy
Richard Burden	Fiona O'Donnell
Fabian Hamilton	Chris White
Pauline Latham	

Draft Report (*Global Food Security*), proposed by the Chair, brought up and read.

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

Paragraphs 1 to 96 read and agreed to.

Annex and Summary agreed to.

Resolved, That the Report be the First 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 9, 17 January, 12, 19, 26 March, 18 April and 9 May 2013.

[Adjourned till Tuesday 4 June at 9.30 am

Witnesses

Tuesday 5 February 2013

Page

Max Lawson, Head of Advocacy and Public Policy, Oxfam, **David McNair,** Head of Growth, Equity and Livelihoods, Save the Children, and **Patrick Mulvany,** Co-Chair, UK Food Group Ev 1

Tim Lang, Professor of Food Policy, City University, London, **Camilla Toulmin**, Director, International Institute for Environment and Development, and **Andrew Dorward,** Professor of Development Economics, School of Oriental and African Studies Ev 12

Tuesday 26 March 2013

Ertharin Cousin, Executive Director, UN World Food Programme, **Dan Gustafson**, Deputy Director General (Operations), Food and Agriculture Organisation of the UN, and **Marc Van Ameringen,** Executive Director, Global Alliance for Improved Nutrition Ev 21

Sir John Beddington, Government Chief Scientific Adviser, Government Office for Science, **Kanayo Nwanze,** President, International Fund for Agriculture Development, and **Dr Shenggen Fan,** Director General, International Food Policy Research Institute Ev 29

Thursday 18 April 2013

Norman Baker MP, Parliamentary Under-Secretary of State, Department for Transport Ev 37

Lynne Featherstone MP, Parliamentary Under-Secretary of State, Department for International Development, **Professor Tim Wheeler**, Deputy Chief Scientific Adviser, Department for International Development and **Dr Kenny Dick,** Team Leader, Food and Nutrition Security, Department for International Development Ev 39

List of printed written evidence

List of additional written evidence

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

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 2012–13

First Report	DFID's contribution to the Global Fund to Fight AIDS, Tuberculosis and Malaria	HC 126 (609)
Second Report	Scrutiny of Arms Exports (2012): UK Strategic Export Controls Annual Report 2010, Quarterly Reports for July to December 2010 and January to September 2011, The Government's Review of arms exports to the Middle East and North Africa, and wider arms control issues	HC 419 (CM 8441)
Third Report	The Development Situation in Malawi	HC 118 (641)
Fourth Report	Tax in Developing Countries: Increasing Resources for Development	HC 130 (708)
Fifth Report	DFID's programme in Zambia	HC 119 (759)
Sixth Report	Afghanistan: Development progress and prospects after 2014	HC 403 (862)
Seventh Report	UK Aid to Rwanda	HC 726 (949)
Eighth Report	Post-2015 Development Goals	HC 657 (1065)
Ninth Report	Department for International Development's Annual Report and Accounts 2011–12	HC 751(1098)
Tenth Report	Pakistan	HC 725

Session 2010–12

First Report	Appointment of the Chief Commissioner of the Independent Commission for Aid Impact	HC 551
Second Report	The 2010 Millennium Development Goals Review Summit	HC 534 (HC 959)
Third Report	Department For International Development Annual Report & Resource Accounts 2009–10	HC 605 (1043)
Fourth Report	The World Bank	HC 999 (1044)
Fifth Report	The Future of CDC	HC 607 (1045)
Sixth Report	Scrutiny of Arms Export Controls (2011): UK Strategic Export Controls Annual Report 2009, Quarterly Reports for 2010, licensing policy and review of export control legislation	HC 686 (CM 8079)
Seventh Report	The Humanitarian Response to the Pakistan Floods	HC 615 (1435)
Eighth Report	The Future of DFID's Programme in India	HC 616 (1486)

Ninth Report	DFID's Role in Building Infrastructure in Developing Countries	HC 848 (1721)
Tenth Report	The Closure of DFID's Bilateral Aid Programme in Burundi	HC 1134 (1730)
Eleventh Report	Financial Crime and Development	HC 847 (1859)
Twelfth Report	Working Effectively in Fragile and Conflict–Affected States: DRC and Rwanda	HC 1133 (1872)
Thirteenth Report	Private Foundations	HC1557 (1916)
Fourteenth Report	Department for International Development Annual Report and Resource Accounts 2010–11 and Business Plan 2011–15	HC 1569 (107)
Fifteenth Report	South Sudan: Prospects for Peace and Development	HC 1570 (426)
Sixteenth Report	EU Development Assistance	HC 1680 (427)

Oral evidence

Taken before the International Development Committee

on Tuesday 5 February 2013

Members present:

Sir Malcolm Bruce (Chair)

Hugh Bayley
Fiona Bruce
Richard Burden
Pauline Latham
Jeremy Lefroy
Fiona O'Donnell
Mark Pritchard

Examination of Witnesses

Witnesses: **Max Lawson**, Head of Advocacy and Public Policy, Oxfam, **David McNair**, Head of Growth, Equity and Livelihoods, Save the Children, and **Patrick Mulvany**, Co-Chair, UK Food Group, gave evidence.

Q1 Chair: Good morning. Thank you very much for coming in. This is the first formal evidence session we are taking in our inquiry into global food security. We appreciate the fact that you have given us written evidence and are here to elaborate. For the record, could you just introduce yourselves?

Max Lawson: My name is Max Lawson and I am the Head of Policy at Oxfam.

David McNair: My name is David McNair, Head of Growth, Equity and Livelihoods at Save the Children UK.

Patrick Mulvany: Good morning, I am Patrick Mulvany, Co-Chair of the UK Food Group.

Q2 Chair: Thank you very much. Just to set the scene: there have been a whole series of spikes and troughs in food prices. It has been an issue over the last few years. I wonder if you could give us an indication of the major factors that affect supply and demand. Some of them are obvious but maybe some of them are less obvious. What are the ones that you think are the most important? We have to work out what, as donors, we can most usefully target. I just wondered if you would set that scene, and then I will bring my colleagues in with more specific questions.

David McNair: Thank you for the opportunity to share some thoughts with you. With regard to food price volatility, it is our view that we are now facing a situation where there is an increasing likelihood of increasing volatility as a result of climate change, population growth and, particularly, increasing demand for energy-intensive foods and meat, as a result of economic growth and increasing prosperity in emerging economics. We are also concerned about the impact of biofuels, particularly biofuel mandates and subsidies in the US and the EU, which have an impact on volatility in three ways.

Chair: You can elaborate later, as we have some specific questions on biofuels.

David McNair: I would say that there is clearly a need to increase productivity, particularly for smallholder farmers, and to do that through public investments in education, infrastructure and helping smallholder farmers get access to market and increase the quality of their production. There is also a need to think about the governance of the food system, particularly in fragile states. Across the Sahel we have seen recurrent food crises. These need investment at the start of the food price crisis, as soon as the early-warning systems kick in, rather than responding when it is too late and there is already damage done.

Max Lawson: Obviously with increasing demand, increasing numbers of people and increasing numbers of hungry people, there is pressure on scarce resources. Partly driven by the biofuels mandate, we are seeing an increasing rush for arable land in developing countries, much of which is used to either speculate on the value of land or to grow food for export to rich-country markets. We think that is contributing to the inefficiencies in the food system and driving up prices unnecessarily. That is very much linked to the biofuels issue. I would add a final point, which is more about accentuating price spikes, which is the problem of food price speculation. So the financialisation of the food market is making the price discovery function much more complex and, arguably, driving up spikes and making them worse than they would have been otherwise.

Chair: These are all issues we are going to explore a bit more anyway.

Patrick Mulvany: I agree with what my colleagues have said. I would just emphasise two points in addition. One is governance. There clearly needs to be improved governance, particularly through the Committee on World Food Security—which we might come on to later—which is the UN body in charge of governing food and agriculture. That spills over not just into international but also regional and national governance structures. Secondly, I would emphasise the role of the people who supply most of the world's people with food, the small-scale food providers themselves. We should see what can be done to protect and support their systems, and make sure that their systems can focus on food production not commodities; see that they are able to have support for social and environmental sustainability, with better use of soils, water and agricultural biodiversity; and ensure that they can get better livelihoods through local value addition. One of the ways of improving that is to make sure that a greater return comes to the small-scale food providers themselves, from whatever consumers pay, and secondly, to look at ways of

evening out periods of glut and periods of shortage through better grain reserves and grain storage facilities, particularly at local level.

Q3 Chair: Again, we will explore that issue. Can I just pick up one point? You specifically said that smallholders should concentrate on producing food and not commodities. Obviously there is a desire for food and, in some cases, cash. Are you saying they should not produce for commodities at all, or that food should be the priority and the commodities should be a cash reserve? Clearly, quite a lot of smallholders are involved in coffee and tea and things like that.
Patrick Mulvany: The view of the small-scale food providers' social movement, Via Campesina, and the networks in Africa with whom we work very closely is that they would wish to give priority to food but of course, where livelihoods are concerned, you want to be able to produce things you can sell in the market. The important thing there is to ensure that the greatest proportion possible returns to those food providers, rather than being lost in the system and captured by global corporations.
Chair: That just clarifies that point.

Q4 Hugh Bayley: Could I begin by asking David and Max a question? You are both members and sponsors of the If campaign. Why do you think it is important and why have your two organisations decided to focus particularly on this issue at this time?
David McNair: We have a golden opportunity in the next six months, as the UK is in a position to show global leadership on the issue of hunger. We have seen significant progress on many of the MDGs. In 1990 12 million children under the age of five died. In 2011 only 6.9 million children died. So there is significant progress occurring but the issue of hunger is lagging behind. There is an opportunity for the UK to show leadership through its Chair of the G8 and the Prime Minister's role on the High Level Panel with regard to the post-2015 agenda. There is also the Scaling Up Nutrition movement, which is gathering momentum, and there are countries facing a high burden of malnutrition that will be publishing country plans, which will need resourcing. There is also the EU presidency, which Ireland holds, which is prioritising the issue of hunger. So we see this as a really opportune moment to make progress on the issue of hunger and put it at the top of the international political agenda.

Q5 Hugh Bayley: Can I put to the two of you that, while the campaign purports to be about food, it also makes reference, essentially, to some other issues that have a marginal impact on food availability and food prices, such as tax and transparency, whilst omitting other issues, like climate change and trade, that are clearly absolutely vital to food security. Why is this? How do you explain that?
Max Lawson: A candid answer is that, having been in the midst of negotiations for the last eight months, you have a coalition of over 100 organisations and getting down to a policy slate as small as we did was quite hard. You have to look at what people were working on already and what the key issues are for them and their supporters across the country, as well as the political opportunities that represent themselves. I certainly do not think tax is peripheral to the food debate. So much of what we are talking about is giving developing countries the ability to invest, and invest adequately, in smallholder farmers. They are being denied significant revenue because of tax evasion and tax avoidance. You could say the same about health care and education, and we are perfectly aware of that. But within the hunger debate, it makes significant sense to say that poor countries should have as much revenue to spend on agriculture and be scrutinised in doing that.

Q6 Hugh Bayley: I hear echoes of certainly Gleneagles and the Make Poverty History campaign here. The UK Government's preparation for Gleneagles took place over two and a half years—beforehand, we had the Commission for Africa report. It started at the time of the general election. The NGO mobilisation of public opinion in this country, and to a considerable extent in a number of other countries, again took place long, long beforehand. Do you not think it is a little bit late to slate proposals for this year's G8, especially when the Government has already put a focus on terrorism and some other international issues?
Max Lawson: The Government have agreed to hold the hunger summit. They have agreed to look at tax and transparency in the G8 itself. They have agreed to start talking about things like a deal on land transparency. After significant lobbying on our part over the past six or seven months, the policy slate for the G8 has shifted. That is as a result of the fact that you have 100 organisations or more coming together with one voice. I was heavily involved in Make Poverty History too, and I can tell you that it was very last minute. We launched with Nelson Mandela in January 2005 so the timing is actually identical. Could we be more prepared? Almost certainly. Could we have spent less time talking to each other? Almost certainly. But that is the power of the coalition and the power of speaking with one voice. We are very keen to get as much progress as we can in the next few months. We have very big plans.

Q7 Hugh Bayley: Good, thank you. Patrick, you represent the UK Food Group, which has not joined the If campaign. Why have you taken that decision?
Patrick Mulvany: The UK Food Group is a coalition of about 50 organisations. We asked all our members, as the campaign was developing, what they would like us to do as a network. The answer came back that individual members would very much like the opportunity to join; some said they did not want to, and we said that that was fine and we would not be part of it. We could not be part of it; we were not mandated to do that. Of course we wish the campaign well. We hope, as you point out in your question, that the issues look well beyond the G8, which is in a sense a bit of a distraction from the broader governance issue I raised at the beginning of how to strengthen the Committee on World Food Security, which is the body mandated to take these things forward.

Hugh Bayley: Thank you, all of you.

Q8 Mark Pritchard: I am somebody who supports the Government position, not because I am a Conservative but because I agree with what they say vis-à-vis the DFID budget, and one of the things my constituents say to me is that they expect value for money. Specifically I have a question to Mr Lawson and Oxfam. On the point of value for money, do you think that taxpayers' money—and of course Oxfam are a major beneficiary of the DFID budget—should be funding the Bureau of Investigative Journalism? Whilst there is room for investigative journalism in this country and we want to see free speech, free journalism and these journalists doing a good job, do you think it is the right use of taxpayers' money, through Oxfam, to fund such an organisation?
Max Lawson: To be clear, we have a maximum limit of 10% of our funding from the Government. 90% of Oxfam's revenue comes from the British public. We are very clear that what we do with some of that money, about 9% of the overall spending, is campaigning and advocacy. The grant you are talking about was part of that. We are very open with our supporters that that is what we do with the money. We do not do that with DFID's money.

Q9 Mark Pritchard: Secondly, on the Robin Hood Tax campaign, do you think it right that taxpayers' money, through Oxfam—whether it be 10% or not—should be used to lobby Government on a tax issue, given that many of the people that contribute through their taxes to Oxfam, in the 10%, or contribute to Oxfam in the 90% may take a different view from Oxfam on the tax issue? Nevertheless, part of the budget is used to lobby the Government on something that they themselves can lobby on directly or choose to vote for another party if the other party takes a different view.
Max Lawson: It is a perfectly reasonable point. What the If campaign shows is that, in these straitened times, it is not enough for development agencies to just cry for more money. We need to have a proper debate about how that money can be raised, and raised in effective ways. The Robin Hood Tax is an international campaign. In Germany it enjoys enormous Government support, and in this country the current coalition Government is not supportive. It is about Oxfam, and many, many others, positing positive solutions to the revenue question. For too long we have been accused of just asking for more and more money when, very rightly, ordinary people across Britain are facing very tough times. I am actually quite proud about the fact that we are now in a position where we can talk about things like tax evasion and tax avoidance and link domestic debates around revenue to the plight of the poorest people overseas. I think we all agree, as the Prime Minister said in Davos, that this is about responsible capitalism. It is about investment and not the kind of casino gambling that got us into the financial crisis.

Q10 Mark Pritchard: The Millennium Development Goals are due to end in 2015. There have been suggestions about new MDGs, such as transforming economies. Do you think that money should be shifted from things like universal primary education, which is part of the existing MDGs, to such things as transforming economies? I would argue that you cannot really have the second without the first. Similarly, on the emerging potential new environmental development goal, for most poor people in Africa, having food in their stomach today rather than having a solar panel on the side of their hut—although I accept that that could change their lives—is probably a more pressing priority.
Max Lawson: I have enormous sympathy with your view. We are in an excellent position in Britain, in that the Government is committed to increasing the aid budget. That is not the case in the rest of the G8. It is certainly not the case in Europe. With shrinking aid budgets, these priorities become even more important, because you are basically robbing Peter to pay Paul: "You no longer go to school but you have a solar panel." We cannot have that situation. We have to have a situation where aid volumes are defended. Particularly with the new, pressing problems of climate change, we need to look to innovative financing and innovative mechanisms of raising money, like taxing shipping or like a financial transaction tax, which we support, to start looking for other ways to support that. I agree with you. I lived in Africa for a number of years and I know exactly that people will say, "I cannot eat a solar panel." There are pressing and incredibly important needs like malnutrition and hunger that must be fixed and can be fixed. That is what the If campaign is about.

Q11 Mark Pritchard: So Oxfam do not support a new environmental MDG without having dealt with the original MDGs?
Max Lawson: We think goals are important, and these can have a 10 or 15-year horizon. We think that climate change is a new and very pressing problem, and it is real for many people. Whereas the solar panel analogy can be right in some countries, in places like the Sahel, if you ask any of the farmers we work with whether climate change is making them hungry right now, they will tell you yes. They will say that the climate has changed dramatically in the past 10 years. I do think there is a place for environmental goals in the new set of goals, but I agree with you that we have to look at what the pressing priorities are, particularly regarding what poor people need.

Q12 Mark Pritchard: Thank you to the other members of the panel for your tolerance during those questions. It has been suggested that the UK and the EU should scrap their biofuel targets of 5% and 10% respectively. Do you think they should?
David McNair: We are concerned about the impact of biofuels because we believe there are three transmission mechanisms that result in increases in food prices and food price volatility. That has been admitted by the EU and by a whole range of international organisations, such as the IMF, the World Bank and the OECD, who have called for a suspension of biofuel mandates. Those three transmission mechanisms include the competition for land, water or other resources, where resources that

could be used for growing food are used for growing crops that go to fuel. That is obvious. There are other transmission mechanisms that lead to food price volatility, such as an increasing link between oil prices and food prices. Also, interestingly, there is the driving down of stock-to-use ratios. If you look at food price spikes since world war two, almost all of them have occurred when stock-to-use ratios are at a low level. Biofuels, because of the massive demand created by mandates, are driving down those stock-to-use ratios. So there is a long-term trajectory of food price increases, which have been modelled by a number of credible institutions. There is also this issue of increasing volatility, which has knock-on effects on poor people who are not prepared to weather those storms.

Patrick Mulvany: The biofuel targets, which were set some time back and are now being modified, have had these unintended consequences. The transfer of land from producing food or other purposes, to producing biofuel crops—agrofuels as we call them—has had a devastating impact in many of the countries with which we are very closely associated. In fact, the farmers' organisations and us produced a report called *(Bio)fuelling Injustice*, which I can share with you at some point, which shows the impacts on food sovereignty and the right to food.

Going back to your previous question, the environmental impacts of agriculture are well known, but agriculture is part of the solution. A more biodiverse and a more ecological type of food production will do so much in terms of enabling farmers to adapt, having more biodiversity in the food system and more agricultural biodiversity, enabling sequestration of carbon in the soils, enabling better use of water and increasing productivity. That is backed up by the International Assessment of Agricultural Knowledge, Science and Technological Development—IAASTD—report, which came out in 2008. All of those things would probably have the greatest impact globally on the environment. Some 40% of the land surface area is managed by human beings. In terms of this inquiry, there is a very important point that could be made about the environmental benefit of having a more sustainable and more agroecological type of food provision.

Q13 Jeremy Lefroy: Biofuels—apart from in Brazil, where they have been used for decades—have only really come on to the agenda in the past five to 10 years. Yet they seem to have been a major policy mistake. Why has that happened and what is the assurance that we are not going to make similar, really stupid policy mistakes again? We are talking about something that, only five years ago, was being touted as a solution.

Chair: To be fair, that was by quite a lot of the NGOs that are now totally opposed to it.

Max Lawson: I could not possibly comment on that. I could certainly say that there is no guarantee that policy mistakes will not be made in the future. We cannot talk about that. We can talk about the origins of biofuels. There was a body of thought that this was a good solution and an environmental solution. With increased evidence about digging up carbon sinks and the amount of carbon that has been put into the atmosphere, the evidence is now categorical that that is not the case. That evidence was not there at the time these decisions were taken. You also have to look, particularly in the US but also in Europe, at the political climate.

Q14 Jeremy Lefroy: Surely, with respect, when subsidies are being given to grow stuff that cannot be eaten, or could be eaten but is converted into ethanol, economists could have said that it is a statement of the blindingly obvious that it will be diverted from the food chain. If you look into the global food stocks over the last decade on grain, they have moved from 90 days to something like 78 days currently, according to the information we have been given. There has not been a huge surplus around, and yet we have been putting diversionary economic incentives in the way, and we still are in this country. In my constituency, farmers are being encouraged to grow maize to put into anaerobic digestion on grade 1 agricultural land, which seems crazy.

Max Lawson: We would completely agree with you. We think that biofuel targets are completely insane and should be removed. Your question was about where they came from. There is a really strong political economy, in the US and Europe, around further defence of the subsidy of farmers and also about energy security in America. That has driven the crazy politics that sees more than half of the US corn crop now being burnt in cars. So you are absolutely right: from any rational perspective, with limited food on the planet, the idea that we are burning any of it would seem to me to be completely the wrong thing to do. That is why we are campaigning against that.

I do think the evidence itself has moved on the environmental question. That was the only point I wanted to make. That is what is different. Yes, economists should have spotted that many years ago. They probably did, but their incentives are more about subsidies and, particularly in the US, energy security; that is what is driving it.

Patrick Mulvany: Can I add a quick point on that? Just remember that, in this country, we used to power agriculture through biomass: horses. Horses eat oats. There was a huge release of land when we moved from horses to tractors. Some 2 billion people in the world depend on biomass as their primary source of energy. Areas you know well, such as most plantations and estates, use residues to power what they are doing in their processing activities. So all of that has happened and is happening. The lesson to be learned is, rather than pandering to us NGOs in the north who say, "It is most important for you lot to shift every policy in a certain direction," listen carefully to what the organisations and social movements of the small-scale food providers are saying. They would have told you, "Yes, we need a bit of help in being able to utilise biomass better, but do not shift all our food production into something that we cannot eat

Q15 Fiona Bruce: You have touched on the problem of insecurity in land tenure with regard to food production. Mr Mulvany, could you give us some background evidence for the comment you put in your

written evidence and explain the scale of the problem as you see it? You say, "Far too often … land grabs have displaced people, without genuine prior informed consent, through forced evictions and without adequate compensation."

Patrick Mulvany: There is a rash of investments going on. Sometimes they are big cash-transfer investments to Governments. Sometimes they are agreements with Governments that they will lease land to foreign investors at relatively low rents on the payback of having infrastructure development and so forth. There is quite a lot of evidence, which I can supply afterwards, from a number of countries in which we have been active and from which we get reports. For example, in Ethiopia, where the Government has decided that certain tracts of land should be put in the hands of foreign investors, and the local community has been removed from that land. Sometimes you will be aware of these comments: that this is unused land, empty land or whatever. Go and have a look. Look at the pastoralists who are using that land extremely efficiently. Look at the smallholder farmers. Look at the ways in which river courses are used and local fishers are displaced. It is a really serious issue and the evidence is pretty solid. There are reports from Olivier De Schutter, the Special Rapporteur on the Right to Food. I see that he has submitted evidence to this Committee. He highlights a number of occasions when this has happened

At the moment there is an acceleration, and there needs to be a very clear role for the implementation of the Committee on World Food Security's voluntary guidelines. Also, we need to look at what Committee on World Food Security is considering in terms of agricultural investment, bearing in mind that this relatively small proportion of global investment distorts land-holding patterns dramatically. 90% of investment in agriculture is made by the smallholder farmers themselves. I can provide some information on that as well. It really distorts the picture. It really affects the realisation of the right to food and food sovereignty.

Q16 Fiona Bruce: Thank you very much. The Committee would appreciate your written evidence on that. So what you are saying is that it is extensive across a number of countries, for example across Africa. You have talked about the impact on food production. Do you feel the impact on food prices as well is a negative one?

Patrick Mulvany: In the same way as: what is that land used for? Is it held in reserve? Is it used for biofuel production? Is it used for commodities that do not benefit the local population? It is a real, significant transfer of resource from poor people—from those who provide the most food in the world—to foreign investors, with very devastating consequences.

It is not just land grab but resource grab. It is resource grab, whether it is water, land, genetic resources or the minerals that are under the land. That resource grab is really skewing the opportunities for the livelihoods, food production and capabilities of the small-scale food producers—the ones who feed the world.

Q17 Fiona Bruce: I have a final question to you, before I am pleased to invite comments from your co-panellists. The large international corporations would argue that they are creating jobs. Do you see any justification for this either in the immediate or medium term?

Patrick Mulvany: I am sure that they always do. It is probably true that, if they are investing in something new, they create jobs. But who asks the questions about how many jobs are displaced, how many people were pushed off the land, how many opportunities to produce food were denied or how many livelihoods were affected? This is a distortion of what is required. As I said in my opening comments, if we refocus on supporting those small-scale food providers and ensuring that they can continue to provide most of the world's people with good food, we would be much further along than we are today.

Q18 Chair: Whilst not condoning that, does that not tend to be the pattern of agricultural development? The examples in this country would be, most negatively, the highland clearances, but more constructively people have talked about the enclosure movement, which led to higher productivity but displaced an awful lot of people. I am not saying it is justified, but is it not part of the process of intensifying agriculture?

Patrick Mulvany: It depends on whether you see a lot of extra wool as being higher productivity. History will tell you what the impact of the highland clearances was. It disrupted the fundamental food production systems in the highlands and islands. When you talk about increased productivity, you have to look at it in terms of what it means to the increase in food available at affordable prices to local people.

David McNair: I would agree with Patrick's comments. When farmers do not have security of land tenure, it inhibits investment in that land. It also inhibits the ability to leverage resources from that land, borrow capital and so on. From our viewpoint, it comes down to the issue of governance. We need to invest in cadastral surveys and land governance. There is an opportunity, given the chair of the G8, to take this forward on the issue of international investment by developing some kind of mechanism to ensure there is transparency and governance around large-scale land investments. We know that the Prime Minister has referred to that in his comments already. This is a really important opportunity that could be taken forward, both with investors in the City of London and using the UK's convening power, to look at other G8 countries or other major private sector actors. An agreement could be made to be transparent about the land they are purchasing and to consult with those stakeholders that need to be consulted when they are making those agreements.

Q19 Fiona Bruce: Do you think that support, perhaps through DFID aid, on systems of land tenure would help accelerate that? It is a huge project. In this country it is a project that started in 1925 and is still continuing. We are talking about a massive challenge, but we see high-level support and aid as really beneficial.

David McNair: Yes.
Patrick Mulvany: In implementing the guidelines.
Fiona Bruce: Yes, an incremental start.
Max Lawson: What is really interesting is, when you look at countries that have developed very rapidly in the last 50 years, such as Korea or Taiwan, at the bedrock of that is very equitable land distribution, which is quite the opposite to British history. If you really want a country to take off and provide jobs for its people, which is what we want here, we want good investment in agriculture that is going to create jobs. Of course that is going to involve some land purchase and some land leasing. We think it can be done fairly. We think it can be done in ways that compensate communities.
It is very easy to distinguish between the kind of investment that the poorest countries need, which will create really good, decent work and invest in smallholders, and the annexation of large portions of land that is going on at the moment. It is in the report but it bears repeating: an area the size of London is being sold in developing countries every six days. Like biofuels, and very much linked to biofuels, that is a new and emerging problem that was not there even five or six years ago. As a trend it is deeply worrying and it is exactly the wrong kind of investment; it is the kind of investment that will not create jobs, will not create growth and will not, ultimately, tackle hunger.
David put it very well: that is something that the G8 could really deal with. You have this excellent system of voluntary guidelines agreed through the UN. It is not about supplanting that but it is about giving energy and voice to that. It is about aid to help countries implement it. It is really interesting to see countries like Mozambique and Tanzania coming forward now and saying, "We are very worried as Governments about the lack of transparency." There are debates in Mozambique about whether they are being re-colonised without even realising. There is a real concern now emerging in many developing countries that they want this done fairly and they want the kind of investment that will benefit them, not just foreign markets.

Q20 Jeremy Lefroy: The point you have made about countries such as South Korea coming out of poverty with fair use of land is an extremely important one. I would also point, in Europe, to the example of the Netherlands, where their development has been very substantially based on an active and fairly equitable farming sector. It is still a major producer and processor of food. It shows that you can develop a modern economy on the basis of a thriving, mostly smallholder, agricultural sector, because it is not characterised by large-scale ownership generally. Developing that point, one thing that DFID has been keen to do, and it is particularly emphasised in Rwanda, where there is an extremely good programme, is support for land registration and land registries. They are completing a programme to register something like 10 million plots there with DFID funding. Would you see this as something that DFID should be concentrating on? Is this something that should be given greater priority as part of the agricultural programme for the very reason that you outlined: the encouragement to farmers to invest in their own land?
Max Lawson: We would. We would be a little bit cautious. When I lived in Malawi, working for Oxfam, this was very much a key issue then about registering land. It is really important to recognise, particularly in Africa, the importance of customary tenure. So it is not a cookie-cutter approach, where you purely have property rights in the classic British sense of the word. Often there are ways of giving people security of tenure, so you know that land is yours, but in a customary way. The reason I say that is important is because very often you can have distressed sales. At that time HIV/AIDS was a very big problem, and if you suddenly create millions of assets and the poorest people in the land suddenly have money, often you can see a rapid consolidation of land, which would be the last thing you would want. Yes, we definitely think that DFID should be involved in formalising tenure, but it should be done with a view to the continued equitable distribution of land and not suddenly creating a market that would lead to exactly the same consolidation.

Q21 Jeremy Lefroy: Would you be against any consolidation?
Max Lawson: No, we are not at all against all consolidation; it should be cautious, with a view to the ultimate aim—being equitable growth and decent work.

Q22 Jeremy Lefroy: Thank you. A number of us wrote a letter to the Secretary of State for DFID requesting the World Bank have a moratorium on funding large-scale land acquisitions. She replied that she did not necessarily think this was the right way forward. Do you think that to do so, from our side, is a bit of a gesture, or would there be substance in pushing the World Bank, particularly through the IBRD, to stop funding large-scale acquisitions for a time?
Max Lawson: Since we made that call, we have also seen a number of African countries take that step. There is definitely a very strong case, given the speed and scale of what is going on, for a pause for thought, particularly with the bits that we have significant influence over. The UK is a major shareholder of the World Bank. Also, the World Bank as an institution has a long track record of setting standards and raising issues up the international agenda and showing a lot of leadership. In asking them to do that, and we are still asking them to do it over the next few months, it is about taking that step back but being proactive about getting the governance and these voluntary guidelines up and running.
There is some really fascinating research we have just done that shows there is no correlation between available arable land and the extent of land grabbing. The strongest correlation is between poor governance in a country and the amount of land grabs that are going on. It just shows the huge disjoint between what is happening and what is actually needed. It really does require a pause for thought and it would be great if the Bank did that.

Patrick Mulvany: I think you are doing a great job. I think it is really important that the Bank is called to order. As Max was saying, it is allowing or facilitating moves that are broadly unhelpful. There is also a secondary thing: the Bank also has a process of developing the principles for responsible agricultural investment. Those principles fly counter to those being negotiated through the Committee on World Food Security. They have a similar name: the Principles for Responsible Agricultural Investment. While the Bank is looking at a major shift of capital to developing countries, the Committee on World Food Security is looking at how to support investments by the small-scale food providers themselves. These two are jostling for space internationally. I would argue that it is really important that you recognise that and push DFID to be much more supportive of the Committee on World Food Security, particularly the implementation of the voluntary guidelines, as my colleagues have said, in order that one ends up with a proper equitable distribution of land, not allowing for the concentration, that we have touched on, of not just land but also water resources, genetic resources and agricultural biodiversity. All of these are tending to concentrate, and we need these guidelines to be implemented at national level, for which there is some cost. It would be a good investment by DFID to put money into the implementation of the voluntary guidelines on access to land and other natural resources at a national level

Q23 Pauline Latham: Many smallholders want to change from subsistence farming to cash crops, quite rightly, because they are not making any money at the moment. For smallholders that want to do that, do you think it is appropriate to focus on cash crops for local markets or should they be supplying large corporations such as SABMiller?

David McNair: There is clearly a need to increase the quality of crops so that smallholders can access local and international markets and invest in infrastructure so they can transport those crops without damaging them and they have information on prices. That is really crucial for the nutrition agenda as well. One of the key pathways to good nutrition is not just dietary diversity but having an adequate income to purchase an adequate, diverse diet. So we would see a need to increase productivity and particularly public investment in the kinds of infrastructure that allows that to happen. Also, we need education on dietary diversity and specific initiatives, such as market gardens, that enable smallholders, when they are producing cash crops, to also be able to access the right nutritious foods.

Q24 Pauline Latham: What about large corporations?

David McNair: There is a need for smallholders, if they get a fair price and if the mechanism is there to do so, to be able to raise their incomes.

Patrick Mulvany: We need to bear in mind that 70% of food is local at the moment. Just the other day I was in Rome talking to some of the farmers' networks. They will always stress that they are not subsistence or market focused; they are both. The important thing is that, whatever is done to stimulate the market, it does not lead to the co-option and, essentially, destruction of their local market but strengthens it and, at the same time, does not encroach on the land that is needed for local food provision. Some 70% is provided for locally. For example, in Senegal 70% of the food the whole population eats is provided locally. That needs to be strengthened not weakened.

Q25 Pauline Latham: Aren't those just the same old crops? There is not a huge range of crops.

Patrick Mulvany: There again it depends on whose data you look at. If you look at the information, which is usually grey literature and is not formally recognised in the FAO, on the very wide diversity of species that are used in the food system at local level, you will see ways of being able to improve and increase that crop diversity. That includes animals and some fish in the diet, increasing the range of species from which food is drawn, and strengthening that as part of a healthy diet locally. Then, yes, if there are some other bits of the surplus or other bits of land that are not encroaching on that, which could be used for markets—local, national, regional or even international—that is fine.

The problem is when the commercial activity, often run by the men, comes in and takes land away from the women who are growing this great diversity. Look at a Jamaican kitchen garden. There may be 50 or 60 species. That is hugely nutritious and always productive throughout the year. There are lots of examples like that all the way through Africa as well. That is the thing to focus on. These are areas that do not receive sufficient support. Agricultural research completely bypasses it and focuses mainly on commodity crops. I think there is an opportunity to redirect research towards these more biodiverse, more ecological, more nutritious types of production that will serve the local population. But where there is good land which is appropriate for it commercial activity, not encroaching on food production, it is an option.

I was recently in Kenya, looking at an interesting area just north of Nairobi, where they have tea production—which goes to a local co-operative and is sold on into the international market—on the slopes, and on the flat land it is all food production run by the women. It is a very good balance. There are opportunities to be able to do both, but do not allow the commercial pressures to encroach on the food provisioning of the local communities.

David McNair: There is an issue of governance here. If you look at the African country-owned plans—the CAADP plans—and also the G8's New Alliance for Food Security and Nutrition, you see that they are largely focused on increasing productivity with the objective of increasing economic growth. There is a good reason for that. Economic growth that comes from agriculture is much more effective in challenging poverty. We also need to think about the nutrition elements and ensuring that poor people, particularly farmers, have access to a nutritious diet. That may be through raising their incomes and purchasing it or it may be having some land set aside to produce

nutritious crops. That is really crucial, not just for the farmers themselves but also for children, particularly at the start of life. Not having that right nutrition can inhibit their future potential for the rest of their lives.

Q26 Pauline Latham: Mr Mulvany, in your written evidence you argue that DFID is too close to large scale agri-businesses. Can you give us some specific examples of that, please?
Patrick Mulvany: Some of our members have produced reports on this, and I am happy to share those with you, which actually identify particular bungs from DFID to corporations. There is a sense, which I raised, that if there were a better focus in DFID on food and the food provision of the poorest and the majority, rather than falling prey to pressure that comes from certain quarters to be able to support—

Q27 Pauline Latham: You just said that you have a sense, so this is not actually fact; it is just what you feel.
Patrick Mulvany: I can provide some facts in the reports, which I will send to you. Let me just emphasise that you should look at the proposals, not just in DFID but other parts of Government. This Committee would be well advised to call for a cross-Whitehall look at food and agriculture, involving not just DFID but also the Office of Science and Technology, DEFRA, BIS, DECC, the Department of Health and all the Departments that have some say in what happens internationally. You should get them to think again about the focus. The focus on agricultural research should be on supporting those smaller scale, more biodiverse, more nutritious and more ecological production systems, rather than supporting a commodity production system that is driven very much by global corporations. I think you will find that quite commonly in what is prepared by Government. It is echoed by DFID, and the new agri-tech strategy, coming from BIS, will try to put far too much emphasis on proprietary technologies rather than looking at how to support and strengthen that local biodiverse ecological food regime.

Q28 Pauline Latham: Could I ask the other two how you would see the best way to support smallholders? How could DFID help in that respect?
Max Lawson: This is why the tax issue is important in the If campaign. There is also the aid issue and the fact the coalition Government is committed to increasing aid. It is important to look at what that public investment could do. From the perspective of farmers, particularly poor women farmers, farming is an inherently very risky business and is becoming more risky with climate change. There is a lot that can be done by the public sector to help mitigate that risk. That could be investment and extension or information, which is fairly non-contentious, or it could be revisiting marketing boards in certain places, looking at the availability of storage or setting prices for particular crops. There is a lot that can be done to have an agricultural system that benefits the majority.

Q29 Pauline Latham: Who should be setting prices?
Max Lawson: In certain instances, having a marketing board that says, "We will be able to purchase this amount of your crop at the end of the season and you are going to get this level of price for it," is actually exceptionally useful if you want to invest in your farm. If you need to mortgage enormous assets to get fertiliser, for example, you need some level of security. It is basically a transfer of risk. At the moment all the risk has been transferred to the farmer. We need to redistribute it back in one way or another.

Q30 Pauline Latham: That is the sort of thing that SABMiller are doing. They guarantee the price of the sorghum in Uganda. They will guarantee it, and they take the risk of whether it is a good crop or a bad crop.
Max Lawson: That is not necessarily a bad thing; it could be a good thing.

Q31 Pauline Latham: As you say, it gives them certainty.
Max Lawson: Certainty is important. That can come from the private sector but it can also come from the public sector, which is why public investment is so important. It is really important, and I would underline what my colleague was saying about the diversity and the knowledge of farmers, and the gender aspects of what we are talking about here. In my experience in Africa, the amount of diversity and local knowledge is extensive. There are far more experts on agriculture in the average African village than there are in DFID at the moment. It would be really good for DFID to learn from those experts and invest more in the knowledge of what actually works. That is something that could come with the increase in aid and the increase in agricultural investment. There is a paucity of knowledge and understanding that could be addressed.

Q32 Chair: You are all making very strong points about the merits of smallholding, which obviously we should take seriously. I know it is defined as very small, but is there a minimum or optimum? What about things like crop rotation, which you cannot really do on a tiny plot? Do you accept that somebody like Paul Collier does take the view that, actually, there needs to be a lot more consolidation? When we were in Rwanda looking at the land registration, one of the things people said was that land registration will make it easier for people to sell their land. The suggestion was that you might very well find one guy in the area buying up all his neighbours, and suddenly he has a 50-hectare farm. I just want to push you a bit harder to say whether you think all that is a bad idea.
Patrick Mulvany: We get hung up on this term "smallholder". That is actually not the term used by our colleagues in EuropAfrica in this project we operate with the networks of farmers in West, Central and East Africa. They much prefer the term "family farming". You cannot be precise about size, but the other thing is that, indeed, one needs the opportunity to be able to do what is necessary to maintain the health of the soil and proper ecosystem function. It is, in a sense, an unhelpful term. As we say in our report, it has now become a new orthodoxy, which seeks, on the one hand, to incorporate smallholders into the

global food system for as long as is useful to the global food system—and then everyone is spat out, as has happened in this country—or looks at supporting small-scale food provision with all the benefits that I have outlined in terms of food, social and environmental sustainability and improving livelihoods at a local level. We can learn from what Via Campesina, the small-scale food providers' organisations and the social movements are themselves saying. Let us focus on those relatively small enterprises, relatively small family farms, and see how to continue to support them—they who provide 70% of the world's people with food.

Q33 Fiona O'Donnell: It is really interesting listening to the evidence. With food poverty and security increasingly becoming a concern at home, we could actually implement some of these policies in the UK. I want to return to the issue of food prices, because that is a major part of food poverty and insecurity. I know it has come up but I want to make sure we have not missed anything. I am thinking in particular about the price spike in 2007 and 2008. Are there any factors you have not touched on that caused that?

Patrick Mulvany: There is one thing I would like to emphasise, which is speculation. It was briefly mentioned in our submission, and one of our members, the World Development Movement, is working quite a lot on it, so we can provide more to you. There is the Government's reluctance to invoke what are called position limits. Those are a mandatory limit on what can be held by speculators, which is clearly a factor affecting prices spikes. The more relaxed voluntary measure that they are proposing is really not satisfactory. There is something we can do at home, and something we can do in the City, which is handling a lot of this speculative stuff, that affects price spikes, and that is really important. Just remember what I said earlier: the root of it actually depends on being able to even out fluctuations in supply through grain reserves at local levels. If you can do that, you will actually get around a lot of the problems.

Q34 Fiona O'Donnell: We are probably going to talk about speculation as well, and you may want to come back, Patrick. We have some evidence from Christopher Gilbert, who says that speculation is only part of the problem. He talks about the price of wheat, corn and soya beans increasing from 14.8% to 16.9%. That was the percentage caused by speculation. Yet wheat increased by 100%. Is speculation really the main cause? What are the other factors?

David McNair: In 2008 export bans were a really major issue. You saw the major exporters, like Russia, panicking because the prices were going up and then imposing bans, which then sent panic through the markets and sent prices rocketing. One initiative that has been really helpful in that regard is the G20 Agriculture Market Information System initiative, where major grain producers are sharing information on a daily basis. Certainly, from conversations I have had, they have suggested that, during the food price increases last summer, the fact that those major producers were sharing information regularly prevented those export bans. There are initiatives that can be taken forward at the international level that really help the situation.

With regard to speculation, the evidence is less clear cut than it is on biofuels. Biofuels clearly do drive price spikes and increase volatility as well, as the long-term trend. There is clearly evidence of speculation amplifying current trends and also making, as Max referred to, the price discovery function much more complex. The question then is: what can we do about that? Is greater regulation at this point, now that investors and banks are involved in the markets, the right thing to do? We are not completely sure about that.

Max Lawson: We are fairly sure about that. The other important point about speculation is to look at commodities as a whole. Agriculture and food prices are intimately linked to the oil price, for example. The evidence for speculation on the oil price is much stronger and much less disputed. If you take those two together, you are looking at a situation where it is a magnifier. It is not the main reason but it is an important reason. The reason we want to focus on things like speculation on biofuels is that these are policy choices that could be regulated and could be stopped—they could be stopped in the near term—which would make the food system more efficient. That is the key point. It is about what is within the remit of politicians in the next few months that could actually make quite a big difference quite rapidly.

We are very worried about the financialisation of the food market. Derivatives and futures were invented by farming. They were a way of farmers hedging against risk. So it is not as if we are against the use of financial products; in fact, quite the opposite—they can be incredibly useful for farmers. You now have a situation where some futures traders in Chicago are really upset about the Goldman Sachs of this world getting involved, because they no longer know what the prices of things are. So you have this theme of responsible capitalism, where you are using the financial system to benefit, in this instance, useful price discovery and useful insurance against risk, and you are being undermined by a financialisation of the market and new players that are not really interested in the real price of what they are doing; it is about the direction of that price in that minute, in some instances.

David McNair: I think it is really important that we look at the fundamental drivers of food price volatility. It is also important that we look at the responses, given that it is happening and is likely to happen more frequently. What we have seen in our programmes and the evidence we have generated from those is that poor people tend to prioritise energy. So if the price of maize or a staple increases, they will try to purchase the same amount of maize, even though it is at a higher price. The more nutritious crops, which are essential for cognitive and physical development, are left aside. That makes it incredibly important that social protection mechanisms are in place to help poor people weather those storms and also to ensure their long-term resilience. What we have seen in the Sahel, which is a slightly different context, is that when food

prices go up, poor people sell their productive assets—such as a goat—to buy food. That diminishes their resilience and, when the food price goes up in the next year, they do not have that productive asset to help them weather that. So social protection that is adequate for purchasing a nutritious diet is really crucial.

Patrick Mulvany: I agree with that. Look at some of the systems that people are coming back to in some parts of the world: barter. That is looking at ways of exchanging food and making sure they are able to better provision themselves. The relationship between family members in country areas and in urban areas is a very interesting thing to look at. That may be something that can be thought about and strengthened. There are examples of where this has had a very levelling effect on food supplies when there have been quite severe spikes.

Q35 Fiona O'Donnell: On the nutrition point: I really hope that fish cultivation will be part of it. It does not seem to be talked about very much—that is in village ponds and for children.

Patrick Mulvany: Exactly, on a small scale, not the investment in industrial aquaculture, which is another form of land grab or water grab. That small scale is absolutely important, and we are well advised by a wonderful organisation called the International Collective in Support of Fishworkers, which produces some excellent evidence on this very point, which I am happy to share with you.

Q36 Fiona O'Donnell: I was going to ask you what we need to do to try to prevent it, but I am really pleased that you came up with the solutions without being prompted and did not just focus on the problems. I just want to ask what your assessment on this is. Given the drought we have had in the States and Russia, do you think we are in for another food price spike?

David McNair: It is hard to say what will happen over the next year. It is quite clear to us that we are in a situation where, because of climate change and increasing population, food price volatility will be more common, whether that be at a regional level in the Sahel or globally. Therefore, we need to look at the policy changes we can make, both in the UK and in our leadership internationally, to mitigate that, whether that be sharing of information, dealing with the biofuels issue or dealing with food price speculation, and how we respond through social protection. That is an issue for security—we have seen food riots in the Arab Spring—but it is also something that I think we have a moral obligation to do: to protect those who are most vulnerable in the face of food price spikes.

Q37 Richard Burden: Could I ask you a little bit more about some of the institutions involved here? Right at the start, Patrick, you were talking about the role of the UN Committee on World Food Security. There has also been another initiative set up by the G8 at its summit last year: the New Alliance for Food Security and Nutrition, which the NGOs have been quite critical of. Could you translate some of that for us and tell us what is going on?

Patrick Mulvany: The way in which the renewal of the then-FAO Committee on World Food Security into this new UN body took place—and I and various colleagues were very much involved in that process—was supporting the majority of Governments who really wanted to see a democratic space in which the governance of food and nutrition could be debated and negotiated, and a global framework agreed. Indeed, in the last meeting of the CFS, the global strategic framework was agreed. That is an interesting document in its first version. The important point about that process was its nature of being totally inclusive. To start with it was inclusive of all Governments and, secondly, it was inclusive of all actors in the food system: from private sector, to NGOs, to social movements of food providers. They engage in the debate on an equal-footing basis. It is a dramatic and dynamic space to be in, where you see China, followed by Via Campesina, followed by the Fishworkers, followed by Algeria—or whatever it may be—in the debate. However, the Governments of the CFS take the decisions and are responsible for implementing those decisions.

During 2009 a previous version of the New Alliance, the Global Partnership for Agriculture, Food Security and Nutrition, was essentially seen off by the majority of Governments because they really did not like a little group of countries trying to dictate what should happen. Particularly not now. They have been very vocal about it, when that little group of countries sides with a large number of the world's global agri-business corporations. So it is not what is needed, not what is wanted and not what is being called for by those who provide most of the world's people with food. Strengthening the Committee on World Food Security and implementing things like the voluntary guidelines on land, as we have discussed before, and implementing the Global Strategic Framework and using that to govern all food and nutrition activities would be a very much stronger way forward. The other is a bit of a distraction and actually might perpetuate the same businesses as usual.

David McNair: Patrick is right that we need a forum that is democratic and can agree the broad parameters for how we govern the food system. I would not necessarily agree with Patrick on the other initiatives being a distraction. We need to take an approach that ensures democratic structures, but we also need to be quite pragmatic about how we get things done. I already raised the example of the G20's work on food price volatility, which has been incredibly positive. The G8 has done great work on investing in agriculture plans in the past, through investing in the L'Aquila commitments, for example. We think that the New Alliance certainly needs reform: it needs to be more accountable and more focused on country-owned plans, in line with what the global strategic framework outlines, which are their own principles around country ownership, co-ordination and taking this twin-track approach of dealing with hunger now and also investing in the long term. Those principles, which are agreed by the CFS, need to be implemented

in various other fora, where you can actually make action happen.

Q38 Richard Burden: I guess that those involved in the alliance would say that it is based on country programmes. They would say that it is based on country programmes developed in Africa. You are talking about the small group of countries, Patrick. Are you talking essentially about the G8?
Patrick Mulvany: Correct.

Q39 Richard Burden: Or are you talking about those African countries?
Patrick Mulvany: It was the G8, and then there are six countries in Africa and a few more that could be brought into the programmes of the New Alliance. To go back to what I was saying, that the majority view from the majority of countries, through the Committee on World Food Security, is the one that really needs to be focused on. The danger is that too great an emphasis on the G8 and the New Alliance will enable them to do things that are not governed properly by that other body I have mentioned, the CFS. The long-term danger of that is quite significant. The Alliance is informed more by leaders in countries that have been brought into that system, rather than the majority of food providers in those countries. There is a severe democratic deficit in that process.

Q40 Richard Burden: I know that none of you are from Tearfund, but they have entered the debate about this. They have said that there is actually an attempt by some UN member states to clip the wings of the CFS and keep it out of various issues relevant to food security. Trade and climate change are two of those. Is that the case? Is there any evidence that that is the case?
Patrick Mulvany: In the recent meeting of the CFS it was said that there was some evidence that there were attempts by certain parties to limit what could be done, particularly on climate change. There again, there is a danger that, if you have a global governance body on food security and nutrition and then, in terms of other parts of the UN system, allow them to rush off and do whatever they want on food security, it does not seem to be particularly helpful. I do a lot of work with the Convention on Biological Diversity and the same [need for coherence] is true there.
All parts of the UN system and indeed all Governments need to acknowledge the superior position of the Committee on World Food Security and try to do their very best to make it work effectively. There is a High Level Panel of Experts, and you will hear more about that in the next session, I am sure. They have done some very interesting reports, which indicate what could be done better. For example in climate change, moneys that are available could be invested much more into adaptation rather than mitigation, in support of local food provision. The important thing is to give what the majority of countries wish: to have that Committee on World Food Security as the dominant governance body on food and nutrition. That is, above all, one of the most important things. We also need to make sure of the inclusive nature of that body: including the views of the small-scale food providers' organisations themselves, is essential.

Q41 Richard Burden: Who is it that is trying to limit the remit?
Patrick Mulvany: I can provide you with some written evidence afterwards. I will suggest that there are some countries, not too far from the G8, who have not been as helpful as they might have been.
Max Lawson: Can I just add something on that point? It comes back to the point about the If campaign. The G8 works best when it gives life and muscle to much greater endeavours. That may be the Millennium Development Goals, debt cancellation or the fight against HIV/AIDS. That can really make a difference. It is about taking legitimate structures and giving them the boost and resources they require to work. That is about public investment. It is no surprise that you are seeing much greater focus from the G8 on private sector investment, partly because they think it is a good thing but partly because they want to distract from the main event, which is that they should be providing the aid that they promised. Britain stands alone as committing to its promises. At the G8 in Ireland we need to see the public investment that is required. That is what the G8 can do. Partly, the concern with the New Alliance is with the New Alliance itself, but it is also about the fact that it is, in some ways, a distraction from what the G8 can and should do when they meet in Ireland.
Chair: That is very helpful. Thank you very much. Apologies to the second panel; we have not forgotten about you. You have heard some of the discussion.
Can I thank all three of you on the first panel? As I said, this is the first session we have and you are raising questions as well as answers, so we have a lot to pursue. Thank you very much for doing so.

Examination of Witnesses

Witnesses: **Tim Lang**, Professor of Food Policy, City University, London, **Camilla Toulmin**, Director, International Institute for Environment and Development, and **Andrew Dorward**, Professor of Development Economics, School of Oriental and African Studies, gave evidence.

Q42 Chair: Thank you very much for coming in. I apologise for keeping you waiting but we had some questions to pursue. Can I ask you, formally, to introduce yourselves for the record?

Andrew Dorward: I am Andrew Dorward. I am from the School of Oriental and African Studies, University of London, and the Leverhulme Centre for Integrative Research on Agriculture and Health.

Camilla Toulmin: I am Camilla Toulmin. I am the Director of the International Institute for Environment and Development.

Tim Lang: I am Tim Lang, Professor of Food Policy at City University in the Centre for Food Policy. We focus on the rich world rather than international development.

Q43 Chair: Thank you all very much. You got a flavour of some of the questions in the previous session. The most obvious starting point is: what are the factors that affect the supply and demand situation for food? People have said that we have enough food in the world but we still have a lot of hungry people. Clearly there are inefficiencies there. Also, on the role of smallholders, which we have had quite a bit of discussion about, what are your views on how they fit into the problems of supply and demand or the solutions to those problems? Who wants to go first?

Camilla Toulmin: I am happy to do that. Forgive me, I came in overnight on a flight, so I am a bit crumpled both physically and mentally. There is obviously a lot of material on which you can base your inquiry. There is *Global Food and Farming Futures*, conducted by the UK Government's Foresight. As we heard in the previous session, the CFS has some excellent reports on a number of issues, including food price volatility. There is a very good piece there that recommends some controls on commodity trading to minimise some of the risks associated with that. There are also recommendations—which is the one I did, in fact—looking at agricultural investment and tenure, which comes up with a set of recommendations that would be worth looking at for the context of the G8 discussions. You will see a fair body of work highlighting what some of the causes and problems associated with food security might be.

I want to focus a bit on the different approaches that different agencies are taking, in particular the focus we are getting from a number of donors and foundations on the role of the private sector, and the view that you have to get large-scale private sector investment into agriculture, which was something that came up a bit earlier. While we feel that that does hold promise in some contexts, it is a bit exaggerated and it ignores a number of things, particularly the fact that smallholders are also private sector actors and invest very considerably in their production systems. We need to think not only about food production but about the broader rural economy within which food producers sit. We need to think about the role of the state in promoting broader rural development, which includes issues around investment, infrastructure and irrigation—the basic, long-standing needs of the agricultural sector.

We have been talking about large-scale and small-scale producers. We tend to describe rural producers as a pyramid. There is a small group at the top, who are engaged in highly structured, formal market chains, but you have a big group at the bottom who are probably buying as much food as they grow, and then there are various intermediate levels. So thinking about that pyramid of different types of producers is important in terms of thinking about the needs and possibilities of each of them. A lot of our work has focused on identifying the limits to that formal sector involvement in marketing and the huge importance of the informal market chains that most food producers rely on. You mentioned the importance of subsistence production. I have never seen a farmer who is 100% subsistence. Normally there is some level of engagement in market and commercialisation of one sort or another.

The last point I want to flag up is that it was great to hear this discussion about land tenure. That is something I have been banging on about for the past 10 or 15 years. It is important to get recognition of local people's rights, not only to farmland but also, most importantly, to collective lands: pasture land, grazing, woodlands and water bodies. Those collective rights are terribly important, particularly for the pastoral community. There are secondary rights: women's rights, tenancy and sharecropping. There is a whole set of really important contracts and institutions that allow people access to land and that get swept aside by Government, very often, when they want that land for some other purpose. We see strengthening those rights to both individual and collective property as being critical, particularly looking forward and thinking about what is going to make for a more climate-resilient pattern of production.

Chair: We will pursue some of those things in other questions.

Andrew Dorward: I have a long list of things to talk about. One question I would ask is, when we are looking at food prices, whether we are looking at international food prices or national and local food prices. The two are often related but sometimes they are not. In some landlocked countries in Africa, domestic supply and demand are probably more important, certainly in the short term, than international prices. So we have to think both about the international situation and the situation in particular countries, which is going to vary in different ways from the international crisis.

In terms of the causes, one thing that I would have observed in the earlier discussion is that this food crisis has crept up on us. There has been a lot of debate about why no one, particularly economists, spotted the financial crisis. The same question comes up with the food crisis. Everyone said that food prices had been declining for years and years and years. No one spotted that, around about 2000, they bottomed

out. From 2005 to 2005–06 they were flat; they were not declining. Then in 2007–08 we got this food spike. Since then we have been in a situation with these spikes and a higher bottom, if you like, below the spikes. I do not think that people noticed it—I did not—up until the crisis struck.

So, what caused it? A lack of investment and an assumption that things were okay was definitely there. There was a lack of investment in research and development and a lack of investment in agriculture, particularly by aid agencies. It was difficult, within the policies they were recommending, particularly for African Governments, for those Governments to invest in agriculture themselves. That was a set of policy issues. Then we had this biofuel thing coming up. My comment about this thing creeping up on us is partly a response to the question you were asking on that. There is no doubt that biofuels are important. Oil prices also contribute. Fertiliser prices were very high, although that followed the 2008 price spike to some extent. There is some loss of land, rising demand, and all of these things were basically tightening the market.

Then you get a weather shock; that causes the price spike, and that makes speculation attractive. I find it very difficult to say that a certain percentage was responsible for this or for that. Actually they interact. Nothing may happen. Speculation may have zero impact if you do not already have a tight market. If you have a tight market, speculation, whether it is physical speculation—holding stocks—or whether it is financial speculation—on which I have to confess I do not understand the debates, but they seem very mixed—would really not be such an issue. What we ought to be doing is looking at relieving the tight situation. That means that we need to think about production and we need to think about demand. On the production side, we move into a discussion about smallholders. On the demand side, Tim is a better person to speak than I, but I would put forward waste, particularly in the north, and excessive consumption of livestock products as two issues. Those are things that something could be done about, although they are challenging. The livestock consumption and the growing incomes of people in China, in particular, but all over the world, is also one of the contributors to the tightening situation.

With regard to smallholders, I have a couple of background points. First of all I would reiterate what Camilla was saying. There is a huge variation amongst smallholders; they are not just one uniform lot. In particular, at the expense of making my own huge generalisations, roughly 50% of smallholders in Africa are buyers of food. Then you have another 50% who may just produce enough or produce more than enough and are sellers into the market. So a lot of smallholders in Africa, and I understand that this is the same in India, are negatively affected by high food prices. That is something that we find difficult to imagine—that farmers do not find high food prices good—but it is the case for many farmers.

Q44 Chair: Because, on balance, they are buying more food than they would be selling.

Andrew Dorward: Yes. In fact very few buy and sell. The evidence is that only about 10% are sellers and then buyers. A much greater proportion just buy; they produce, it lasts for a few months, and then they start buying.

In terms of the debate between support to smallholders and support to larger holdings, first of all, I would draw another distinction within smallholders. There is a lot of emphasis just now in policy, particularly with an aspect of commercialisation, on the 50% of smallholders who are sellers, but not a lot is going on in international debates about what can be done with and for the 50% who are poor and net food buyers. They are much more challenging. Just coming in with commercial ideas is not going to work. I am not knocking the commercial work—I think that is very important and has a lot to offer—but we also have to think about the other half. We need to think about what their future is, and whether their future is in agriculture or whether there is some role for consolidation there.

In terms of looking at global food security, support to smallholders is absolutely critical. It is not just about the production, where large farms may be very good but smallholders can also be very good; it is also about the ability to afford the purchase of food—the access to it. If you just support large farms and do not support small farms, how are the poor smallholders going to afford to buy food? They need to have opportunities to raise their productivity so they can either buy food or produce their own. This is an extremely important issue when we think about the large/small farm debate. We have to think about the ability of small farmers to afford food if it is to be produced by others. That is a very challenging issue.

Tim Lang: We are getting into serious waters. I am going to be, I hope, not contrarian but say that some of us did see it coming, but it was a very, very, very unfashionable view. I was a member of the Chatham House inquiry, which was sitting, and we could not get anyone from the British state other than the Ministry of Defence to join in. Then, when the price spike happened, they were all crowding in. The reason was very simple. This was the new, radical argument, which we called the new fundamentals, which said that, by looking at the rich world, not the developing world, you see a model of agriculture, food production, distribution and consumption that is unsustainable. The argument had partly been a very arcane debate about what sustainability is and partly it was a very philosophical debate about progress. Essentially, here we are in a building that symbolises it. From the 1840s, with the repeal of the Corn Laws in 1846, the decision was made by the British state that, essentially, they did not need agriculture. It did not really kick in until the late 19th century, when technology came in and you could import lamb cheaper from New Zealand—in 1882, when the first ship, the Dunedin, came in—and take it up the Manchester Ship Canal than you could get lamb from where I used to farm, the Bowland Fells of Lancashire. Then, for the entire 20th century we had an experiment with what in my world we call productionism. That is a belief that, just by producing more, you would resolve the problems of Malthus:

that there would not be enough food to feed the population.

This productionist thinking was utterly, brilliantly refined, again, here in Britain. We were leaders of it, not just because of empire and colonies but because there was big thinking about it and big scientific investment. It was very simple. It said that, by investing in science and technology with distribution and capital investment, you could massively increase outputs of production. But by the 1970s, 1980s and 1990s, that model was itself coming into some difficulty regarding the environment and public health. The evidence coming from over-consumption and the rise of non-communicable diseases was coming into public health, not agriculture, because they were not interested in it. Over-consumption and mal-consumption were causing the problems that the NHS is now almost bankrupted by. Getting a grip of this enormous new agenda at the end of the 20th century has been an enormously complicated intellectual process. Frankly, no one has been doing it—or very few people have been doing it.

By the end of the 1990s and the 2000s, there were people beginning to do it. My colleagues and I were some of those. There were a lot around the world, but politically and in policy terms they were utterly marginal. When the oil price spike hit in 2007, you suddenly saw what we had seen in the early 1970s, which was that, when oil prices go up, food prices go up. The assumption from the economists was that it would carry on going down. The new fundamental theorists, and I include myself in that group, said that it would not, because we have biodiversity and all the things the previous panel were talking about. There is a squeeze on biodiversity, rocketing population, rocketing resource use and rocketing urbanisation. In other words, the context within which the brilliance of the new productionist policy paradigm had made sense was no longer the world it needed to address. So this is big-league thinking. It is about what we mean by progress, what we mean by development, for whom and what the role is within it.

Now, let me be very clear about a number of things; then I will stop, and you can ask us more questions. Essentially it is about bringing down the price of food from 50% or 60% of disposable income in developing countries. We had that in the 19th century. Indeed, we had 30% of disposable income going on food here in this country only 60 or 70 years ago. It is progress to bring down the price of food, but it was done by mining the earth and it was done by squeezing it. One can think of it as a rubber ball being squeezed. That is, essentially, the difficult we have now: how do ecosystems and we, this predatory human species, mix for the future?

So I nail my colours very firmly to the mast. When I was a Government Commissioner on the Sustainable Development Commission—which, for various reasons, the coalition abolished; I think it was a shame—this thinking was personified by the SDC and also the Royal Commission on Environmental Pollution, which is another body that was abolished. The thinking was that you cannot have a notion of food security for the 21st century unless it is entirely about sustainability. The only argument then is: what do we mean by sustainability and how tightly can we define it?

So, to answer your first question about views on food security, the classical model about food security said that, for urban, dependent populations it is about the three As: affordability, availability and access. The purpose of public policy, private policy and all these different methods is just pouring out production so that it meets the three As of affordability, availability and accessibility. In the 21st century, that no longer fits. That is the problem we have and that is why your inquiry is a very important one.

So, we actually have lots of different models being put on the table. One of the things I would like your inquiry report to do—I know they are always elegant—is tease out the different models and interpretations of what the future is. My view is, for different reasons that I am sure we can come to, do not get caught up on thinking it is just about more production. There is plenty of food to feed the world right now. There may not be in 2050. There is an over-production and over-consumption problem alongside mal-consumption and under-consumption.

To answer your question, Sir Malcolm, the reasons for hunger in any country, whether it is elite hunger and under-consumption or whether it is absolute hunger, are to do with income, affordability, a sense of rights, culture and skills. There is a whole complex array of factors that really determine who eats and who does not. What your inquiry is about, it seems to me, is what big framework we want. Look at where the previous panel ended up: all these organisations cropping up, emerging, experimenting and being created by companies, company partnerships with Government, high or low level, NGOs, and the reformed Committee on World Food Security. There is an explosion of institutions, all trying to compete for the fact that we do not have a clear framework. I have not come from Australia, like poor Camilla, feeling physically on the edge, but last night I was in Oxford giving a big lecture, where I was calling for us to go back to Hot Springs. We need a new, big, global consensus and we do not have it. We do not have it for the 21st century, and we will have a mess in policy terms until we have that.

Chair: I guess I asked for that.

Tim Lang: You did. You should not have asked me.

Chair: All three of you have given us very broad and extremely interesting analyses of the range of complex problems. We now need to drill down with some more specific questions. Perhaps the answers need to be slightly crisper, otherwise we might be here all afternoon, but that was a very interesting introduction.

Q45 Fiona O'Donnell: I was thinking about what you said, Tim, about what our report should be and about that framework. Part of it could be about infrastructure. The Institute of Civil Engineers has recently produced a toolkit for the developing world, which reminds us of the importance of infrastructure. I wonder if I could ask how important you think that is, each of you, in terms of food security and what the Department for International Development should actually be focusing on. Camilla, you mentioned irrigation; is it also roads or storage, which is often a

problem in countries? Climate change is having such an impact because they do not have those facilities. What do you think the infrastructure priorities should be?

Tim Lang: I will be very quick on this one. It follows from the big picture that we three were all giving in different ways. There are different needs for infrastructure for different levels of income of country. If you look at Britain, which I study in the rich world, we have zillions, billions and trillions of investment in highly sophisticated forms of storage, called motorways. We do not store, actually, it is all on the motorway. We have a just-in-time system of food. Now, go to Malawi, where I have a PhD student, and it is a totally different world. There needs to be investment in roads and storage. That couples with something that Andrew raised about waste and the problems of waste. My colleagues and I contributed to the UNEP report, which is one of the many reports that have been coming out since the price spike. There are different forms of waste in the rich world and poor world. We need to have on farm, close to farm, investment in skills, storage capacity building. That is a major priority.

The Gustafson FAO report, which I recommend to you, came out in 2011; it is a magisterial review of the issue of waste, and if you have not read it, do. It is, blessedly, quite short. That points out that we have a world in which there are different forms of waste in different levels of development. We waste 30% but it is after consumption. We have different contracts and specifications creating structured waste in our rich world. In the poor world the waste takes a very different form and is much more like what we had in the 18th century in this country. So infrastructure, yes, but it will be very different in different places, I think. Camilla will put me right.

Camilla Toulmin: I could never put you right, Tim. On infrastructure it is important to say that there are two different kinds. There is tangible and intangible. Investing in tangible infrastructure makes a lot of sense in terms of transport and irrigation. Much of Africa has water potentially available but it needs investment to bring it to the surface. There is some brilliant work done by the British Geological Survey that shows these massive amounts of water that could be tapped. What is missing is the means to bring it to the surface and to shift irrigation schemes from wasteful furrow irrigation to much more drop irrigation. It is also important to say that, while you can have these very big schemes, there is also a lot of mileage in much smaller scale rainwater harvesting and catchment activities as well. There is dramatic work in the West African Sahel that shows what can be achieved by those small-scale schemes.

Some of that investment is private sector, like ICT and mobile phones. Governments did nothing and aid agencies did nothing to help generate this incredible spread of mobile phones, yet they are everywhere and they are a really important market tool for farmers and pastoralists.

On the intangible side, there is a whole set of investments that can be made in the social infrastructure, in terms of farmer associations and ways in which people can secure their rights in land. The intangible institutions also need investment. Finally, you need investment in research infrastructure. There has been a tendency for agricultural research, certainly in many developed countries, to rely very much on the private sector. If you are looking at trying to get sustainable intensification, which very often means using less input, rather than more, there is no real, strong commercial advantage in researching techniques that then mean you sell less of your product. So there is a very strong argument for public-sector investment in trying to develop more sustainable patterns of farming.

Andrew Dorward: I am going to be shortest of all and say that we have had a really good summary.

Q46 Hugh Bayley: What could DFID be doing on climate change adaptation?

Camilla Toulmin: What they are already doing. Certainly, judging by the work we are doing with them in Northern Kenya, they are adopting an approach that is very much bottom up and trying to work alongside local government. It is really only at that local level, working with communities, that you can determine what is going to make sense in terms of patterns of water and land management and the strengthening of the local institutions that can make that possible. DFID has a pretty good record on some of its practical work in the field, from which you could learn, but you should encourage them to do more of it.

Q47 Hugh Bayley: What about internationally mobilising action on climate change? Does the UK have a particular role?

Camilla Toulmin: The UK has a very important role because it is one of the big three within Europe who are really articulating a strong, progressive view on climate change. It is really important that we be seen to do domestically what needs to happen more broadly, globally. I would be a bit worried if we start to get a wobble on the Climate Change Act and the commitments we are meant to be firming up, looking ahead. At a time when Obama might be trying to bring the US slightly more on track with a global regime, we need as many progressive Governments to be saying that this stuff really matters and it matters now.

Andrew Dorward: I am not going to say much, but I will again be very boring and agree with what Camilla has just been saying. I would like to stress that, if you are looking at global food security, climate change is a huge issue. It just seems to me that the more news we get, it gets worse on two fronts. One is that it is happening faster than we expected, and the other is that its impacts are worse than we expected. That applies, definitely, in agricultural production and it applies, particularly, to agricultural production in the tropics, which is where the biggest global food insecurity problems are. It is a very serious problem. Adaptation is very important, but mitigation in the north is absolutely critical too.

Tim Lang: I am glad Andrew followed Camilla on that. I have been discussing this with people at DFID, and I think there is a practical issue that is not being addressed, which DFID could engage with: what is a good diet; what is the purpose of agriculture; and what

is food production aiming for? In the developing world, if I don my public health hat, we see a terrifying complexity emerging, where you have a spread of non-communicable diseases in countries that have poverty and hunger, side by side. It is not massive but, in sub-Saharan Africa, obesity is 5%. I am nervous about DFID, for very honourable reasons, being locked into an old-style productionist model. If there is one thing that is waking up and stopping that, it is climate change. But climate change is not just on its own. It is coupled with biodiversity and ecosystem threats. It is coupled with water scarcity and the difficulties Camilla was referring to with irrigation.
One of the things that DFID needs to do for the medium term—it is not urgent now—is get abreast of the debate that is roaring about sustainable diets. We need to shift the public health template, which has been driving productionism since the 1930s and 1940s, into a better integration of environment and health. There are some very interesting developments. The FAO, Biodiversity International, which Patrick Mulvany was referring to in the previous panel, and others—companies—are beginning to engage with the question: what is a low-impact, low-carbon diet? What does it look like? Is it different in Malawi from Kenya or Thailand? That is a complicated issue, and DFID needs to get its head around that. It may seem an abstract problem, but it is not going to be in 10 years' time.

Q48 Hugh Bayley: I agree strongly with Andrew that the climate challenge is a growing challenge. It seems to me to be a few years since Nicholas Stern was setting out the cost-investment scenarios that would be necessary to limit global average temperature rises to two degrees. The World Bank is now working on the presumption of three degrees.
Tim Lang: Forgive me for interrupting you, but six degrees seemed completely inconceivable 10 years ago but is now possible. If you talk to people at the IPCC, it is possible, and 4% is looking very likely now, unless something really serious happens. I do not know about my colleagues, but the nightmare for me is that you get serious shock, not just of an oil-price-spike type but serious ecosystem and population shocks.

Q49 Hugh Bayley: The core argument in Stern was that, if you invest in mitigation and adaptation earlier, you can reduce the cost.
Tim Lang: It pays off later, yes.

Q50 Hugh Bayley: Even if the World Bank is right and it will plateau at three degrees, it would be more costly to adapt than mitigate. I will ask that as a question: is that right? If a plateau is at four degrees or five degrees, will it be more costly still?
Tim Lang: It depends how you calculate the costs. Let me maintain the public health hat, which I wear partly, and mention the recent *Global Burden of Disease Study 2010* report, which maybe Andrew will know. That showed how the range of diseases is adding a burden on health care. The burden is not just about climate change, soil and ecosystems. It is about health care costs. When the temperature goes up, people die for other reasons.
Camilla Toulmin: Nick Stern at Davos said, "Oops, I made a mistake; it is happening faster and being more damaging than I had in my report." That is to say, the costs of doing nothing are rising rapidly. A lot of his argument was about what kind of discount rate you should use. Should you discount what happens in 10 years' time because, hey, it is 10 years away?

Q51 Hugh Bayley: The basic argument is: the later you leave it, the greater the cost in disease, cost of food and so on.
Camilla Toulmin: The greater the cost, but also the steeper the curve that investment costs have to be as well. So it is a double whammy either way.
Tim Lang: Also, the steeper the curve of the crisis falling off a cliff.
Andrew Dorward: Most of the IPCC predictions are based on average scenarios. We have seen in the past few years these weather shocks in different parts of the world. There is increasing recognition of the importance of shocks. There is an increasing probability of high temperature and drought weather shocks. I was reading a paper yesterday by Hansen on this. We can now say, with a pretty firm degree of confidence, that the increased number of high temperature drought weather shocks we have had in the world in the past few years are related to and caused by climate change. We have tended to have one every other year for the past three or four years. What happens if we get two in the same year? Are we then into a real crisis? Tim has been saying that it is not about production.
Tim Lang: Not only about production.
Andrew Dorward: Exactly. Production is still exceedingly important. If we suddenly get a big hit, say in the US and in Russia in the same year, what is going to happen? I think it will shoot up the British political agenda really fast, but the damage that will be caused in other parts of the world will be awful.

Q52 Hugh Bayley: The World Bank is promoting soil carbon markets. Can these contribute to food security? What do they do in terms of responding to climate change? Is offsetting an important goal?
Camilla Toulmin: It is a potentially important way of trying to get carbon out of the atmosphere, but there are big problems in terms of measuring the change of status of carbon in soils, which would allow you to then have a one-to-one payment for that increase in carbon. What is more likely to be a better way forward would be to reward farmers for changes in land use practices that act as a proxy for that improvement in carbon sequestration. You get some of the same problems as you have had with REDD—reduced emissions from deforestation and forest degradation—tropical forest schemes. Once you start putting a price tag on a piece of land, you need to make sure you have the rights and institutions around that land fairly clear. So it brings you back to the tenure issue as well. Getting more carbon into soils is a thoroughly good idea.
Tim Lang: I think everyone agrees on that. I am nervous about marketisation. I am not against it—how

can one be?—but I am nervous that policy focuses on it. Just look at the mess of the European trading system. It has not worked. We have a problem of time. I would ask you to ask of those who favour that sort of approach how clear they are about the mechanisms—whether it could be done in time and if it will be effective. It seems to me that reducing carbon to price misses the point. We have to have skills transfer, capacity building, helping smallholders and indeed big farmers here. Can I bring us back to here? We are bad role models in our farming. We have to retrain them. We need new generations of agricultural extension services. Just to say that the market will resolve it hands it over to the city slickers. God spare us is all I can say. One needs to have very clear criteria for how such a market system would work. So carbon pricing is fine in an ideal world. Would I put all my faith in it? I would not.

Q53 Richard Burden: You probably heard the discussion we had about biofuels with the previous panel. Could we have your perspectives on this, first of all in relation to both UK and European targets? Should they be scrapped? To some extent, even if they are, if the oil price is high, is the genie out of the bottle with biofuels anyway? Will the demand keep rising? If it is, what do we do about that?

Andrew Dorward: I think there is pretty well a consensus that those mandates are a bad thing. The savings in carbon are relatively small; the savings in terms of production in Europe are relatively small. Generally speaking, ethanol is pretty efficient from sugar, but from maize and with biodiesel from northern oil seeds, it is not very efficient; you do not save much carbon in the production process. When you then begin to factor in the impact on the prices and the impact of those prices, on the one side, on food, and on cultivation of oil palm and the felling of tropical forests on the other, you are into seriously negative impacts. Is there anything that so many international organisations have agreed on? We had the FAO, the OECD and the World Bank—I do not know who else was involved in that report—all agreeing, but that did not swing the G8's decisions. It is almost unique for them all to agree on something quite so strongly. That shows the strength of the consensus.

Tim Lang: That was because the 20th-century version of progress required energy ad libitum. We have a problem; we are locked into a high-energy mode of living. Where is energy from? It is from different forms of the biosphere, unless we turn to wind power and sea power. Then it is expensive because of the capital investment. I am not disagreeing at all with what Andrew said. There is agreement that biofuels have been a serious disruption to production, to prices, to markets and to land use. But if we do not get our energy from nuclear power, which is hugely wasteful and hugely expensive in its legacy when I see it here in Cumbria—and rightly so; it is good that has come out—where is energy from? You have to have low-carbon, low-energy lifestyles. When you eat like the British, who eat as though there are two or three planets, or like the Americans, who eat as if there are four or five planets, this is an energy-dense way of eating. So, we have to radically alter this. It comes back to my sore on sustainable diets. We have to have a different version of what a good diet is and the shape of it, and where it is going as progress.

So, the biofuels issue illustrates this bigger picture of: what is a good future, what is good agriculture and what is good land use? I cannot but see that good land use is multifunctional. What we have done is encourage farmers to switch from food to fuel. Is it possible to get much more sophisticated ways of delivering both out of land use? That is actually what the goal should be. The reports that Andrew was referring to, in unanimity, were in horror at the rapid change that the G8 had encouraged in their home markets. It was not the goal of multifunctionality.

Q54 Chair: Professor Dorward said that these were very inefficient ways of producing fuel and do not save much carbon, but are there by-products of food that can be productive in terms of producing biofuel? What we are talking about is actually growing crops specifically for biofuel, as opposed to using the by-products.

Camilla Toulmin: That is the Holy Grail. At the moment we are stuck with crops like sugar, which actually can produce ethanol at a reasonable carbon balance, and a whole set of other food crops, like maize and palm oil, where it seems madness. Then you have this second-generation cellulosic ethanol that everybody talks about, but we do not seem to have got to it yet. If there was a way in which we could use by-products or woody material of one sort or another to generate some form of ethanol or diesel that we could use, then that would be great. However, it is not getting anywhere closer so far as I can see it. It is always eight to 10 years ahead.

Q55 Richard Burden: If I understood what you were saying before correctly, sugar is a case on its own. If you were chasing the production of biofuels that did not particularly compete or undermine food production or food availability, perhaps you will not end up with things that have that problem, but they are not going to be very carbon efficient either.

Andrew Dorward: If you go for the cellulose approach, the Holy Grail is a mobile, light energy carrier—something like petrol. That is the Holy Grail. There is land that is not very productive in a tangible sense—in the traditional conceptualisation of production. Then the question is: can you bring more energy production into the multifunctionality that you have been talking about, where you do not lose the contributions, for example, in water or in biodiversity that we often overlook because they are not so tangible? There are possibilities there.

Can I introduce two things? One is directly related to this and the other is to broaden this slightly. The first is that there is the issue of whether carrying food stocks is a good thing or not, in terms of stabilising prices. One idea that is floated is whether there is a possibility of having some food stock or land that is allocated on a temporary basis to biofuel production or to animal feed production, for example, that, if food prices for human consumption go up dramatically, can then be switched into food production for humans. So,

there are potential synergies there, which can be drawn on and developed, again, if one has a more multifunctional view.

More broadly, to emphasise some of the big picture questions, there is a huge emphasis in our global discussions about food security on productivity, in terms of productivity per unit of land. Actually, what is most important is productivity per person. Productivity per person is a big challenge, because we have raised productivity per person hugely by substituting human labour with fossil fuels, both in terms of fertilisers and mechanisation. We have also had straight technical change in terms of innovation, and we still have that, except a lot of what we have learned in the past has been directed towards systems powered by fossil fuels. What we need now, in the context of trying to reduce our dependence on energy, is to keep and, if possible, raise—certainly raise in poorer countries and poorer systems of agriculture—the productivity of labour in agriculture, even though in Africa we have to increase our use of fertiliser to some extent, because we are just mining the soils there. But we have a big challenge: we have got to raise agricultural labour productivity, because that is what the prosperity that we enjoy is based on. At the same time, we have to reduce our reliance on fossil fuels, and it is a big double challenge. Sorry, that was slightly off the wall, but I think it is an important point.

Tim Lang: I agree with you. We are talking about redefining efficiency. The capital efficiency model has dominated. We have got to talk about ecological efficiency alongside human efficiency, and that is what we have not got. That is the framework that is not in place not just here in DFID but in the west or in the developing world. That is what, in a little way, I was referring to. Hot Springs was three weeks of meetings; it was not two days of prime ministers and presidents jetting in to have their photo shoot and then leaving. For three weeks, they hammered away at the vision for the future, and this issue, which Andrew has put like that, is one of the key issues. What is efficiency? How do we have capital efficiency and human labour efficiency alongside ecological efficiency? At the moment we have got different models.

Andrew Dorward: Discussions of ecologically efficient agriculture normally do not mention the productivity of labour; they only look at the efficiency in terms of ecological functions and land. If it is not efficient in the use of labour, it is not acceptable as a development and as a food security strategy.

Chair: These are all very interesting ideas. We have a few minutes but two or three more questions, because we have a meeting with French parliamentarians following this one.

Q56 Hugh Bayley: You heard the discussion we had with the previous panel about large-scale land acquisitions. Is there anything you would want to add about the scale of the problem in Africa? For example, is it a continent-wide problem?

Camilla Toulmin: I have got various things that I can give you on this. There are various things to say. One is that the picture varies greatly from country to country. In some countries it is large-scale investment coming from elsewhere. In other countries the domestic land acquisition is a far larger part of the picture. It is a pressure on land that is only likely to increase; there is no reason to see it diminished. We are likely to see more and more of these problems coming up. There are two principle problems: one is the huge asymmetry in power between the investor and Government and between Government and local people. This means that the people at the bottom of that chain tend to lose out. The other problem is that it is all happening in a very non-transparent fashion. As a consequence, that allows for very poor governance and very poor decisions being made about what are national assets.

Q57 Hugh Bayley: If there are documents or papers you can send on this issue, that would be good.

Camilla Toulmin: I will do that. One really quick thing is that, of course, for some crops it is actually a big help to have investment in some part of the chain, so that, rather than buy the land, you want somebody to come in and build the sugar-processing plant or the oil-processing plant. Very often, inward investment can be really helpful if it is upstream or downstream of the farmer.

Q58 Hugh Bayley: For a couple of decades, the Washington Consensus persuaded the World Bank and others that spending public money on food stocks was a bad use of money. Interestingly, the last time Bob Zoellick sat before this committee, he was tiptoeing away from that argument. He was saying that it was important in areas of food risk fragility to position some buffer stocks, and it seemed to me that a change was afoot. What is your view? Are food stocks an important way of damping down food price spikes? If so, who should hold the stocks? Should they be held by nations or by an international body like the FAO?

Andrew Dorward: I do not have a straight answer, I am afraid. I am an economist and an academic, so you cannot expect a straight answer from me. There are huge problems with managing food stocks. They can be very inefficient. There can be huge losses. They can be very expensive. However, there is no doubt that, going back to the point I made right at the beginning, if you have food stocks, then the markets are going to be less tight and you do not have to worry so much about speculation. There are lots of theoretical benefits. There are theories that trying to manage price bands in food stocks is very difficult, and experience suggests that is the case. So there are then questions about how you manage food stocks. Do you manage them with price bands or, if you are not going to manage them with price bands or price floors, how do you manage them? There are practical questions about how you turn them over to make sure you do not get large losses and so on.

Having said that, if you are a landlocked country in Africa and you have a food crisis or a production problem, then even if you are going to rely on imports, it takes time to get those. What is going to keep you going during that time? So, food stocks can be very important there in terms of getting access to the world market when you have a national, domestic problem.

You may then want to combine that with financial things like options, which allow you to buy the right to buy at a certain price, rather than at the market price at that time. Obviously, you will win and lose on those at different times.

Camilla Toulmin: One of the issues we have not touched on that relates to this is urban food security. Most of the population growth in the developing world over the next 20 or 30 years is going to be in the middle-sized and large cities of the developing world. It is critical to think about how you assure plentiful supplies, deal with price volatility and ensure some kind of social protection network for the poorest people within those cities. The Brazilian Government and a number of others can show good examples of this.

Tim Lang: That is well said. I was going to make exactly that point. A second point I would like to make is that the debate about food stocks was seen as old-style economics. Modernity was Tesco-world—just in time. But as we found in the Chatham House report process from 2005 onwards, this is highly fragile. As a Minister told me after our lorry strike here in Britain in 2000, we were three days from closure, with just 1,000 lorry drivers striking. So, the other end of this debate about food stocks, and whether they are a good or bad thing for developing-world, low-income countries' food security, is whether we should offset it or juxtapose it against the fantasy world that we have been living in, which is actually a parasitic world. Britain does not feed itself but is lecturing others on how to feed themselves.

Chair: We used to.

Andrew Dorward: The other point on that is the question of whether you are going for concentrated ones that are centrally managed or encouraging distributed stocks, held by farmers and held by consumers. The point that Tim has just made is that the distributed stocks are really important. If you rely too much on central stocks, you are very fragile.

Tim Lang: It is centralised control. My focus on Tesco-world is that you have massive power and concentration. You may not have speculation but you have got a new baronial class operating. You do not want that. That is why in the 1940s settlement, the big thinking that went on then was about having publicly accountable bodies. That was the idea of the FAO. That was the idea of creating the World Food Programme. That is why they were responsible for food stocks. So, in your deliberations, in whatever conclusion you come to—and we are hearing approval for food stocks, in that they should come back as an idea—the issues are how is it managed, for whom, accountable to whom and where? Going back to food security and sustainability, it comes not from concentration; it comes from decentralisation—spreading where those stocks are and spreading what the stocks are in. The obsession of the 1940s settlement was all around grains.

Q59 Fiona O'Donnell: The other part of that is about waste as well, and we have recently had the report. If we tackle waste at home, what impact can that have? How do we sell that to people? It is not just about consumers. It is also about people like Tesco, who in my area send their food waste to landfills. So, it is a double whammy. How could that help the situation in developing countries? Do we have a Government that can work together to deliver something for us at home? I would like to ask you in particular, Tim, about the Foresight report, which made a number of recommendations as to how waste might be reduced. It talked about productive recycling, and I just wondered what your thoughts were on those recommendations. But generally, in the time we have got left, what comments do you have about food waste?

Tim Lang: Let me stick to food waste. I was saying in an earlier remark that we need to be clear that there are different forms of waste. There is a moralism around waste—that we all do not like it. But it takes different forms in different circumstances and at different economic levels of development. Another distinction one needs to make, and I am thinking about the policies on waste and what we need to do about it, is that there is overt waste and there is systematic waste. What we have is a model of systematic waste here in the West, where the contracts and specifications of the big retailers and the big traders—like Tesco, though I do not want to demonise them—actually structure waste. They will not accept, through quality controls, some foods in. We have now a very difficult approach, and there is actually a mismatch between what we now know about the different forms of waste and the mechanisms that we apply to deal with them. The last Government focused here in Britain on trying to energise consumer consciousness around those, which was the role of WRAP, the Waste and Resources Action Plan. This was, at one level, quite effective, but it has not brought it down from 30% to 0%.

Q60 Fiona O'Donnell: Should we set a target? We have targets for carbon and other areas.

Tim Lang: We need a different template. I have sent Rob Page two papers that my colleagues and I recently published, one in January and one in December last year, which give the thoughts from our centre on this. We think there is a different template that we should be aiming for within food security policy.

Camilla Toulmin: Tim has been focusing very much on waste here. You can see a parallel level of waste happening in many developing countries between field and market, where you may lose 30% or 40%.

Q61 Fiona O'Donnell: Why does that happen?

Camilla Toulmin: When you get tomatoes to market, they arrive in a mush. It is infrastructure, processing and better transport, essentially.

Andrew Dorward: It is also market information, so people come to buy it when it is still fresh.

Q62 Fiona O'Donnell: Finally, as carnivores, can we keep consuming meat in the way that we are? It is probably a rhetorical question.

Tim Lang: Is the "we" here? Do you mean us?

Fiona O'Donnell: Yes.

Tim Lang: The rich world, no. Let me be very hard, and I will speak now as a public health man. The case

for reducing meat consumption in the West from our astronomic levels is overwhelming; it is a public health gain if you reduce it. The report that I led and that Oxford University and others fed into, on food security and sustainability and on sustainable diets, showed that there is a win-win for the environment and for public health if you reduce our meat consumption. It is not meat qua meat; it is processed meat. The evidence there is getting stronger and stronger.

Camilla Toulmin: It is also intensive livestock production.

Tim Lang: Exactly. You will get agreement from us. In our world, the three of us and the previous panel, we are worried about this assumption that 50% of grain or 40% of grain to the world must be diverted down the throats of animals to then give us meat. There are cases when that can be useful, depending on the climate. To factor in a meat engine, which is like a juggernaut driving our definition of what a good food system is, is crazy. It is a crazy use of resources, it is crazy economics and it is crazy public health.

Andrew Dorward: Can I just add two things to that? Firstly, I would broaden it to livestock production. For example, butter is not very good for us either and eating too much cheese makes for the same sorts of problems. In terms of livestock production, it is basically the consumption of grains in intensive systems that is bad. Where you have more extensive systems, where you have pastoral systems and where you have more extensive upland systems in the UK, it is a different argument. For the intensive grain systems, the health and the environment, the food security and the water demand arguments are really overwhelming.

Q63 Fiona O'Donnell: Do you think the market price will choke off demand for meat? There is only so much horse meat you can put into a burger.

Tim Lang: You are back to a mass psychological problem. Meat has, historically, been associated with progress and feast days. The problem is that feast days are every day. Wearing different hats, let us just move to horse-burger land. Look at what is exposed there. You have got a culture that is now centred around plentiful meat and meat as the centre of the plate. These are deeply rooted—in different ways in different countries—cultural goals.

Camilla Toulmin: You are right that meat is too cheap. Meat production does not, in fact, cover the full costs of production. Until it does that, we are going to see too much of it around.

Q64 Fiona O'Donnell: We would almost be heading towards a vegan diet then for a lot of people, especially poorer people, in order to be healthier. Are we doing enough work to look at how we then should have a nutritious balance and how we produce it?

Tim Lang: The short answer is: no. I referred very early on to this issue of sustainable diets. There is a bubbling debate. I could spend my whole week, like Camilla, in the air going to meetings—they are cropping up everywhere. Last week I was in a one-day meeting, though I was only there for half a day, where experts from all over the country were brought in. I will quote, without naming, a leading nutritionist, who said, "Look, veganism can deliver a sustainable diet and can deliver a healthier diet, but the issue is culture and choice." Without a shadow of a doubt, the ubiquity and cheapness of meat and meat products, as a goal for progress for Western agriculture, let alone developing world agriculture, is one we have to seriously question now for reasons of climate change, emissions, ecosystems and local reasons. Many of us in this debate referred to the Steinfeld et al./FAO's *Livestock's Long Shadow* report. This month, the new version of that report is going to come out, so I strongly recommend the committee has a look at that. I am not allowed to say what is in it.

Andrew Dorward: This is something we all personally need to take very seriously, because it starts with us, not with telling policymakers what to do.

Fiona O'Donnell: I will take that away, if nothing else, from today.

Camilla Toulmin: In 20 years' time we will look back at it in the same way as we now look back at smoking as it was 20 years ago.

Q65 Chair: I am not quite sure what I am going to tell my beef farmers, but I will think about it.

Camilla Toulmin: Expensive, lovely Aberdeen Angus—

Tim Lang: Has its role. They are doing a fantastic job. I am an ex-sheep farmer on the Lancashire Fells. If you want to keep carbon in those soils, or in Snowdonia, then use sheep or plant them with trees. So, there is a strong case.

Q66 Chair: That is a helpful last word.

Tim Lang: It depends on how they are fed—so long as they are grass-fed and not grain-fed.

Q67 Chair: Thank you very much. That was a fascinating contribution to our inquiries, and there are a lot of lines for us to pursue. If you can send us some of the material you have mentioned that you have not already sent, that would also be appreciated. Thanks, all three of you, very much indeed.

Tim Lang: Good luck with your report.

Andrew Dorward: Yes, it is very important.

Camilla Toulmin: You are going to be travelling to Ethiopia, is that right?

Chair: We are in a couple of weeks.

Camilla Toulmin: If you still have space in your diary when you are there, we can think of one or two people you should contact.

Chair: Well, there is still time for that; yes, please.

Tuesday 26 March 2013

Members present:

Sir Malcolm Bruce (Chair)

Hugh Bayley	Jeremy Lefroy
Fiona Bruce	Fiona O'Donnell
Fabian Hamilton	Chris White

Examination of Witnesses

Witnesses: **Ertharin Cousin**, Executive Director, UN World Food Programme, **Dan Gustafson**, Deputy Director General (Operations), Food and Agriculture Organisation of the UN, and **Marc Van Ameringen**, Executive Director, Global Alliance for Improved Nutrition, gave evidence.

Q68 Chair: Good morning, and thank you very much for coming in to give evidence. We appreciate the time you are giving us. Obviously, you represent key organisations in this inquiry into food security. Will you formally introduce yourselves for the record?
Ertharin Cousin: I am Ertharin Cousin; I am the Executive Director of the World Food Programme.
Daniel Gustafson: Daniel Gustafson, Deputy Director General of the Food and Agriculture Organisation.
Marc Van Ameringen: Marc Van Ameringen, Executive Director of the Global Alliance for Improved Nutrition.

Q69 Chair: Thank you very much. I do not want in any way to inhibit the evidence you want to give to us, but we have three witnesses and then another session of three witnesses and a lot of ground to cover. Please bear this in mind, but we do want to hear what you have to say, and I hope you will not feel inhibited and we can make progress. The first thing to say to you two is that you are recipients of substantial funding from DFID, which has obviously evaluated you. The Committee has met with your organisations in the past, and in the previous Parliament we did a food inquiry; I visited Rome and met all of your organisations on your home territory. Could you outline how the DFID funding is used and the contribution it makes to the organisation?
Ertharin Cousin: Thank you very much for the opportunity. The UK is a significant funder of WFP; in fact it is our fifth largest funder. We are always investing those funds to ensure that we provide value for money. Of course those funds are used for our emergency operations, but they are also used to support the strengthening of our capacity as an organisation. In other words, how do we ensure that we have the right tools in the organisation to support the assistance that is required for the beneficiaries that we serve? DFID's multilateral funding to WFP, has also allowed us to use some of that funding for our forward purchase facility, which allows us to be much more efficient in how we provide resources to those we serve. In other words, it is giving us the capacity to pre-position food where it is needed so that we can cut the amount of time that is required for us to execute programmes. These and any number of items are specifically how we use DFID funds.
Daniel Gustafson: On the FAO side, there are two ways. One is the contribution from the UK Government to the core budget through the assessed contributions. It is the fifth largest contributor based on the scale of contribution for the UN as a whole. The other way is through specific project funding. There have been a variety of projects in two broad areas. Quite a bit of the funding has gone to global work on policy, livestock—pro-poor livestock policy work, for example—and other work on livelihoods over the years. Another portion goes in a multilateral way along with other donors for country-specific activities, either for emergency and rehabilitation work or longer-term development activities.

Q70 Chair: How well do you work together? Are there issues? That has been a point of issue in the past. Do you feel you do work well together and complement each other? Do you have any differences of opinion that cause problems?
Ertharin Cousin: I am proud to answer this question. As the new Executive Director of WFP, I began my mandate in April 2012 with a new Director General of FAO, who had begun his mandate some months before me. We committed to working in collaboration with IFAD, as the Rome-based agencies, for the benefit of those we serve. That began with a better collaboration between the executive directors of each of the organisations; we meet on a regular basis. However, most importantly that collaboration has moved down to our country teams and how they work together for the benefit of those we serve. This year for the first time we offer what will now become an annual award to the country team that collaborated most effectively to drive the positive outcome for benefits on the ground. That award was won by Mozambique this year, but we had over 15 applications from different country teams, providing examples of how they were working together to maximise the collaborative advantage of each of our agencies for our beneficiaries.
Daniel Gustafson: I would second that. There has been a great deal of improvement at headquarters level in the working relationship between the three Rome-based agencies. What we have always had in the field is very close collaboration at the country level. Speaking primarily from country-level experience, our closest colleagues on the UN side have always been WFP and, related to that, the IFAD project. What we have not had in the past is this level of institutionalisation or formalisation of the collaboration at all levels, particularly with regard to emergency and rehabilitation work. It was in a variety

of areas, such as food security, information and other things. So the collaboration is actually going very well.

Q71 Chair: In the previous multilateral review, the first one that DFID did, FAO did not come out too well from their point of view. Indeed, there had been issues and discussions before, but you are now undertaking a major reform. How do you think that is progressing? Are you comfortable that your assessment will move into the right space?

Daniel Gustafson: Yes, very much. We were speaking about this in the hallway before we began. The weaknesses found in the MAR analysis were in fact the correct ones and precisely the ones that the ongoing reforms in FAO are addressing. In fact, it was a big help. There were reforms under way through the independent external evaluation of FAO that had taken place earlier, so there was a running start to it. However, all the substantial reforms of the new Director General specifically addressed the issues raised in the MAR report. We are entirely confident that the next review will show that.

Chair: We will come to you, Mr Van Ameringen; you are not being left out.

Q72 Fabian Hamilton: Can I turn to the relationship between biofuels and food? We have received quite a bit of evidence from Action Aid amongst others that makes it quite clear that UK and EU targets promoting the use of biofuels should be scrapped. In 2011, the organisations that Mr Gustafson and Ms Cousin represent were co-signatories to a joint report that drew the same conclusion. Can you confirm that remains the view of your organisation?

Daniel Gustafson: Biofuels as a whole are a complicated question. Biofuels per se are neither good nor bad, especially if you look at the larger context and the longer term. In terms of the period of the rapid price rise and the impact that that had, exacerbated by the extraordinary increase in biofuel production, that certainly had a negative impact on food security, prices, the poor and so on. The volume of ethanol increased fivefold from 2000 to 2011 from about 20 billion litres to about 106 billion litres, which was an extraordinary increase and a relatively short period in which these impacts have worked through the system. The impact on commodity prices was high. Estimates vary, but somewhere around a third would be a consensus view, which is detrimental, without question. Over the longer term, the positive impacts of biofuels could come into play. Energy poverty among agricultural producers is a serious issue and, if done properly, biofuels can play a role in that. Expanding income for farmers is also important, and it could also play a role in that. There are positive long-term benefits that could come from biofuels, but it is not a good idea to have these distorting policies of subsidies and mandates that have accelerated this beyond what the normal market conditions would indicate.

Q73 Fabian Hamilton: So it is the mandates and acceleration rather than the actual use of agricultural land to produce biofuels?

Daniel Gustafson: The amount of land that has shifted into biofuels relative to total agricultural land is not very high. However, if we look at the relationship between biofuels and food security in the future, and the impact of land-use changes, where it comes from, what farmers and communities were using it for before and so on, the land use issue becomes a very large concern. It could be negative, but there is no reason a priori why biofuels could not be part of a larger landscape with positive impacts.

Q74 Fabian Hamilton: But the target should still be scrapped?

Daniel Gustafson: Targets have been the problem.

Q74 Fabian Hamilton: Ms Cousin, do you concur?

Ertharin Cousin: I defer to FAO as a partner organisation that provides the normative support for WFP's position on issues such as biofuels. At WFP, we are most concerned about ensuring that we mitigate the potential impact of biofuels on prices to those who are most vulnerable—the poor and the hungry. Our responsibility is to work with FAO to ensure, where appropriate, that we are supporting the positions that it takes as the lead normative agency for the UN on agricultural issues to ensure that we are aligned with each other, and that we are supportive of the statements that it is making for the benefit of those we serve.

Daniel Gustafson: We recognise that the US and Europe in particular put in place policies for reasons that looked to them sensible, on energy security and so on. It is very difficult to change policies, the subsidies and the mandates. Consequently, as Ertharin Cousin mentioned, we are advocating primarily more flexibility in that. Food prices rises or other negative effects might trigger a period of time out on the mandates and subsidies. So it is a question of political economy as well.

Marc Van Ameringen: We take a very similar view, unfortunately, to the rest. The real worry is about biofuels elevating food prices and having a very negative impact on the poor. We would be aligned with this view.

Q75 Fabian Hamilton: What are the main obstacles to removing these damaging targets?

Fiona O'Donnell: Politicians?

Daniel Gustafson: There were strong reasons why Governments put those policies in place, and those remain.

Q76 Fabian Hamilton: So what are the main obstacles to removing them? Oil price? Politicians?

Daniel Gustafson: I know the situation better in the United States. The fact that the US has put those policies in place certainly benefits lots of constituents and parts of the economy: farmers and local communities who have put in ethanol plants and so on. The negative impact is much more dispersed through the price rise and the impact on consumers around the world because a portion of that rapid price rise could be attributed to the biofuel policy. The benefits and the costs are not equitably shared, which makes it a very difficult issue to resolve.

Q77 Fabian Hamilton: You mentioned the United States, but what about other G8 countries, such as Japan? Do they have the same mandates? Is there a role for the UK in trying to remove those mandates?

Daniel Gustafson: There is certainly a role for the UK within the European Union. I do not believe that Japan has policies of that nature.

Q78 Fabian Hamilton: Do any other countries have these policies?

Daniel Gustafson: Brazil has the longest experience in biofuels, back to the late 1970s and early 1980s, but based on sugar cane ethanol rather than food crops. Into the future though, the main ethanol producers will continue to be Brazil, the US and the EU.

Fabian Hamilton: We are hoping to go to Brazil, so we will find out for ourselves.

Ertharin Cousin: In these discussions of biofuels, we often emphasise biofuels and limit the impact of other factors on food prices. Biofuel as a subject matter or as a tool does not in and of itself produce high food prices. The issue is the access to and availability of food for the most vulnerable—the hungry poor. The challenge, as Mr Gustafson alluded to, is land-use policies that provide opportunities to ensure that biofuels do not detrimentally impact the opportunity for the development of agricultural food crops that provide and ensure access to food for the vulnerable and the hungry poor. Focusing simply on biofuels to the exclusion of the other issues that affect high food prices will not significantly address the high food prices for those who suffer most from those price spikes.

Q79 Fiona Bruce: Good morning. I want to ask you about tackling undernutrition. I am sure you will agree that nutrition is vital in food security. What is the best way for donors like DFID to tackle undernutrition? Is it, for example, by supporting fortification of staple grains? Can you give us examples of some successful progress?

Marc van Ameringen: One of the big changes that has happened over the last four or five years is that nutrition has come back on to the agenda and has been tied on to food security. Part of that agenda of addressing undernutrition relates to a whole series of health interventions, which would be everything from supplementation to exclusive breastfeeding, to complementary feeding, to a range of fairly well-proven interventions for which there is a lot of evidence. These are particularly focused on the 1,000-day window from conception to when a child is two years old. At the same time, we are increasingly looking at how the food system itself can be part of solving undernutrition.

Traditionally, the food system and food security has focused very much on adding calories and increasing productivity. Now we are shifting to look at the quality of that food and whether it is getting to mothers and children, who are the critical beneficiaries we need to reach. There is now a scale-up nutrition movement that has brought together all the players, which is very much focused on helping a number of countries to develop strategies. A series of investment plans are starting to come together. In each country there needs to be a much more comprehensive food and nutrition strategy that brings all the players together. It is not easy, because agriculture and health are in silos, as in most countries, and one has to bring those together. However, there is definitely a key entry point for supporting the scale-up nutrition movement.

Another very critical issue is the way we use markets. Traditionally, the nutrition sector has not involved the private sector; there has been a very distant relationship. A lot of the food security and agriculture sector has been fairly reluctant to engage in a big way with markets, but most people get their food in the market. We know that the private sector can play a very negative role on the nutrition front, but it can also be the main driver in solving undernutrition, and overweight and obesity for that matter.

We need DFID to help crowd in the private sector in a much more active way, to make investments and provide products and research that can start to solve some of the challenges of undernutrition. In most of the developing countries, the majority of people are in the marketplace, and increasingly that is going to be the case. However, for those at the base and even the middle of the pyramid, there are no products available that can solve some of their nutritional needs. There is therefore a need to look at some new mechanisms that can bring the public and private sectors together. The Dutch and Germans have done this, and I think there is an important role for DFID to do that.

The third thing is that there really is a need to support the most vulnerable—those who are outside the market, who are either being serviced by WFP programmes or other humanitarian assistance. There are over 1.5 billion people who need some sort of assistance. So there are three areas. We need to focus on some of these large macro programmes and some of the integration of agriculture and nutrition. We need to look at some new mechanisms that will crowd in private investment, and we need to have a very specific focus on the most vulnerable, particularly in the context of climate change and other stresses.

Ertharin Cousin: I support everything my colleague has said so far. I just want to add to that. When we talk about what we do, WFP is specifically focused on supporting the needs of the most vulnerable. We often talk about the first 1,000 days. We are providing pre and post-natal support to women with Corn Soya Blend that is micronutrient fortified, supporting exclusive breastfeeding during those first six months, and then supporting supplemental feeding between six months and two years of age to ensure that, through blanket feeding programmes, we are providing access to the micronutrients that are necessary to prevent stunting, which we know is irreversible if not addressed during those first 1,000 days.

In addition to these operational activities, it is important to focus on innovation, whether that is through fortification or other new tools that we can introduce into the market that are scalable at country level to a broad base of constituents to ensure that we are providing access to more of those who require this level of assistance. It is also about capacity building of the countries where we serve, to ensure that the countries have the knowledge and information inside

their institutions that will support their outreach to their constituents, their citizens for the longer term sustainable and durable solutions that are necessary to address chronic malnutrition.

Daniel Gustafson: We agree with all of this. From our perspective, nutrition is in the FAO's constitution. From the beginning, it has been highlighted. For a very long time, though, that was given relatively little emphasis, and greater emphasis was placed on agricultural production and increasing the availability of food. In the nutrition sphere, that was eclipsed over the years by more of a focus on health interventions, and forgetting about the larger food-systems approaches, as Marc was saying. Certainly there are high-impact health interventions with proven track records that need more funding that will have a big impact. However, you need to look at the complexity of nutrition issues that involve cultural behaviour or economic incentives, social and policy factors and so on. Agriculture and food systems have to be looked at: the activities that happen up to the farm gate, where a lot can be done; in the food system between the farm gate and processing, and through to reaching the consumer; and then also there is the consumer angle. There is a lot that can be done in all of those cases.

From country-level experience, nutrition has improved where there has been an increase in the availability of and access to food and a reduction in infectious diseases. In addition, in a broader sense, in very simple terms, it is a matter of paying attention to how women spend their time and allocate resources, and engaging them in a more equitable way in decisions leading to greater diversity of production and consumption, livestock, fruits, vegetables and so on. Education, as Ertharin Cousin mentioned, on child-rearing practices and so on is also important. Within the food-system sphere there is a lot that can be done, and there is very good country experience on that.

Q80 Fiona Bruce: So you all agree about very broad-based joint partnership working. In its written evidence, DFID says that it has bilateral nutrition programmes in over 10 countries, which is a relatively small number. Do you think DFID has enough bilateral nutrition programmes?

Marc Van Ameringen: The answer is definitelyno. Given the evidence we have of the long-term impacts of malnutrition and issues such as stunting, which continue inter-generationally, and the actual cost to the economy of malnutrition, which people are more aware of, we do need a lot more bilateral programmes. We are trying to reach 170 million children who are already stunted. Without more interventions, that figure will easily double. Despite child mortality going down, we could continue to see stunting rates go up unless we have very deliberate and focused programmes to tackle this. There are 32 or 33 countries that account for about 80% of the most serious nutritional challenges we have, so we do need to reach more countries.

Ertharin Cousin: There is an opportunity today, because countries themselves are addressing the issues of chronic malnutrition in their own populations. Where those countries have committed to investing their government resources in this issue, the possibility for DFID to partner with more governments in that space would ensure the value for money that this Government seek to provide sustainable solutions to chronic malnutrition. It is the country that must commit to moving forward in order to ensure sustainability and durability of a programme. Thirty-three countries have committed, so there are opportunities for additional investment.

Daniel Gustafson: That is all correct, but many other programmes have a large impact on nutrition that are not nutrition programmes per se—things like cash transfers and others. Making all the development interventions more nutrition-sensitive is equally important.

Q81 Fiona Bruce: I have two final questions, which I will roll into one. Is there anything that DFID should be doing on maternal or newborn nutrition that you have not already mentioned? I am conscious that my colleagues have asked other questions, so if you have already mentioned it, that is fine. Finally to Mr Van Ameringen, shocks are a key cause of malnutrition, yet GAIN does not seem to focus on shocks. Can you explain why this is?

Marc Van Ameringen: New evidence is featured in the new series of *The Lancet* on maternal and newborn undernutrition that will be released soon. One of the main findings is that maternal nutrition is much more important than anyone had thought. In fact, the health status of the woman on the day of conception determines to a large degree the extent to which that child is stunted. This will shift our focus to not just the 1,000 days but what happens before the 1,000 days to adolescent girls and women. We are all trying to figure out what those interventions are. Many of them need to be population-based interventions like large-scale fortification. There also need to be a lot of targeted interventions, and we are trying to figure out what those are.

With respect to shocks, GAIN was created to leverage public and private sectors, so our focus to date has really been on large-scale partnerships and taking things to scale. Some of our programmes, such as staple-food fortification, reached 700 million people. Such large investments take eight to 10 years, and that is where we have been focused. We have not been the best organisation to work on shocks; we do support WFP in that area, with a whole number of interventions that contribute to that, but we have not done that ourselves to date.

Q82 Chris White: As you know, the Committee has recently returned from visiting Ethiopia, where we were told about the Productive Safety Net Programme. Would you agree that social programmes such as the Safety Net Programme are fundamental in helping the poor deal with the food shocks that were mentioned earlier?

Daniel Gustafson: Yes, entirely. It is a new development we are seeing in a number of countries, with very positive outcomes. Certainly the social protection safety nets, as in the Ethiopia case, help maintain human capital and other assets to make families, households and communities more resilient.

We are also seeing very interesting results from impact evaluation of a number of those programmes that show increased investment by households in agriculture and other things, and increased benefits to families in the community that were not beneficiaries of the social protection. There are multiplier and spillover effects that all look very positive.

Q83 Chris White: In its written evidence, DFID tells us it is scaling up its social protection work to cover 17 countries by 2014. However, as DFID has 27 bilateral programmes in total, should it not be attempting to support all its programmes?
Ertharin Cousin: Through their investment in WFP and our activities, they do support many more of the Productive Safety Net Programmes. Our work in these areas has benefited from investments by DFID. That is the benefit of multilateral organisations like WFP. We have the opportunity to scale up our performance through investment from a number of different countries that could not bilaterally invest in as many countries. Today we work in over 77 countries, and in all of them we have some form of direct access or direct transfer programmes, which are conditional programmes that provide opportunities for the development of assets that benefit the individual as well as the community.

Q84 Chris White: We received some evidence that stressed the importance of targeting social protection. Others have argued in favour of universal transfers, claiming that the targeting is inefficient. What is your view on that?
Ertharin Cousin: Targeting is an imperative. We have a responsibility to ensure that benefits delivered are delivered to those in need. That is why we target the appropriate beneficiaries for any services that we deliver.
Marc Van Ameringen: One of the findings was that on a lot of the social protection programmes, even where there is targeting, it really depended how specific the objectives were that led to an outcome. For example, a lot of programmes that had conditional cash transfers and so on did not see big nutritional impacts, because nutrition was not specifically identified as the outcome they were after. A finding that is emerging is that targeting and having very specific goals are necessary if we want to get those outcomes. It is not just a question of broad programmes that are even just generally targeted. It has to be much more specifically targeted if we want to see specific outcomes.
Daniel Gustafson: I do not disagree with that, but in the case of conditional cash transfers, targeting has been much more difficult than in, for example, food assistance or other things. The cost and benefits of how you design cash transfer programmes are in a somewhat different category from other types of social protection.

Q85 Fiona O'Donnell: The other part of targeting is how you assess. We had concerns when we visited Pakistan that, for instance, debt was not taken into account when assessing. Ms Cousin, if there were extra funding available, would you scale up the Purchase for Progress programme?
Ertharin Cousin: In a heartbeat, yes. In any of our programmes that have proven outcomes, we always look to drive those programmes to scale. The opportunity for scaling up the Purchase for Progress programme is not from WFP but in the private sector and the countries themselves. Where we can develop the agricultural value chain from a seed in the ground to commercial market development, we know that we can create a sustainable and durable solution to food and security.

Q86 Fiona O'Donnell: So that is a message we should send to DFID as its budget increases?
Ertharin Cousin: We would support that, yes.

Q87 Jeremy Lefroy: I would like to turn to the question of food stocks. We have seen different things in the various countries we have been to. Last year in Zambia we saw some very substantial food stocks that had been in place for a long time, which were beginning to rot and were being sold at a big discount to Zimbabwe because of their subsidised maize purchase programme. On the other hand, we have seen cases in which food stocks have been absolutely essential. Clearly, there is a debate as to whether having food stocks is helpful in preventing price spikes and famines. What is your view?
Daniel Gustafson: In the cases that you mentioned, we have to look across the spectrum. The proposals to have very large stocks that would be sufficient to influence global commodity prices do not look feasible to us. On the other hand, stocks for emergency pre-positioning or things of that nature look to be a very good idea, given the experience from WFP in particular. It is really a question of the objective and the scale.
Ertharin Cousin: Thank you for that lead-in. We appreciate that food stocks give us the opportunity for emergency pre-positioning to provide access to food during times of crisis. The challenge with food stocks is the management and funding to support the appropriate maintenance of those food stocks. Too often, we see that food stocks are used to drive market prices that detrimentally impact the poor whom we serve, or that they are poorly maintained and use government resources that could otherwise be used to provide access to other resources to the most vulnerable within those communities.
Daniel Gustafson: The experience of the price spike and the impact of that in various countries related in large measure, in India and China in particular, to the ability to cushion the impact on their population by providing access to food at a lower price because of their grain reserve policies. Certainly in the 2008–09 experience, the impact on poor consumers in India and China was much less than it was in countries in Africa, for example, without the same capacity to do that. So clearly there is a positive impact, but it is a question of scale and the institutional infrastructure to be able to deal with it.

Q88 Jeremy Lefroy: It is also interesting that there have been considerable—as far as I am aware—

exports of wheat from India to the UK in the last year because of lower production in the UK due to the weather. That has provided opportunities for exports in an interesting and non-traditional direction that perhaps have been of benefit to both countries. Just returning to the question of food stocks, the world grain reserves have flipped between 60 and 80 days' worth of stocks, occasionally going a bit above that, and sometimes a bit below. This is actually a very low level. What needs to be done in terms of improving information about crops and forecasting to ensure that that very small global buffer is sufficient? I think we should be quite concerned about such low levels, and they are coming down at the moment, as you know.

Daniel Gustafson: The stock-to-use ratio for cereals is low. The lower it is, the more prone it is to volatility and, therefore, a more dangerous situation in that regard. Increasing production certainly has to be part of that equation. At the same time, on the information side, the importance of transparent, widely shared and credible information on agricultural markets is a big lesson from the price rise and the crisis in 2008 onwards. As you know, that has been a project supported by lots of countries, the G8, G20, the Agriculture Market Information System, and so on. I think the real impact, though, was in avoiding precipitous decisions by countries to stop exports, for example, which we saw in 2008, that then dried up the availability of what were already low stocks. The more information available, and the more credible and widely shared that is, the less prone we will be to volatility due to misinformation and decisions that could be avoided, particularly on restriction of trade, which I think is where we would see the impact. You are absolutely right, though, that the low stock-to-use ratio is problematic.

Q89 Jeremy Lefroy: Is that something that is watched closely? Clearly, in the mid-2000s the eye was taken off the ball.

Daniel Gustafson: Yes, very closely, and subject to a lot of uncertainty with regard to drought as we saw last year, or if we were to have adverse weather events in several large producers in the same year, it would be much worse when you have that very low ratio.

Q90 Jeremy Lefroy: Do you think managing food stocks is best done by individual countries or by multilateral organisations, or possibly a mixture of the two?

Daniel Gustafson: Outside of emergency, we do not see a role for multilateral agencies in the management of stocks of the kind that the Executive Director of WFP was mentioning.

Ertharin Cousin: Multilateral agencies, WFP in particular, have supported and are supporting the development of food reserves, but it would be inappropriate for us to manage that food reserve. For example, we are working with ECOWAS now to support their development of a region-wide food reserve.

Q91 Jeremy Lefroy: One thing we have noticed in most of the countries we have visited, Afghanistan in particular, is that a lot of food goes to waste. Sometimes we think of food storage as just being very major facilities holding tens, if not hundreds, of thousands of tonnes, but we saw particular things like potato crops going to waste due to inadequate storage at a very local level. Is this something that your organisations are working on, because that could help with food security without having these massive facilities that cost a lot of money?

Daniel Gustafson: Yes, very much so, both on-farm storage, which is particularly important for the food security of the most vulnerable households, and also in a broader sense in more modern bulk-storage handling facilities—advice on how to set up the policies around that and encourage an appropriate environment and so on.

Ertharin Cousin: As part of our Purchase for Progress programme we have been working with smallholder farmer associations to develop relatively small community storage facilities that provide the appropriate post-harvest handling that would possibly eliminate the waste you have just described. This is a definite solution and part of the broader solution, because most smallholder farmers will not have access to large grain-storage reserve opportunities, but they will have access to local facilities that are available in their community, providing them with the opportunity to sell their products at a higher price at a later date.

Q92 Chair: We did see some very basic, even home-storage facilities in Ethiopia, which was just about lifting stuff off the ground and stopping rats and vermin getting at it. Just basic stuff can make a big difference.

Ertharin Cousin: They are not high-technology solutions; they are just appropriate facilities.

Q93 Hugh Bayley: I would like to ask about technology, perhaps starting, Mr Gustafson, with the FAO. What do you see as the benefits of GM and other novel agricultural technologies, in terms of improved yields and improved predictability of yields, reduction in the use of fertiliser and pesticides, and increased longevity of stored food?

Daniel Gustafson: Technology is of course a major factor in productivity. Productivity needs to increase, particularly in countries where the yield gap is the greatest. The countries that have the biggest gap between the higher productivity producers and the lower productivity producers are also the countries with the fastest growing population and, generally speaking, the farmers with the fewest assets and greatest vulnerability to that. Technology is clearly central to increasing productivity in a way that ensures sustainability in a more equitable way and stability of production over time to lessen the impact shocks and increase resilience and so on.

Biotech is of course a big part of that. Genetically modified organisms are part of biotechnology, and certainly have enormous potential. At the moment, particularly among that group of producers with the lowest productivity, we are very far from exhausting the impact of conventional technologies, or even more traditional modified technologies, on increasing their productivity. Across the spectrum, all the options need to be not only considered but used.

Marc van Ameringen: We also need to put it on our agenda that we are not just looking for technology that will increase productivity and yield. We also need technology to increase the quality, especially the nutritional quality, of what is being produced. A number of conventional technologies, like plant breeding, are already starting to be used for things like bio-fortified crops, to enrich them with vitamins. There has been very little emphasis on looking at technology all along the value chain to see where you can make investments to get not only productivity but nutritional outcomes.

Q94 Hugh Bayley: I was going to move on to WFP, but it seems to me you are both in some ways dodging the issue. Surely if your goal is better nutrition, you need to test a new innovative crop, whether produced through selective breeding or through a laboratory GM technology, in exactly the same way, do you not? You could find whether there are nutritional gains or not. Or are you suggesting that generally speaking GM crops would not provide good nutrition?
Marc Van Ameringen: I think you have to look at all options. GMO is definitely one of the key avenues that we need to pursue, but we should not give up on existing technology that has not been exploited fully. I think both avenues are absolutely critical.

Q95 Hugh Bayley: If there is going to be a component of the solution that comes from GM, what are the risks? How do you address those risks and mitigate them?
Daniel Gustafson: If I could just back up a bit on this, it is entirely correct to look at the technologies that would have the fastest, easiest turnaround in terms of increasing the productivity of those with the lowest productivity. Within that, GMOs will certainly have a place. At the moment, that place is not very prominent, but over time we expect that it would be. So far there is no evidence of health risk from consumption of GMOs. There are environmental risks in terms of how a new organism in the larger ecological context will behave and so on. There are regulatory processes, science-based evaluation, that need to be in place and that all countries should have.

Q96 Hugh Bayley: On the WFP front, I remember being exposed to controversy in Malawi either in 2008 or 2005, if that was the time of the previous famine, about whether GM maize should be imported. The government of Malawi feared that it would lead to a lack of co-operation from European donor countries if they were to import GM maize, and a lot of the supplies could have come from South Africa or the United States, where in both cases there is a lot of GM. Ultimately a compromise was struck that they would mill the maize before it was imported into Malawi, but that led to some delay and to greater suffering for some people. What is WFP's programme on GM? Do you accept GM material into your food programme?
Ertharin Cousin: We accept GM material onto our programme, but how we distribute that GM material is directly related to the restrictions in the countries we serve. Whether we purchase GM product is directly related to whether we are using donor dollars from donors who have restrictions on the purchase of GM product. We continue to receive a large amount of product from the United States, which is GM in many cases. That product is then distributed according to the restrictions or requirements of the particular countries where we are serving and working.

Q97 Hugh Bayley: There is quite a debate about the need to improve forecasting tools. How practical is it to make better forecasts, and what are the gains if you do that?
Daniel Gustafson: In terms of prices or climate?
Hugh Bayley: In terms of food availability, from which prices follow, I guess. Or perhaps you see a distinction.
Daniel Gustafson: No, in terms of the outlook for food production, consumption, demand and what is happening in countries, there is certainly large scope for improvement, and a lot of improvement is under way. There is a better understanding as we have gone through this crisis from 2008 onwards of the factors that impact at national and down to household level; the impact of price rises, Government policy, what happens, how families adapt, what changes they make and so on. The understanding of that kind of food system has led to methodological advances in understanding the impact of shocks and so on. I certainly think we will see improvements in understanding the dynamics of supply and demand for food. In terms of forecasting prices and so on, this is of course a complicated issue for oil and other commodities—and everything—and food is certainly within that, exacerbated by the dynamics of each local market that is different from the global market. We are certainly seeing improvements, but the forecasting will always remain hard.

Q98 Hugh Bayley: So in terms of seeking to guarantee food security, you are saying that forecasting yields is much more important than the dark science of trying to forecast prices.
Daniel Gustafson: It is more a question of looking at the dynamics between supply and demand and the changes over time. Forecasting yields is also part of that, but in the case of agriculture, it is always vulnerable to adverse weather events and so on. Forecasting in a given year within a given location is always going to be constrained, but it is the overall global system and what is happening to the markets, and what we might expect to see that I think we are improving.
Ertharin Cousin: It is also important that we use the tools that are available. At WFP we have what we call the VAM tool, which allows us to assess vulnerability of individuals, households and communities as a part of eliminating food insecurity. Those tools directly impact the population that we serve, and are very important in the tool kit that ensures we provide the appropriate food assistance.

Q99 Hugh Bayley: How does your Agricultural Market Information System work?
Daniel Gustafson: Within FAO, there is the market information side of FAO and data gathering at the

country level, and then analysis of price trends and so on that come in from a variety of sources at the country level and are then aggregated. The innovation in AMIS is really the integration and transparency of information across countries, and the sharing of that information, particularly from countries where the information may not have been as available, certain or credible in the past. In the AMIS case it is therefore more an emphasis on transparency and putting together in a more comprehensive and transparent way the information that was not put together in quite the same way or not available to everyone.

Ertharin Cousin: The true test of AMIS is directly related to a country's commitment to providing credible and transparent information. It is only as good as the information that is provided by countries.

Q100 Hugh Bayley: In a recent study, Chatham House concluded that, in relation to the Horn of Africa famine two years ago, forecasting tools predicted quite a bit, but were largely ignored by Governments and by multilateral agencies such as yours. Why was that and how do you make best use of the indications you get from forecasting tools?

Daniel Gustafson: That is entirely correct. The work that I personally know best is on the Somali Food Security and Nutrition Analysis Unit. That had very good information ahead of time and was not paid sufficient attention. In our case, the analysis was very good, but our advocacy around that was not sufficient. There is also the problem that those who were hearing or receiving the information did not act. In our case, though, the lesson would be next time to ramp up the advocacy and dissemination of that information.

Q101 Hugh Bayley: What were the roadblocks? Why didn't people want to act sooner?

Ertharin Cousin: In reality, the actions did occur when the information was provided. The challenge was in the areas where the global community, particularly the multilateral organisations, and very specifically WFP, did not have access to the population that was identified as being most in need. That lack of access prevented timely outreach to those communities and resulted in the outcomes that we saw, particularly in Somalia. I would disagree that the global community did not pay attention. In some areas of the Horn—northern Somalia, Kenya and Ethiopia—there was no famine because the global community did pay attention. The institutions did provide and respond. It was in that area where there was no access that the community should at an earlier time have pressed for the humanitarian access that was necessary to ensure that we responded to those in need.

Daniel Gustafson: That is quite right. It was southern Somalia that suffered the most from that.

Q102 Hugh Bayley: If I remember rightly, there was huge population migration, wasn't there? Are you saying that you could have avoided that? I mean, who would have given you humanitarian access to Somalia?

Ertharin Cousin: If you remember, the response later in the summer after the famine was declared in southern Somalia was you had the other actors besides the humanitarians coming to play on the political will that was necessary to ensure that other methods were found to drive assistance to those in need. Where there are political challenges, as we saw in southern Somalia, humanitarians cannot open windows of access. That was a difference in Ethiopia, Kenya and northern Somalia, where the humanitarian community did respond. It was those yeoman's activities that were brought to bear only after the famine was declared—because of the political will of the broader community to support those in southern Somalia—that resulted us in having access to those in southern Somalia.

Daniel Gustafson: It is not that there is no access in southern Somalia. We do have projects there in Al-Shabaab controlled areas. However, it is definitely, as the Executive Director mentioned, a serious problem to understand how to operate there in ways that donor Governments can accept. That is a remaining difficult issue, but there is some access, of course.

Ertharin Cousin: Well, it has changed. There is more access today than there was in 2011 by the entire global community. There were certain political impediments to accessing those in need in 2011, which we have begun to overcome as a community.

Q103 Hugh Bayley: I think you are saying you need state-building and greater security in insecure places, but agencies like yours will do the best you can within the constraints that political circumstances, in the area and externally, provide. Is that correct?

Daniel Gustafson: Correct.

Ertharin Cousin: Correct. Very basically, southern Somalia was controlled by Al-Shabaab in 2011, which prohibited WFP from providing assistance in the areas in which they maintained control. Because we could not access those areas and we could not provide assistance to those who were living in those areas, what you saw was migration to the refugee camps in Kenya and Ethiopia, and also the challenges and loss of life that resulted in southern Somalia. It was not until after the global community recognised the challenges of that lack of access, and demanded that certain tools be used, that brokers were allowed to bring in food and provide assistance to those who were in that area, and we were able to stem the tide of the famine.

Chair: We know that people respond very positively when they see a crisis, but people also ask, "Why did this happen? Why didn't we avoid it? There is enough food in the world; why can't we get it to the right people at the right time at the right price?", which is essentially what our inquiry is trying to get to the bottom of. What are the issues that might reduce the number of crises and also the lack of nutrition and the hidden hunger issues by a whole variety of different methods? Your organisations are absolutely key to delivering those solutions, but we are obviously looking to see how our own Department for International Development can improve its activity, in co-operation with you, so that 10 or 15 years down the track people do not keep saying, "Why does this keep happening?" We have just come back from Ethiopia, and the government of Ethiopia would like us to point out that, compared with their situation 30

years ago, the security situation has improved, and an awful lot of things have been done to ensure that they can get food to people and improve their production. They get weary of everybody remembering Ethiopia as where the famine is, when actually it tends to be elsewhere these days.

Obviously, we very much appreciate what you do, which is why DFID supports your organisations. I hope if you have any reflection on what you have seen and heard, and feel you want to follow it up with any additional comments or information, you will do so. It will certainly help us. Thank you very much indeed for coming along this morning.

Examination of Witnesses

Witnesses: **Sir John Beddington**, Government Chief Scientific Adviser, Government Office for Science, **Kanayo Nwanze**, President, International Fund for Agricultural Development, and **Dr Shenggen Fan**, Director General, International Food Policy Research Institute, gave evidence.

Q104 Chair: Good morning, and thank you very much for coming in and offering us evidence on this inquiry on food security. You may have had a little overlap, so you may have got a bit of the flavour of what we were discussing before. I wonder first of all for the record if you could introduce yourselves.

Dr Fan: I am Shenggen Fan, Director General of the International Food Policy Research Institute.

Kanayo Nwanze: Kanayo Nwanze, President of the International Fund for Agricultural Development.

Sir John Beddington: I am John Beddington. I am the UK Chief Scientific Adviser until Sunday.

Q105 Chair: I saw your farewell broadcast. It is very kind of you to make this your last appearance. Thank you very much. First of all, Mr Nwanze, we asked this question of the other organisations; how do you use the money you receive from DFID, and how valuable is it to your organisation?

Kanayo Nwanze: Thank you. For the ninth replenishment, which is from 2009 to 2015, the UK is the largest contributor. This is essentially because, apart from its core contribution, we have just initiated a special programme on adaptation to climate change by smallholders, called ASAP. In the three cycles of IFAD, 7, 8 and 9, I believe the UK was in the fourth or fifth position of our member states in terms of its contribution.

IFAD provides loans and grants to its borrowing countries. Currently about 119 countries globally benefit from IFAD's loans and grants. These loans support Governments in areas of productivity increase, natural resource management, empowerment of women, capacity building and, as I said, adaptations to climate change by smallholders. We focus entirely on rural populations, agriculture and rural development. We aid the poorest of the poor, the marginalised, and often in very difficult situations of conflict, particularly in fragile states. In spite of the Malian crisis, my team is still working in Mali, although we are restricted to Bamako. It is essential to emphasise that, when countries fall into fragile conditions, the rural populations often suffer the most and need the most help. That is often where IFAD is engaged.

Specifically for the ASAP programme, most of the funding comes from DFID because this programme was initiated in 2011 through discussions with our UK reps in Rome. DFID took leadership in supporting the Adaptation for Smallholder Agriculture Programme. We currently have over $350 million targeting this particular programme, which is mainstreamed to our regular programmes. We have also attracted support from other countries such as Canada, Sweden, the Netherlands and Belgium. Importantly, these loans and grants to Governments help to develop the long-term resilience of marginal populations to shocks. In many ways, we straddle right across from WFP; we are fully engaged with the humanitarian assistance. Our programmes will address short, medium and long-term sustainable development in rural areas, and then conflict and post-conflict conditions.

In a sense, the UK support to our programmes is very key. We have actually benefited from long-term sustainable support funding from the UK in our programmes, helping developing countries build resilience and the ability to support themselves with food and nutrition security.

Chair: That is borne out by the fact that DFID's evaluation of you matches very strongly its own development strategy. Perhaps we can explore that a little bit more. Jeremy Lefroy will particularly look at the smallholders issue.

Q106 Jeremy Lefroy: We welcome the fact that smallholders have come up the agenda in the last few years. May I ask Mr Nwanze and Dr Fan what are the best ways to support smallholders?

Kanayo Nwanze: Smallholders are our first and last partners. We consider them as not only our clients but our primary partners in development. With that focus, we believe that the best way to help them is to help them to feed themselves and get out of poverty. In the developing world, it is impossible to marginalise the role of smallholders. We estimate that about 500 million small farms produce 80% of all food that is consumed in the developing world. With that focus, and calculating about five people per family, you are looking at about 2 billion to 2.5 billion people who depend on smallholder production.

We understand that they are most affected by shocks, whether it is climate change, financial or floods and droughts. Unfortunately when we look at the statistics, most of the poor belong to this group of people, so it is actually a paradox—those who produce most of the food that is consumed remain poor. Often they are very far away from access routes to markets. There is

very little government support, and a lack of social facilities in rural areas. So IFAD's focus is not only on the ability to produce food but also on infrastructure and access to markets to link them into markets.

We are not talking about international markets, just simple access to domestic markets, because we believe that when domestic markets are vibrant and competitive, they offer opportunities for smallholders to thrive. It is very critical and I would like you to note that the majority of small farmers are women in the developing world. In Africa they are about 60% of farmers, and they produce most of the food. They are better managers of financial resources than rural men—not necessarily all men, but rural populations. This has been borne out by several stories and by our own results. So it is imperative that we continue to support small producers along the value chain right from production to markets, offering them opportunities to develop their own economies, micro enterprises, value addition and so on in their own space, thereby mitigating the migration from rural to urban areas, so there are multiple benefits in this business.

Dr Fan: Thank you for giving me this opportunity. I wanted to say a few words about DFID's support of IFPRI. DFID is probably the second or third largest donor to IFPRI, the International Food Policy Research Institute. I have a brochure that summarises how DFID has supported IFPRI. Broadly speaking, there are three areas. The first is supporting IFPRI to work with some African countries, Ethiopia and Nigeria, to transform their agricultural sectors. With strong support from DFID, we were able to work with the country collaborators to design their policies and strategies to transform the agricultural sector, particularly smallholder agriculture.

The second is in transforming nutrition, particularly in South Asia. We know that in South Asia, particularly in India, there is a dislink between agriculture growth and nutritional outcome. With DFID's support, we have been working with Indian collaborators to disentangle this relationship to ensure that agriculture will help to deliver a health and nutrition outcome. The third is bio-fortification. This was mentioned in the previous session. Through DFID's support IFPRI and other centers of the Consultative Group on International Agricultural Research—were able to add micronutrients into food crops through breeding. Right now that is through conventional breeding, but it also possible through modern biotechnology methods.

Regarding the smallholders, we at IFPRI think the role of the smallholder has to be placed in a broader context. There are probably three types of smallholders. One is subsistence smallholders who will not be able to be converted into commercial enterprises. They need social protection to protect them; they need to move out of the agricultural sector. They either have to move to the cities or move to another agricultural area where they can really make a decent living.

The second type is subsistence farmers who have the potential to be converted into commercial enterprises. The third type is already commercialised smallholders. I grew up in a smallholder family in southern China, so I was a smallholder 40 years ago. We have to put smallholding in a broader context, so they are not just one person called a smallholder. They are in fact in a dynamic economic process. Then we have to design the policies for different types of smallholders. Our focus has to be on the subsistence smallholders who have the potential to become commercial enterprises. This is something Mr Nwanze has already mentioned; so we focus our attention on that.

These smallholders are facing many challenges. They do not have access to markets, good seeds or agricultural extension, and they also do not have access to capital. Without capital, they are not able to scale up their commercial activities. The way forward is to make sure that public policy is designed to support smallholders with access to markets, and to provide social protection. In the previous session you discussed the role of social protection in guaranteeing that the poor have access to nutritious foods in the short run.

A very important strategy is to increase social protection, but also to help smallholders to improve their long-term productivity. We call it a productive social safety net. In Ethiopia and Kenya, when the Horn of Africa drought hit, Kenya did not have a security problem like Somalia, but it suffered more hunger problems than Ethiopia. That is partly because of the social safety net in Ethiopia that played a huge role in helping the poor to access nutritious foods in the short run, and to build assets for long-term growth. So this is critical, and donors have supported some of our evaluations of the social safety net programme in Ethiopia.

The resilience of smallholders is also critical. Smallholders today may make money; tomorrow when there is a drought or flood, they are in poverty again. We have to make sure that smallholders have access to insurance, finance and marketing in the long term so that, when some crisis comes, they have a strong resilience against shocks.

Q107 Chris White: Just to take the smallholder issue a little bit further, I am sure we all agree that access to finance is a very important issue. What in your view is the best way for donors such as DFID to improve smallholders' access to finance, and where do you think this is in the list of priorities?

Kanayo Nwanze: Let me just go first to that question, because that is something I missed out. Rural finance constitutes about 20% to 25% of our total portfolio, and this goes from microfinance, credits, and supporting women's groups or farmers' groups to small associations like SACCOs in eastern Africa. We actually manage the Financing Facility for Remittances, FFR, which we discussed last week with Princess Maxima of the Netherlands, who invested with us. I believe that the current financing that we get from DFID and other members, which is core to our activities, actually helps us to leverage additional resources from bilaterals, multilaterals and the private sector. We currently have discussions with a couple of partners in working with Governments to establish microfinance institutions. Our most successful stories

come from the Republic of Benin, for example, and Guatemala, where we have helped build rural finance institutions. So access to financial services is very key for rural populations, and most of them, as you know, do not have formal banking. Through mobile telephony, there are many ways now in which people can bank. The most successful, as you know, is M-Pesa in Kenya, where IFAD has also been very effective.

I think our rural finance programme is one of the most vibrant. We currently have a portfolio of $900 million of ongoing rural finance programmes worldwide. So this is one key element of IFAD's activities. As I mentioned earlier, most of our loans are to small communities. The most successful participants in our rural finance programmes are women. The default rate is less than 4%; among men we have default rates of about 25%. This is again indicative of how successful it is; when rural women have access to financial services and are able to build our economies, this ensures that children are well fed, go to school, have access to clinics and have better health. So we do emphasise very much the empowerment of rural women, because in most of our programmes we have seen transformations taking place in communities as a result of the empowerment of women, access to financial services and so on.

Dr Fan: Another important aspect is how we can use aid money, including DFID's money, to manage others' finance to support smallholders? Private banks do not want to finance smallholders because smallholders face risks. If public finance or aid finance can help the private banks reduce risk through joint venture equity or by providing a guarantee, your money will be multiplied 10 times or even more. It will reduce the risks of private sector lending. In addition to access to capital, access to land is also important. A lot of young people in Africa are moving to the cities, but cities do not have decent jobs for them. Agriculture back in their home town provides a great opportunity, but they do not have land. Through land reform, we should make sure that young farmers in Africa have access to land. Then they will be able to become business people.

Q108 Chris White: Thank you. Can I ask the question again, but instead of access to finance, can we talk about access to markets and how DFID can help with that situation? Can you also talk about producers' associations in your answer?

Dr Fan: Producers' associations obviously need to be strengthened, particularly in Africa and South Asia. 2013 is the year of the farmers' co-operative, so we should seize that opportunity to work with producers' associations to strengthen their capacity. Part of the problem is they do not have good management skills and they do not have the capacity to reach out. They do not have the capacity to deal with the banks, to deal with credit unions or to deal with supermarkets. If we can empower them through building their capacity, they will be able to increase their voice in dealing with the private sector when they negotiate contracts and prices. When they deal with the banks, they could have better terms, or even with the Government: through the political system, if the farmers are organised, they will push the Government to provide much better support to them.

Kanayo Nwanze: One of the main strengths of IFAD is its ability to work with farmers' groups. In many of the countries where we work, it is fundamental that farmers are organised into associations, into groups, and eventually into co-operatives. We have some very good examples of organising farmers and giving them a voice, so they have their own institutional framework of governance and can become credible interlocutors for farmers. Some good stories have come out of our work, and farmers have been able to build links to local, regional and international markets through this sort of organisation. The first is Sao Tome & Principe, where we work with cocoa farmers who have seen many years of neglect of agriculture and disinvestment by the corporates. We were able to lend to these farmers to supply chocolate makers such as Kaoka in France, and Cafédirect in the UK. Another good example comes from the Pacific: supplying organic virgin cocoa oil to the Body Shop in the United Kingdom. This is because of our ability to organise them.

One of our best stories, which covers the whole value chain, of helping farmers to organise themselves into co-operatives comes from Guatemala, a project I visited. With over 10 years of access to financial services and organisation of farmers' groups, this particular co-operative, called Agrisem, now produces and supplies some of the most competitive curd or French beans to the United States. Who is the buyer? Walmart in Miami. This is making $100 million a year for this co-operative. So it is very essential that small farmers are well organised and they have access to markets. The good story of Agrisem is that they have been able to grade their French beans to A, B and C. A is sold to Walmart, B is sold to supermarkets in Guatemala City, and C is sold in local markets. Amazing. This for us is a very good story.

I want to emphasise again that the support we get from our member states and the UK through DFID is very key, because our ability to work with small farmers leverages additional funding from other partners. In the last 35 years, IFAD has invested about $14 billion in its total portfolio. We have been able to leverage $21.9 billion from partners—the World Bank, the Asian Development Bank, the African Development Bank and bilaterals like DFID, through supplementary funds. We have reached about 400 million smallholders, of which we calculate that anything from 25% to 50% have been lifted out of poverty.

Sir John Beddington: There are a couple of points I would like to make in the smallholder context. Because of the changes we are going to see, both in terms of demographics and migration, but also because of climate change, I think that the past is not going to be a very good guide to the future. In a sense, much of smallholder agriculture is based on traditional technologies that work. Those will not necessarily work as climate change proceeds, and I think that that needs to be recognised. I think the infrastructure and the funding and the co-operatives are all enormously important, but I do think there needs to be an agenda within DFID and within the community to forewarn and to say, "Look, this has worked for perhaps the last

10 or, indeed, 100 years; it is not going to be a good guide to what will work over the next 20 or 30 years, because of changes that we are likely to see from climate change."

The other thing I feel has been slightly underplayed, not just in the context of smallholders but in the context of your inquiry to date, is that nobody has mentioned very much the real problem of water. Whereas there is a lot to be said about how one can use agricultural technology, conservation of water and sustainable management of water is going to be absolutely critical.

Kanayo Nwanze: One of the driving forces behind ASAP, which was initiated by the UK representation in Rome in 2011 during the ninth replenishment consultation, is basically that—how to help smallholders to manage water better. There is a lot of water that is run-off—simple rainwater. Managing simple rainwater like I saw in South Gansu in China transformed the whole community, enabling them to grow crops and raise livestock. This is very critical. Also through ASAP, we assist communities and small towns to have a basic meteorological station to collect data and to access weather information through mobile telephony; these are the small things that this programme is doing. I think DFID should take pride in this particular leadership, because smallholders are always marginalised by the big climate forums. Small populations in rural areas are often marginalised. This is why ASAP, the Adaptation for Smallholder Agriculture Programme, is so critical in reaching out to these communities because, as you say, the game is going to change with climate change becoming more important.

Chair: We certainly will address both climate change and water. I will come back to that in a minute.

Q109 Fiona O'Donnell: Sir John, I am so glad that you raised that issue, because it is not just smallholders but also farm labourers who are increasingly moving to cities. I saw first hand in Bangladesh, in seven years, just what an impact it was having on access to water. What I want to ask about today is biofuels. We have received a considerable amount of evidence pointing to the adverse impact of targets both on food prices and on food security. We have had a recent report, with 10 agencies, including two from our last evidence session, WFP and FAO, calling for the scrapping of targets. With all this evidence and all this pressure, why is the UK Government not taking action on targets for biofuels?

Sir John Beddington: I think the problem we have is that there is actually a degree of uncertainty about what biofuels can deliver in terms of reduction in greenhouse gas emissions. It is a truism that if you are using land to grow biofuels, you are not going to be using it for food. I do not think that there is necessarily a problem there, but it will depend on the geographical region. One of the things I feel has been understated historically has been the potential for agriculture, including smallholder agriculture, to come to the aid of the greenhouse gas emissions agenda. That is not necessarily by growing biofuels, but by changing agricultural practices to make them more efficient and produce less greenhouse gas, and also by increasing sequestration of carbon dioxide and some of the other gases into the soil by changing agricultural types—agroforestry and so on.

Your question, in a sense, moves the issue out of my agenda. We have spoken about biofuels and I have advised the Government on biofuels, but I think that the targets are a political decision. I would argue that we need to be thinking about the implications of growing biofuels in particular geographical regions. Is it going to present significant problems? At a global level, it is almost a truism that, if you use land for biofuels, you are not going to use it for food production or indeed water conservation. I do not think we should simply conclude that we should therefore not use biofuels. I think that they are part of the potential for a rural economy. The way in which the targets are being used to drive unnecessary subsidies or unnecessary activities is unattractive.

Q110 Fiona O'Donnell: Just to be absolutely clear, you are saying that it is a political decision not to scrap the targets? You are retiring in a week's time, so perhaps we should have waited until you had retired before we asked these questions.

Dr Fan: One area we have not invested enough in is the second generation of biofuel technology, the use of agriculture residues, algae, or even switch grass. I think the potential is great. Yes, it is a political decision. However, a political decision has to be based on evidence, based on knowledge—information that can fit into that

Sir John Beddington: This is really why I did not want a blanket policy of "No, biofuel targets bad." For example, in our BBSRC, we have an interesting joint programme with Brazil on thinking about second generation biofuels—thinking about how we can use biotechnology and our understanding of the agricultural process to have second and, indeed, third generation biofuels. As we were talking about a division of smallholder agriculture into three, biofuels need to be thought about in particular. There is a real potential for thinking about waste or thinking about using poor-quality land that does not deliver significant benefits from agriculture and food production. Biofuels actually have the potential for a role there. I am slightly resistant to saying, "all biofuel targets bad". I am not sure that they are.

Q111 Fiona O'Donnell: Do you think realistically, though, given the power of the farmers' lobby in the US, that there is any prospect of them changing their policy?

Sir John Beddington: I think that moves me out of my dimension of Chief Scientific Adviser into political commentator.

Q112 Fabian Hamilton: Given what you have said and what the previous panel said about biofuel production, it is not the targets that are the problem. It is not the production, as Sir John has said, that is the problem. The distribution of the food that is already produced and that continues to be produced is the main problem causing hunger in all parts of the world. Discuss.

Kanayo Nwanze: It is more than just the distribution. We are talking about a lot of paradoxes here in the area of agriculture and food production. On the one hand, you could say that the world today produces enough food to feed 7 billion people.

Q113 Fabian Hamilton: That is what the IF campaign said, of course.

Kanayo Nwanze: That is perhaps correct. But, in the developing world, 20% to 40% of all food that is produced on farm is lost before it gets to the table due to post-harvest losses in storage or transportation. In the advanced world, 30% of all food that reaches the home is lost as wastage. Is it a question of increased productivity or increased management of production? That is one paradox. One billion people, mostly children, go to bed hungry. One billion children are stunted, yet 1 billion people are obese through over-eating and poor eating. This is malnutrition of two different types. That is the paradox. Last year, over 40% of all corn or maize produced in the US went into biofuels, and 70% of all soya beans that were produced in 2012 were not fed to humans. They were fed to animals.

So what is the issue here? When you come to biofuels—and we are actually supporting research into this—how can waste from smallholders or from rural areas, straw from crops, be used to produce second-generation biofuel? We supported a programme in China to produce biogas from animal waste, human waste and farm waste. It has been so successful that families have their own biodigesters to produce methane, which if allowed to go into the atmosphere increases the problem with climate change. Home-produced biogas is producing electricity and gas for cooking. This pro-poor technology is now being used in Tanzania, Ghana and Vietnam very successfully. What is the statement, "All biofuel is wrong"? No. The country where I was born—I have not lived there for over 40 years—is the largest producer of cassava worldwide. Yet it imports finished fuel, refined fuel. It produces, as you know, a large proportion of oil that is produced in Africa. Yet cassava peel can be used to produce biofuel. Brazil is already doing that—ethanol. Cassava can be used to produce industrial starch, sorbitol, in the brewing industry, and a whole bunch of things. It is not a question of biofuel production. It is the policies that are the problem, not the production itself.

Chair: It is not as clear-cut as some people have suggested.

Q114 Fiona Bruce: Very briefly, on climate change, you mentioned water earlier. What should be a higher priority for DFID? Should it be climate change adaptation or climate change mitigation?

Sir John Beddington: I think the simple answer is both. There is actually the potential for win-win. The international commission that I chaired on climate change and agriculture and food came up with some of these ideas of what we might call a climate-smart agriculture, in which you can use various agricultural technologies to mitigate the emission of greenhouse gases. I think that would help a lot. That has not been done, regrettably, in my view. The successive meetings since Durban have failed to take up agriculture as a significant potential benefit to the climate change agenda, and I regret that.

The other issue, and I alluded to it earlier, is that we need to be thinking about the way in which climate change is going to affect agricultural production, particularly in smallholders. Some interesting ideas came out of a study that the World Bank and IFPRI are involved in. That study says that if climate change is going to be happening, there will be lessons to be learned from different geographical regions. So, a particular region can change due to climate change into a form where agricultural technology has continued to exist, and you can learn across the regions.

My big worry is that we are experiencing weather at the moment that is dependent on climate that was determined by the greenhouse gases in the atmosphere in the 1990s. Because of the delays in the climate system—typically 20 to 25 years—what is up there now will determine the climate for the next 25 years. Since 1990, there has been a very large increase in greenhouse gas accumulation in the atmosphere. We can be absolutely clear that things are going to get a lot worse, and that what we are seeing in terms of climate variability now is but nothing compared with what we are going to be seeing over the next 20 to 25 years. That is why my simple answer is that we have got to have mitigation, but we really need to be thinking about clever ways of adapting as well.

Dr Fan: Mitigation and adaptation have to come together. In addition to this win-win, I want to add another win—call it a triple win—particularly for smallholders. If smallholders adapt certain technologies, they will be able to improve their productivity, their production, their income, and in the meantime adapt to climate change and help to sequestrate carbon into the soil. Mitigation, adaptation and smallholders' income can all be wins.

But then there are two things. One is obviously policy. Smallholders need knowledge, information and also incentives. There was a study in Kenya. How much is the price of carbon? At $7 per tonne, the farmers would be very excited. If the price increased to $20 per tonne, they would begin to celebrate. What would be the incentive for farmers to do that? Policy is the first important issue.

Second is technology. The CGIAR system is investing heavily to bring the new technologies and new varieties, not only to enhance yields and enhance nutrition but to help adapt to and mitigate climate change—including droughts, floods, and higher temperatures. I really hope DFID can continue to invest in these two areas: policy, to create incentives for agricultural smallholders, and new technologies.

Kanayo Nwanze: Dr Fan just summarised the adaptation to climate change programme that is supported by DFID at IFAD. I would say that, for me, is one of the most dynamic programmes that actually targets small farmers. What he just said is a good summary of what this programme is meant to achieve.

Dr Fan: It needs to be scaled up.

Q115 Fiona Bruce: Do you believe DFID is doing enough particularly on disaster preparedness?

Sir John Beddington: I was asked by the Secretary of State of DFID to look at the potential for using science and technology to better predict and better mitigate potential disasters, and that work reported and we are taking that forward. You touched in the previous session on the ability to predict reasonably well in advance where disasters may happen. One of those, of course, is in terms of predicting rainfall problems, the potential of food reserves to be run down, and so on. This is really important and was alluded to earlier. Our ability to predict weather has increased enormously, and we therefore have the real potential to use our ability in short and medium-term forecasts to make communities, and particularly small-scale communities, more resilient to these sorts of changes. As Kanayo said, there is real potential to use simple mobile phone technology to promulgate that sort of information. I think there is real scope for it.

Q116 Fiona Bruce: Can I just ask one technical question of Dr Fan? It relates to the fact that in a previous session we were told that integrating smallholders into global carbon markets could be problematic due to the difficulty of measuring the levels of carbon in soils.

Dr Fan: This is a very important question—the measurement. I think we need more innovation, not only in varieties but also in techniques to monitor and to track carbon emissions. I have seen some very simple ones, the remote sensing type—very simple technologies from China and from other places. We do need to pay attention to that, to invest in simple tools, so that national Governments can track and monitor carbon emissions that are then verified by independent and neutral organisations. As you know, China probably receives the largest share of the carbon credit because they were able to do something to show—and this was very crude, but I think the capacity in Africa and South Asia should also be strengthened by providing some simple, easy-to-use tools to track and monitor carbon emissions.

Q117 Fabian Hamilton: Can I ask you, Sir John, and then perhaps other members of the panel, whether you have got anything to add to the written evidence you have already given us to highlight the potential of bio-fortification and genetically modified crops? What do you think the UK Government should be doing to support these technologies to ensure that they then benefit those most in need? Clearly, Sir John, you made a very powerful case in your submission.

Sir John Beddington: I will not amplify it. As you have said, I have put written evidence in. I think there is the real potential of understanding plant genomics to use conventional breeding techniques to improve things, for example high-protein maize, but also to make interventions and genetic modifications of organisms to increase fortification; the rice example I used in my written evidence is but one of those. I think that there is a real dilemma here that there are organisations, particularly non-government organisations but also Governments, that in a sense believe that anything involving genetic modification is wrong. That is a fundamental misconception. I think that the key here is that we should ask questions about any genetically modified organism. Could that have been developed by conventional breeding? Is it safe? Is it sustainable? Is it safe for human health? The answers to those questions are for an individual organism not the technology as a whole. I think it is very unfortunate that some NGOs take up a view that anything that involves genetic modification is wrong. It is a political view; it has no scientific basis. I think that is very unfortunate. I think that the potential is understated for using our increasingly extensive knowledge of plant genomics to take forward and solve some of the problems for small-scale agriculture—indeed, agriculture in the developing world. In particular, in bio-fortification, there are some very quick wins, as we are seeing.

Q118 Fabian Hamilton: As a non-scientist, am I correct in thinking that hybrid plants and the way we have bred plants over the years to maximise nutrition is a form of genetic modification?

Sir John Beddington: I think one can play on the words here, but certainly any form of breeding—

Kanayo Nwanze: I will just give you a very simple, non-scientific explanation, simply because the term "genetic modification" is misused. It is a widespread truth. When we developed NERICA rice in the Africa Rice Center in West Africa, it was a simple modification of the genetics of rice through molecular science, which is part of biotechnology. We have to distinguish between simple molecular tools that help us to enhance a crop's ability to adapt or to produce, and transgenics, where you transfer genes.

I remember one NGO in 2003 condemning NERICA rice as a GMO. This is a simple, natural process that we have enhanced through biotechnological tools. If you want to describe any process that uses biotechnological tools or molecular science to develop a new variety, then it is a GMO in that sense but, strictly speaking, it is when you are talking about transgenics that it becomes a moral issue. Having said that, however, the vaccines that are injected into you to protect you against yellow fever and so on are the same thing; they are GMOs.

Dr Fan: I should say that GMOs have been used in medical science for many years. It does not make any sense for agriculture not to use them.

Fabian Hamilton: The case that Sir John made in his written submission on GM maize or bio-fortified maize, and the benefit that it can have nutritionally for those who need it most, was very powerful.

Q119 Chair: Is there not an issue about biodiversity and the control of intellectual property that has caused concern? Rather than the technology itself, it is who controls it and the circumstances in which they apply it. Has that created a problem that has given a negative perception of something that potentially could be more positive?

Sir John Beddington: I think the early introduction of the idea of GM organisms, which was done now 10 or 12 years ago, where, essentially, the intellectual property of these was residing in individual corporations, was unfortunate. What we are seeing now is that, for example, in the UK, the IP for work

that is being done in our research institutes will be free to the world. I think that is increasingly happening in some of the work that is being done in Africa, even with the help of intellectual property donated by these corporations to this operation. I think that your perception, Chair, is absolutely correct, but I think things are vastly different from 10 or 12 years ago.

Q120 Chair: You mentioned water—and I was going to come on to that—and infrastructure in general. Again, we just recently visited Ethiopia. One of the simple explanations we were given as to why Ethiopia was managing its food security better now than 30 years ago was that they have built, as we saw, lots of decent roads, so it is possible to move stuff around. However, Ethiopia was the example on a previous visit, where the statistics we had were that only 3.7% of arable land in sub-Saharan Africa in 2007 was irrigated, compared with 26% in India and 44% in China. I suppose the issue is, first of all, to what extent does irrigation and water-management contribute to improving the situation, and is that enough? I think you have hinted that, even if you do all of that, we may still run out of water.

Sir John Beddington: Yes, the answer to that question is complex, and I will not try to do it, recognising the time issue. I think the issue is really that, yes, absolutely clearly, irrigation can work, but it depends on the source of the water. For example, the discovery over the last few years of significant amounts of sub-surface water in Africa, which has the potential for really improving the livelihoods of many African people, whether they are in cities or in the rural hinterland, is tremendously good.

One does, however, need to be thinking about the sustainable exploitation of these resources. The problem that we have seen, for example, in north-west India is that aquifers have been significantly overexploited so that some of them are saline and, therefore, not really usable. We need to learn from that. I think that this is a real area for the scientific management of water resources, and it will depend on geography. I do not think that one size fits all, and it can be down to very small levels—the conservation of water within a village can be enormously important, let alone that at a regional level.

Q121 Chair: You suggested we needed more co-operation between the various agencies—governments, multilateral bodies and the private sector. Have you got ideas in your mind as to how this could come about?

Sir John Beddington: I do not think that I feel confident to answer that question, Chair, because I think co-operation is manifestly a sensible idea. I think there is clearly a role for the private sector in improving the way in which water is managed, and we cannot ignore it as far as the issue of food production is concerned, as we have discussed. In terms of giving you positive suggestions, however, about which organisations to involve, I am not qualified to answer that.

Kanayo Nwanze: The UK holds the Presidency of the G8. As you know, there are going to be several events taking place here. One of the products of the US Presidency of the G8 was the creation of the New Alliance for Food Security and Nutrition. I have a meeting with Dominic Dyer after this session, and one of the things we are going to be looking at is partnerships: how to bring together the private sector, governments and NGOs to create partnerships—I think that six countries were identified last year, and I am on the Leadership Council of the G8's New Alliance—and how to expand that and how engage the countries themselves to take ownership and leadership. This is a unique opportunity for the UK's Presidency of the G8 to take the New Alliance to a new level. There are strong possibilities to showcase what can happen. Building on the Grow Africa initiative, which started about two or three years ago, and folding that into the G8 New Alliance, into a new alliance, rather than just the G8, would be a tremendous opportunity to show that these partnerships with the private sector, with governments, with farmers' associations and with NGOs can work.

There are challenges to agricultural production in Africa. You just gave examples: poor irrigation, 3.5% of farmland irrigated; very poor use of fertilisers, at 10kg to 13kg per hectare compared with 100kg to 120kg in Asia, and so on and so forth; and the minimum use of improved hybrid seeds. But if you turn this around and look at them as opportunities rather than challenges, where else in the world, in this time of climate change, do you have such potential to transform production and productivity to feed the world? If you doubled the use of irrigation, fertiliser and better seeds in Africa, and had good policy and governance—very key—Africa could not only feed itself but even go beyond that and produce enough to meet global food-security needs. It is about how we work on this.

Sir John Beddington: One of the things I should have mentioned in answer to your question is that we have within the UK developed an organisation called the UK Water Research and Innovation Partnership, which has involved all the stakeholders that have just been referred to within the UK. That partnership is going to be taken forward by my successor, and the idea is that it will think about the way in which NGOs and UK industry and so on can help with this issue. It is parochial, I know, but we are taking it forward. This involves our research councils, it involves DFID, it involves BIS and it involves the sort of inputs that we get from industry and from the NGO community. That is working relatively well at a parochial level, but I think the potential for expanding it is quite substantial.

Q122 Chair: Presumably, we need to find mechanisms that enable smallholders, to some extent, to help themselves, through co-operatives or what have you. We saw in Rwanda what happens when the Government get behind the landowners but, in other parts of Africa, you might wait a long time for the Government to get behind you, so they need to do it themselves.

Dr Fan: One study we have done at IFPRI looked at irrigation potential in Africa. We found that it is about

small irrigation, not large-scale water management. Farmers can catch the rainfall to save water and use very labour-intensive, water-saving practices to grow crops. The return from that type of small-scale irrigation is huge. Again, can I mention irrigation in Gansu province? What they did was build a catchment to catch the water, and then saved the water using underground tanks. If a boy wants to get married, he needs to have 13 or 14 underground water tanks; otherwise, the couple are unable to get married. Do not repeat some of the mistakes of the Asian Green Revolution. I agree that there is great potential for Africa to learn from Asia, but there are also mistakes, like underground water depletion and the overuse of fertilisers and nitrogen. We can have a truly green revolution in Africa.

Kanayo Nwanze: This is basically why I am talking about the challenges that face African agriculture today. Given the knowledge that we have from the green revolution and from existing technologies, the greatest potential to produce more food and to increase productivity and production without damaging the environment, because of the lessons we have learned, is in Africa, more so when 60% of all unused agricultural land is in Africa. You can imagine the potential there. This is why I think that, this year, you have a tremendous opportunity to send this message across during the G8—the pre-G8 and the G8 session itself.

Chair: Certainly, that is very helpful in thinking of the recommendations we might make to DFID.

Q123 Fiona O'Donnell: Sir John, you have also suggested that one way we could look at solving issues of price volatility would be for Governments to look at futures and options markets. How would governments go about that, what are the risks, and who are those risks for—for Governments, for farmers or for the poor hungry?

Sir John Beddington: I think Shenggen is somebody who knows rather more about that than me, but I think the issues are really that all the analysis seems to point to increasing volatility in food prices, which is a potential problem. One way of intervening to dampen the volatility is using the futures market, but one of the additional suggestions we made was to think about the potential for reserves. I am not talking about the reserves that we had in the European Community a few years ago—butter mountains and wine lakes and so on—but using local reserves. IFPRI have been taking some of these ideas forward rather more than I have, so I would probably pass to Shenggen to answer some of these questions.

Dr Fan: Part of the reason why global food prices became so volatile is the lower stock-to-use ratio, as was mentioned in the previous session. When you do not have enough stock, everybody becomes very panicky. Weather events can hit us; it may be climate change, but extreme weather events have further pushed up food prices. Some countries are beginning to impose trade export bans or trade restrictions, which further increase food-price volatility. From our own analysis, export bans probably accounted for a larger share of the global food price hike and volatility than biofuel which is another source.

Another proposed reason is financial speculation. As economists, we tried to use evidence—statistics to correlate them. Right now, the evidence is still inconclusive. However, we do need to track who is speculating and by how much. Excessive speculation should be avoided.. Speculation sometimes plays a good role in smoothing the market. We need the positive aspects of speculation to make sure that the negative side is controlled.

Long-term underinvestment in agriculture has led to a slowdown in agricultural productivity and a lower stock-to-use ratio. These are the fundamental factors behind the global food price rise and volatility, so we have to focus on fundamental issues behind that.

Q124 Fiona O'Donnell: As you say, it can be difficult to find the evidence, that speculation is driving spikes. It is the same with oil as well: why is the price going up in this country and not coming down on the forecourts when the price of a barrel falls? Do you think there is some need for reform of the market, given that such a high percentage of grains and cereals across the globe is in the ownership of a very few traders? Do you not think that that is a dangerous situation?

Dr Fan: That is why we need a more open and transparent market. Shared information from AMIS is so critical in terms of how much stock China and India have, with respect to both output prices and consumer prices. We have made some progress, but part of the challenge is their commitment. I think somebody mentioned their commitment during the previous session. I also think it is about their capacity. If you ask India and China, they do not know how much stock they have on their farms. They may have some stock in their national reserves or in their public distribution system, in the case of India, but they do not know how much stock their farmers have. Sometimes, it is not just Governments but farmers who speculatively hold their grains in expectation of higher or lower prices. We need better and more transparent information, and we need to build the capacity of the G20 developing countries, so that they can share information with everybody.

Fiona O'Donnell: The poorest farmers and those who are most impacted by climate change do not have the power to speculate in that way.

Chair: Every time we try to manage agricultural prices, we finish up either with mountains or famines, so I am not sure we have been very good at it in the past. Can I thank you very much indeed for your evidence—both your written evidence and for taking the time to be with us? We appreciate it very much. It is really important that we have organisations of your calibre helping us. If you have any reflections on anything you have said or you feel you can add to what you have said, please do not hesitate to get in touch. We will be working on this for quite a few weeks yet. I hope you have found it useful; I think we certainly have, and I hope we will be able to make useful recommendations for what our own Government can do to address some of these issues, which is the point of it all. Thank you very much.

Thursday 18 April 2013

Members present:

Sir Malcolm Bruce (Chair)

Hugh Bayley	Pauline Latham
Fiona Bruce	Mr Michael McCann
Richard Burden	Fiona O'Donnell
Fabian Hamilton	Chris White

Examination of Witness

Witness: **Norman Baker MP**, Parliamentary Under-Secretary of State, Department for Transport, gave evidence.

Q125 Chair: Good morning, Minister, and thank you very much for coming in. This is not your usual Committee, but you are nonetheless welcome. As you will probably appreciate, we have just a few questions that we want to explore with you on the issue of biofuels and the competition with food. What we have heard in the evidence so far is a pretty overwhelming view that the existing food mandate should be scrapped. The people who have given evidence to us say it is distorting, dysfunctional and it should be scrapped. That seems to be all the evidence. Everybody we have had has said it should be scrapped, so why is it not being scrapped, or at least radically changed?

Norman Baker: Thank you first of all for inviting me along. I am very happy to contribute from the Department for Transport. As you will appreciate, these matters are decided at European Union level by the relevant directives, predominantly the renewable energy directive, but also the fuel quality directive has an impact on this area as well. That directive was set some time ago, about 10 years ago, and when it was set, the world seemed to think that biofuels were completely beneficial with no downside, and certainly the pressure groups at the time were pushing politicians of all parties to embrace biofuels. Then there was a volte-face by them almost overnight, to say, "No, there are some downsides to these things, we should not be having them", as we are.

We have targets that were set on the basis that the higher the target, the better the environmental outcome. That clearly is not the case, and evidence subsequently has shown that there are downsides to biofuels that need to be factored in. I personally think the Department would not have started from where we are. Biofuels have a role to play. Some biofuels can be entirely beneficial, for example the biodiesel derived from waste cooking oil. We have been incentivising those sorts of biofuels through the renewable transport fuel obligation, and in fact the amount of waste-derived biofuel has now gone up, in biodiesel terms, from 15% to 84% in about five years, so we have been successful in our domestic promotion of that.

However, there are biofuels that clearly are a disadvantage in terms of both the areas your Committee is concerned about, but also in environment terms. Our estimate is that once you take into account indirect land use change, which we think is a serious issue, then some biofuels are worse in greenhouse gas emission terms than fossil fuels are. We would prefer, if we were to start from a blank piece of paper, to have sustainability criteria applied to biofuels, and only use biofuels that met those criteria, rather than having to pursue an abstract target set by the EU. The target is there, however what we have done domestically is not to increase the target for the renewable transport fuel obligation. That remains where it is and has not been increased, and I would like to make progress in the European Union to recast the way in which they prioritise and incentivise biofuels. However, I have to say that there is not necessarily a great deal of enthusiasm for that from other countries.

Q126 Fabian Hamilton: This year the UK biofuel mandate reached its highest level ever, I understand. What are the Government's plans for how this target will evolve in the future, and does the Government have any plans to build in safeguards to limit the negative impacts on food security?

Norman Baker: The target is a 2020 target, and it does not increase each year. It is simply the 2020 target we are obliged to meet. There is an expectation from the European Union that we will be on a trajectory upwards towards our target, but there is no absolute requirement to be that. In fact, the renewable transport fuel obligation target is 4.75%. That was a decrease from 5% on the basis that we took in non-road mobile machinery for the first time, and therefore it still equates to around 5%. In fact our target has not increased, and will not be increasing, at least until 2014. The overall target remains where it is and we want to make progress to try to get the European Union to rethink how they consider these matters, and therefore we are holding our target where it is until such time as we have had an opportunity to see how ILUC in particular falls out of the European Union.

Q127 Fabian Hamilton: What about the safeguards to limit negative impacts on food security, then?

Norman Baker: Sadly, that has not been a factor that was taken into account in the consideration. As I say, the targets were set at a time when biofuels were regarded as wholly beneficial. Let me just be clear: for the biofuels industry there are upsides to biofuels, and we need to not lose sight of that in our proper consideration of the downsides, but the reality is that it was assumed on day one that they were beneficial

in tackling carbon reduction. That is not necessarily the case.

There was not consideration given, in my judgment, in 2002 and 2003 when the proposals were formed, as to the impact on developing countries, or on land use, or on anything really beyond greenhouse gas emissions, insofar as they were considered. It has not been factored in. My view is that if we are successful in arguing for ILUC factors to be applied—and that is something that the Government is arguing for in the European Union, and that matter is live now—then although ILUC factors in themselves do not take into account the impact on food and developing countries directly, nevertheless the limitations that that have been placed on the production of biofuels from those sorts of areas, because of greenhouse gas restrictions, would also have an impact on reducing the amount of land taken away from food production.

Q128 Fabian Hamilton: You mentioned in your earlier reply the recycling of waste cooking oil. For example, I opened a power station last year in my constituency that did exactly that. We know that biofuels drawn from non-food crops are markedly less problematic for food security, but what do you think we can do, apart from waste cooking oil and so on, to support the development of non-food-based fuels?

Norman Baker: We incentivise those under the renewable transport fuels obligation, we double–count those against the obligation, which is one of the reasons why the percentage of waste-derived biofuel has gone up from 15% to 84% in four or five years in this country. We are also very keen to work with industry to develop new-generation biofuels, perhaps based on algae, for example, although that has water or land implications as well, which are nevertheless likely to be less. We are encouraging industry to go down that road. The ILUC proposal in the European Union at the moment envisages that there could be quadruple counting for some beneficial, non-controversial biofuels such as those, and that is something we are supporting. We are hopeful on that point we might make progress with our European partners.

Q129 Fiona O'Donnell: Just to be clear, then, the UK Government supports the European Commission proposal for a 5% cap on biofuels?

Norman Baker: No, we prefer something that is better and greener, and probably more to the liking of your Committee is the introduction of ILUC factors, which take into account indirect land use change and its consequences, particularly in relation to greenhouse gas emissions, but also indirectly the use of land for food production. We think that is a better way, to base our policy on sustainability criteria rather than on abstract targets. However, we will obviously have to wait and see what other European countries are doing, and certainly if we ended up with a cap, we would want a lower cap rather than a higher cap.

Q130 Fiona O'Donnell: It is not just NGOs that have expressed concerns about the subsidies, but also business. The B20 has called for an end to subsidies. Would you support that?

Norman Baker: Of course, everybody is governed by World Trade Organisation rules, which are doubtless something that your Committee has looked at in the past, or will do in the future as well. Therefore, that is the mechanism as I understand it for controlling any suggestion of unfair trade arrangements.

Q131 Fiona O'Donnell: How does the situation in the US compare to the situation in the EU? What is your understanding of that?

Norman Baker: Are we talking about the mandates?

Fiona O'Donnell: Subsidies and mandates, yes.

Norman Baker: In terms of the mandates, they have a renewable fuel standard that contains four categories. The 2013 requirements relate to renewable fuel with a 20% lifecycle greenhouse gas reduction requirement. They have a different category for advanced biofuel with a 50% lifecycle greenhouse gas reduction. I should just say, by the way, in parenthesis that their definition of advanced biofuels is not the same as ours. Our definition of advanced biofuels is new-generation biofuels, whereas the American definition of advanced takes into account just biofuels that exist, for example, from Brazil, which happen to have a big greenhouse gas saving.

The third category is biomass-based diesel, where they also wanted a 50% lifecycle greenhouse gas reduction, and cellulosic biofuel, with a 60% lifecycle reduction. They have quite a structured arrangement in the US to try to drive down greenhouse gases, but as I say, similar to the European Union, their focus has been on the direct carbon consequences, if you like, the greenhouse gas or climate change consequences of biofuels, rather than looking at what I think is of interest to your Committee.

Q132 Fiona O'Donnell: I was going to compliment the Minister: he has been incredibly concise in his answers to questions, which will allow me then, maybe, to quickly return to the European Commission. What the UK Government is seeking is something that is more effective and more wide-ranging than the 5% cut. In that case, why does it appear the UK Government has been silent in the Commission on this issue?

Norman Baker: The European Parliament?

Fiona O'Donnell: The European Commission, sorry.

Norman Baker: Let me say that the European Commission is more than a one-headed body, and it does not help the fact that we have two different Commissioners, in my view, who are interested in these matters. You have Connie Hedegaard on the environmental side, and you have Mr Oettinger on the energy side, and you have two separate directives, the renewable energy directive and the fuel quality directive, which interact with each other but do not quite overlap. They are more like concentric circles, and they have slightly different drivers. Frankly, the legislative arrangements are not the most beneficial that could be created if you were starting with a blank piece of paper.

There is therefore a tension in the European Union between, first of all, those countries that are predominantly interested, perhaps, in environmental outcomes, which includes the UK, and those which

have perhaps big biodiesel industries, who do not want to see restrictions on those industries through the introduction of environmental limits.

Q133 Fiona O'Donnell: In that case, would it not just be easier to go for the cap? I know you say it is a rather crude measure, but would that not be a simpler response?
Norman Baker: No, it is a less satisfactory response, because where we have to go in the future, in my view, to help not just the environment, but also the biofuels industry, is to give some certainty. The way we get certainty is to build in sustainability criteria. If we do that, then everybody knows where they are, and the industry can then grow as we want it to grow, but on a firm foundation. The danger with having targets is that you are actually building on sand, and that does not help anybody.

Q134 Chair: Just to pursue that, you did not mention Mr Piebalgs, the Development Commissioner, and you implied that there were strong vested interests not to change it. Who are our potential allies? I do not question your personal credentials whatsoever; you and I have worked together, and I know what they are. In a sense, however, how big an issue is it for Britain to say, "We want to give some leadership on this: we have a very strong commitment to development, the strongest in the EU—certainly amongst the major countries—and that should have been considered and it should now be considered"? The implication of your answers so far is that you do not think you will get much traction.
Norman Baker: I need to be realistic about this. We have obviously worked with other countries to see where they are, and we have an uphill struggle—I am perfectly open about that—in order to achieve what I think is the best result for the environment, for developing countries and indeed for the biofuels industry in the longer term. However, it is an uphill struggle. We are obviously trying to maximise our support. I think our position is understood and respected in the European Union. Under the Irish Presidency, they were certainly very keen to use our expertise and knowledge to take forward what they might be putting forward as proposals, and we are obviously in constant discussions both with other countries and with the European Parliament, which looks like it may have a position closer to the British Government's position than the Commission hitherto has had.

Q135 Fiona O'Donnell: Can I very quickly, Chair, just ask: will biofuels be on the agenda for the G8 summit?
Norman Baker: I don't know the answer to that, because I am afraid it is a bit above my pay grade.
Fiona O'Donnell: Very modest.

Q136 Chair: From the Committee's point of view, that has covered the ground that we want. We appreciate that you understand what the Committee's objectives are, and I think you are right to point out—and again, I was involved, as you were, at the time—that the original objectives just did not consider the negative impact. I think we wish to give you strong support in your engagement that it really is not good enough to have yet another situation where the European Union is setting policy for itself that has negative implications for its development agenda, which it does not consider. It seems to me that this Committee will want to back you up—pre-judging our Report—on that. I hope that will enable you to leave this room with an even firmer step to fight that corner. It is not good enough. We have the same issue on free trade and agricultural subsidies: domestic interests within the EU override the supposed development objectives of the EU.
Norman Baker: Yes. Thank you, Chairman, again for inviting me along. Can I just give you one last bit of reassurance? We are coordinating these matters across different Government Departments, including DFID and DECC and other Departments that are interested—DEFRA as well—to try to ensure that we use the expertise within the British Government to get the best possible leverage across Europe.
Chair: Thank you very much indeed.

Examination of Witnesses

Witnesses: **Lynne Featherstone MP**, Parliamentary Under-Secretary of State, Department for International Development, **Professor Stefan Dercon**, Chief Economist, Department for International Development, **Professor Tim Wheeler**, Deputy Chief Scientific Adviser, Department for International Development, and **Dr Kenny Dick**, Team Leader, Food and Nutrition Security, Department for International Development, gave evidence.

Chair: Good morning, Minister. I think this is a first: two Liberal Democrat Ministers in front of this Committee in succession.
Fiona O'Donnell: Very exciting.

Q137 Chair: I just thought I should put that on the record, but I will not push my luck with my colleagues. I wonder if you could, for the record, just introduce your team.
Lynne Featherstone: I have Professor Tim Wheeler, who advises on techno things; Professor Stefan Dercon, who advises on almost everything, actually; and Dr Kenny Dick, who will be dealing with the questions I cannot answer on—which areas are you covering?
Dr Dick: G8 processes and global food security in general.
Chair: A bit more volume, I think, for this.
Lynne Featherstone: The G8 and food security.

Q138 Chair: We have a lot of ground to cover, so whilst we are perfectly happy to have all these highly

qualified experts with you, if we just bear in mind that if everybody answers every question we will be here until well after any reasonable lunchtime.

Lynne Featherstone: We will do our best to be succinct and get through whatever you want us to get through.

Q139 Chair: It is just so that we cover the ground. To put it in the obvious context: the population is increasing, therefore the demand for food is increasing. Not only that, but as people become more wealthy, which across the globe they are, they tend to consume more food. We are projecting a population of 9 billion by 2050. From the Department's point of view, what do you see as the implications for food security, and how is it being prioritised within DFID?

Lynne Featherstone: I think it is a very important issue to focus on. You have raised all the key issues, more or less: increasing population, climate change sweeping away development gain, urbanisation, all of those things. One of the issues is that there currently is enough food, it is just not necessarily in the right place at the right time; infrastructure in many of these countries means it cannot—market barriers, tariffs, all of those things. In terms of prioritisation, the main issue for us is poverty. Poverty is the main reason people are hungry, either because they cannot grow food or they cannot buy food, for whatever reason.

In fact the same goes for nutrition: those who suffer from malnutrition also do so because of poverty, so one of the key drivers in terms of prioritisation for DFID, is lifting people out of poverty. I would say that is the main driver and that happens in a number of ways, but there is no single quick fix to hunger or nutrition. There is a range of things. One of the key answers is the investment in agriculture, because so many of the populations are involved in and rely on agriculture, and therefore not just intensification of agriculture, but how smallholders are in the value chains for the corporate businesses, all of those things. DFID is working on a great number of fronts to address all of those issues.

Q140 Chair: We will go through those in detail, but before I leave it and bring in Chris White, the point I am making is this: I know you have only been in the Department for a relatively short time, but has there been any reprioritisation or refocusing of policy on the issue of food security, or is it a continuation of an existing mix of policy?

Lynne Featherstone: It is a continuation, because all of those things are absolutely key. I would say, in terms of climate change for example, and the Climate Change Fund, which we are looking at right now, we need to look at how we make sure we do the very best with the funds that are available. That is across not just my Department, but DECC as well, because in some of those things, like the future shocks—but there has been a shifting, if you like, to things like social protection in terms of trying to get over the risks so that people are secure. I think there has been a big shift in the focus on those sorts of things, so we look at social protection, production protection and financial protection. I would say those things are—

Chair: We have specific questions on those, so we will come back to those. The reason we have had two Lib Dem Ministers is that just before you we had Norman Baker on the issue of biofuels.

Q141 Chris White: We have been discussing the food security problems associated with biofuels, and as I am sure you appreciate, biofuels drawn from non-food crops are markedly less problematic in terms of food security. What do you think the UK can do to support the development of non-food-based biofuels?

Lynne Featherstone: The issue of biofuels is key. I am sure my colleague will have gone through it in some detail, as he is the expert. Right now we are by law required to deal with the mandates and the targets set by the EU, but in the longer term our approach would be that we believe that we need a sustainable future, and therefore we are looking at third–generation biofuels, which will turn to things like algae. I will have to turn to an expert on this to give you the details, but the third generation moves away from any competition between growing food as opposed to using that land for biofuels, because that is where the harm is coming from.

Q142 Chris White: Just before you bring in one of your advisers, can I ask them to add on to their answer what discussions have taken place regarding the mandates you mentioned with other Government Departments?

Lynne Featherstone: My understanding is that Norman Baker has raised it in the EU. I understand that there are discussions and negotiations in relation to the renewable energy directives. It is hard to challenge the European Commission directly on this, but my understanding is that in recent conversations there seems to be a little more flexibility than there has been to date. There has been no consensus across the EU. I do not know what future discussions are planned at this point, but I can ask my colleagues.

Professor Wheeler: I can provide some answers on the technical applications, and maybe Kenny can give you a direct answer on the policy side. Clearly there is a lot of work to be done on two fronts. One is building the evidence base and making sure that any biofuel actions mitigate greenhouse gas emissions, however you calculate that—and there is some argument as to how you do that. Secondly, there is the generation of new technologies, in a way that they can be used by the communities that DFID works with. DFID has a programme called the PISCES Programme in rural India, which is enabling about 30,000 households to try to, at a very small scale, use bioenergy or biofuels in a more efficient manner for their livelihoods.

Q143 Chris White: I suppose, just to push you a little bit on the question, I would ask: do you agree that non-food biofuels are less problematic in terms of food security?

Professor Wheeler: Clearly there is a conflict where you have a food crop being grown on land that is traditionally used for food provision, purely for a biofuel application. However, the area of land is reasonably small. Biofuel stocks are around 5% of

global land use. DFID very much supports the approach of giving priority to food provision where there is that dual use, and would always look to try to ensure that smallholders are not disadvantaged through an undue emphasis on biofuel growth and provision. Perhaps if you want the policy question, Kenny is the one.

Dr Dick: I would say that we are in very regular contact with the other parts of Government that have responsibility for biofuel—daily contact around some of the specific things that we are looking for, for example in the social impact report from the EU, etc.

Q144 Chris White: Do you think you are making any progress?

Dr Dick: I think the EU is quite clear that the UK Government has a strong interest in this and has a view. I think the understanding that the social impacts are potentially significant and need to be monitored carefully is well accepted now by the EU.

Q145 Chair: On that particular point, Norman Baker mentioned two Commissioners, but he did not mention Commissioner Piebalgs. I raised that issue with him. Do you think he is not enough in the loop, or should be more in the loop, and is the UK Government engaged with him?

Dr Dick: I am not sure I could answer that. I would be very surprised if he was not, because his officials clearly hear from us very often on this.

Lynne Featherstone: I think there is a conflict of interest in parts of the EU.

Q146 Chris White: Sorry, this may be a cheeky question, but is that what is important? What is important is to look at the food security issue rather than the conflicts of interest within the—

Lynne Featherstone: No indeed, but in terms of trying to get people to look at sustainability factors, the ILUC factors, for those countries who do not want to change the basis on which we look at food security, that makes it difficult if you are talking about changing the actual targets or getting people to move. That is why there is an issue, because not everyone has the same view of the importance and priority of food security when it comes to their own productivity.

Q147 Fiona O'Donnell: Chair, could I just very quickly ask—the previous Lib Dem Minister was not able to answer this question—will biofuels be on the agenda of the hunger summit at the G8 summit in June?

Lynne Featherstone: The Government is not engaging directly with G8 countries on the issues of biofuels, but they have engaged—we have engaged—I must get used to that—G8 partners on the development of principles of responsible agriculture investment and voluntary guidelines on land use. I cannot imagine that it will not be mentioned, but it is not an official discussion.

Q148 Chair: You cannot really talk about land use and not make reference to biofuels.

Lynne Featherstone: I am saying I am sure it will be raised as an issue at the hunger event.

Q149 Chair: Can I just confirm—my understanding is that Nick Clegg is leading on the land issue within the G8 discussions for us, or taking a leading role?

Lynne Featherstone: You may have more information than me, Chair.

Q150 Chair: All I was going to say was that we were going to write to him to ask for clarification of this.

Lynne Featherstone: I have no doubt that at the hunger event that those issues must come to the fore, because all the issues around land will be raised, I would imagine. They will be key.

Q151 Mr McCann: I have a question on which everybody takes a deep breath at the moment, because I am going to talk about the western diet, in particular meat consumption. We know it is rising dramatically, particularly due to the spread of western-style diets in emerging economies like China. It has been suggested to us that it is unsustainable because of the quantity of cereals that are required to feed the livestock. I suppose the first question is: do you agree that it is unsustainable, and do you think the public in countries like ours understand that we will have to dramatically reduce our consumption of meat?

Lynne Featherstone: I am not particularly sighted on the meat issue. I will ask my officials if they are. My impression is that our meat consumption was dropping; you are saying it is rising in this country?

Mr McCann: We have taken evidence to say that it is rising in emerging economies, significantly rising.

Lynne Featherstone: Oh, in emerging economies.

Mr McCann: That is obviously leading to a global increase, which is unsustainable because of the amount of cereals that is required to feed the livestock.

Lynne Featherstone: Indeed, and then you have the whole issue about feed stocks, as well. Do my officials know more than I do? Almost certainly.

Professor Dercon: I am happy to contribute. What I would add is that we know in the context of rising food prices in recent years, that the livestock demand clearly was a factor in getting prices very high. It is quite important to realise that once we get the pricing of cereals, including the environmental impacts and so on, right in the markets, the price of livestock will also keep on increasing, so there is a likely push also from markets to make meat, over the longer run, substantially more expensive. Indeed, we see decreasing meat consumption in some richer economies already, which is also probably reflecting that. The key thing here is to get these prices to properly reflect all these environmental externalities, and then it will go. Obviously a lot to do with meat consumption has to do with habit formation, and we may need to work on public education. To say it is unsustainable is a difficult question. I think there will be pressures to reduce it, given that prices will be high.

Lynne Featherstone: Tangentially, when I was in Zambia I went to a market—I might explain more about that later—that is trying to help smallholders get more value and a better return out of what they can do on their smallholding. One of the products there was to help a smallholder get their cow to

market. Currently it took seven years because of the ticks and things that were preventing the cow getting fat, so it changed from seven years to market to two-and-a-half years to market. This is a microcosm of what you are talking about, but I am simply saying that at a local and small level, and in terms of helping smallholders, there are things that are improving, and a sort of personal intensification of agriculture. I do not know how relevant it is to eating meat, but it is another part of that.

Q152 Mr McCann: In the first evidence session we were told that there is a culture of systematic waste in the United Kingdom.
Lynne Featherstone: In the United Kingdom?
Mr McCann: In the UK, yes. What is the Government doing to deal with that problem? Are you sighted on that?
Lynne Featherstone: I am not sighted on what the UK is doing. I work exclusively internationally, unless there is an intrinsic link, like—

Q153 Chair: The sort of thing we had in mind was the "three for two" deals and things in supermarkets, which encourage people to buy more and then they finish up throwing half of it away.
Lynne Featherstone: I might very well agree, but I am afraid I do not know—I assume that would be a BIS issue, would it? DEFRA.

Q154 Mr McCann: So we are going to have to get somebody else in to talk about it?
Chair: Tesco, possibly, yes.
Lynne Featherstone: It is a good point, but it is not something I can answer on.

Q155 Mr McCann: Sure. My next issue is on nutrition. In DFID's written evidence it states that there are bilateral nutrition programmes in over 10 countries. Can you tell us how many nutrition programmes precisely there are?
Lynne Featherstone: Not off the top of my head. I am happy either to ask an official or write to you with details of all the programmes, if you would like them. Nutrition is a key issue. In fact on one of my trips I was giving a talk to girls—it was an empowerment group—about some matters to do with sexual violence. I did not want to say some of the things I was saying, because there were some very young children in the room. They were not young children: that was my first experience of seeing stunted children, who had not had the right programme or intervention in that first 1,000 days.
We are certainly intervening in terms of our work with pregnant women, the first 1,000 days, encouraging breastfeeding. On the techno side, it is about introducing vitamin-enriched products, and those are the sort of programmes. I can write to you with the absolute details of each of the programmes in each of the countries, if you are interested.

Q156 Mr McCann: That would be helpful, but in addition it would also be useful to know if DFID plans to increase the number of bilateral nutrition programmes.
Lynne Featherstone: I do not know if we are introducing new programmes at the moment, but our intention is to scale up, which is what you are really asking.
Chair: This Committee has form on the issue of nutrition and the Department. I think we can claim some credit for having pressed the Department to do more.
Lynne Featherstone: I have some details. Between 2011 and 2015, we will reach 20 million pregnant women and children under five with nutrition programmes. We are ensuring that another 4 million have enough food throughout the year. Since 2008, we have doubled our resources for tackling under-nutrition. We have key programmes in Burma, Bangladesh, Ethiopia, India, Kenya, Mozambique, Nepal, Nigeria, Pakistan, Somalia, Tanzania, Uganda, Yemen, Zambia and Zimbabwe. Our focus is undernutrition from the start of pregnancy to the child's second birthday. Over the last period we have doubled our nutrition input, our funding to nutrition.
Mr McCann: It would be helpful, Chair, if we could get specific detail. I think that was more of the detail there on the specific bilateral programmes, not just the overall effect. If we can get details—
Lynne Featherstone: Of each of the programmes?

Q157 Chair: Perhaps also the criteria—just, again, looking at our notes of previous evidence, I think it was Ertharin Cousin of the World Food Programme who said that 33 developing countries have committed themselves to nutrition programmes. Her starting point was that any programme DFID is operating that had made such a commitment, that DFID should surely have a bilateral programme to support that. I am not asking you to answer that question now, but I think it would be quite helpful if you could give us a response to it.
Lynne Featherstone: I am happy to do that. It is a focus of our programme, as I say.

Q158 Fabian Hamilton: Following on from my colleague Michael McCann's questions about meat, Minister, it is clear that in order to make sure that everybody in the world has enough to eat the rich western countries need to reduce their meat consumption. I wondered, following on from what Professor Dercon said earlier, what is the best way of reducing meat consumption in the west, and in the UK particularly? Is it by having higher-priced meat? Is it through food scares like horse meat and other contaminated food scares that put people off meat? Or is it people's concern about the environment or their own health? What are the incentives that will stop people consuming ever more meat in this part of the world, do you think?
Lynne Featherstone: I think all of the issues you have raised will contribute to that.

Q159 Fabian Hamilton: What is the main factor?
Lynne Featherstone: I am not sure there is a programme—at least I am certain there is not one from DFID. It will not be a DFID programme. I do not know whether the UK Government has a programme to put people off eating meat. I would

think expense would be one of them, but that does not mean it would stop people eating meat; it just means they go to cheaper meat, and probably the bits with horse in it. We could have a conversation about it, but I would not be giving you a ministerial view, because it is not in my Department.

Q160 Fabian Hamilton: Let us look at what is in your Department. Presumably you are responsible for what happens in other parts of the world. I know we do not have a programme in China anymore—at least I do not think we do—but China, with its huge population, has seen meat consumption almost treble, I think, in the last 15 years. Does that cause you concern in DFID?

Lynne Featherstone: To be perfectly honest, it has not come across my horizon. I am not saying it should not have, but where would you say that sat?

Chair: I think an issue here is—sorry, if you want to come in, Professor Wheeler—

Lynne Featherstone: Yes.

Professor Wheeler: Perhaps I could make a couple of points in context. China is really key to this. China consumes nearly half the world's pork, for example, so when we talk about the contribution and the role the UK is playing, it is a tiny, tiny signal in the global meat and livestock trade. Professor Dercon's earlier point that it will be reflected in the price going forward is right. In terms of the higher order global food security questions, it is one of those important pressures that leads to that headline figure that John Beddington and others used, that we need to up the productivity of the global food system. The figure that is often used is an increase of 60–70% by the year 2050. This is very much one of those pressures on the demand side of food security.

Q161 Fabian Hamilton: Can I just come back to the question I put to the Minister? It may not strictly be within the remit of the Department, but what is it that will make people who consume meat in the west consume less? Is it concern for their own health, their general concern for the environment and other people on the planet who do not have enough to eat, or is it simply price?

Lynne Featherstone: I think generally self-interest works better on people.

Fabian Hamilton: So health and price?

Lynne Featherstone: That would be my guess, but it is a guess. It is not an evidence-based answer, I am afraid.

Q162 Richard Burden: The way this discussion has gone prompts me to raise an issue that I think is relevant to it. Behaviour inside the UK is important to the overall debate about food—the amount of meat consumed and so on. That debate can only really be understood in the context of a global food security crisis, where I think that you say, in a sense, we are a bit player in terms of the quantities concerned, compared to China and so on. Yet the messages that go out and the discussions that take place amongst people in the UK are relevant to how Governments behave and how Governments project what they want to do on the international stage. Given that, is it not important that some of the global messages around food security, which DFID is intimately involved with, are actually put out there and discussed inside the UK? If that is the case, how does that link with DFID's decision, which I think was ministerial, to get rid of outreach work in the UK about what DFID is doing?

Lynne Featherstone: In terms of communication, you are right; there is an issue. I am not sure that all outreach work would be helpful, and how much you can afford to do of any one thing, but the greater impetus on the budget in DFID is to deliver programmes, either bilaterally or multilaterally. In terms of communication, there is a debate, but at DFID we place endless messages out there. It tends to be responsible tenure of land or responsible agriculture or responsible private sector operation, rather than the responsibility per se about our personal behaviour.

Q163 Richard Burden: Is there enough communication across Government about this? There is a legitimate argument to say, "Those messages and those discussions do need to take place, but it should not be DFID that does it." I am not sure I completely agree with that, but it is absolutely logical to argue that. If DFID does not do it, however, who does, and do they talk to DFID about it, because of the incredibly important international context all these things happen in? What are the mechanisms around—

Chair: The sort of thing members of this Committee find themselves discussing in schools in their own constituencies.

Lynne Featherstone: To be frank, it is not a discussion that has come my way, so therefore there simply must be a lack in terms of communication on those particular issues. I think it is discussed in a number of ways, but it is always practical about how you are spending money or how you are doing things, as opposed to what you are asking for, which is an awareness campaign across Government asking "How does this fit with that?" I am not aware that that is happening. It does not mean it is not happening, but I am certainly not aware of it.

Q164 Fiona O'Donnell: If it was joined-up you would need to be aware of it, because DFID would need to be part of it.

Lynne Featherstone: I would. The only caveat on that is that hunger, food and nutrition is not in my personal portfolio, so it may be that somewhere else in DFID, or in another Minister's portfolio, that is actually happening. I will take it away and have a look at it. It is a fair point.

Q165 Hugh Bayley: Let us move on to another subject. It is self-evident that farmers need finance, because they need money upfront to plant their crops and fertilise their fields and buy machinery, and then it takes some time—weeks or months—until they harvest and are able to market the crops. Smallholder farmers, who in developing countries produce three-quarters or 80% of the food, find it very difficult to get finance from the banks, because they have no

collateral. They do not have land titles or agricultural machinery.

It was suggested to us by one of our witnesses from the International Food Policy Research Institute that donors could help by guaranteeing loans for smallholder farmers, and that you would get a manifold return on the money, because in the vast majority of the cases the loans would be repaid in the normal way by the smallholders. Is this something that DFID would consider, guaranteeing loans to smallholder famers in developing countries?

Lynne Featherstone: As far as I am aware, I was not aware of that suggestion. We do many things for smallholders, but I do not think direct loan guarantees have been one of them to date, in any sense. I can take it away and ask if it has been looked at. Professor Dercon has some information, and then I would like to talk about some other things that we are doing for smallholders rather than what we are not doing for smallholders.

Q166 Hugh Bayley: Oh, good, yes. We will do that first, then I would like you to tell us what else the Department is doing; that would be helpful. Thank you.

Professor Dercon: I wanted to add that the starting point has to be that the diagnosis that the main thing that smallholders are lacking in developing countries is finance could be quite contested from the evidence base. It is an important thing, and I will not deny it, but you have already raised some other things needed to get these things going, such as working on titling, other factors that enable markets to work well, proper elements of value chains, links between input suppliers and farmers and so on. There are an awful lot of different things that can be done.

At the same time, directly and indirectly, DFID is supporting a huge amount of financial inclusion types of programmes, which include things to do in rural contexts, and financial inclusion rather than focus on credit is probably the right thing to do. I think the person who gave evidence from the National Food Policy Research Institute also raised things to do with insurance, risk management and so on. It is often to do with packages of these things.

Q167 Hugh Bayley: Can I be blunt and direct? Is that a "No"? You are saying DFID's choice would be to invest your resources in other initiatives to improve the creditworthiness of—

Professor Dercon: I do not think the evidence base is strong to say this is the right thing to do.

Q168 Hugh Bayley: Lynne, you said you wanted to say some more about what DFID is doing.

Lynne Featherstone: I am very keen on smallholders. They are a huge swathe of the populations and a huge way to produce in terms of the agriculture of a country. Increasing the productivity of small-scale producers is key to food security, both in terms of how a family with a smallholding feed themselves, but also in terms of crops potentially. There are a number of things that the UK is investing in. There is the public goods part of it: transport, research, investment climate, and we are doing that in 25 countries to benefit smallholders and small farmers. There is land tenure: in Rwanda, by 2015 we are expecting 4 million smallholdings to be registered and titled.

Hugh Bayley: We will probably come back to that.

Lynne Featherstone: We may come back to that when we get to land, for example. In Malawi, our support to farm input subsidy programmes is helping 1.5 million small farmers. I can send you the list quite happily. Having seen it in action, it is quite profound. I have seen it in a few ways now myself. In Mozambique, the Beira agricultural corridor has helped to produce and create a market so that smallholders can bring their product, or their innovation, to a market. That will produce 300,000 jobs. We have not gone on to the private sector and all of that yet.

The other thing, for example, which I saw in Zambia, was the big corporates. There is this perception that the big corporates are bad for the small guys, and all of that. I will go into the stats on that, if you like, about how it is not doing that, though there is not the same fear. I went to see Zambia Sugar, for example, which is very, very big. There is literally a whole—I would not say a gang—community of smallholders who all have their produce bought by Zambia Sugar. They have a secure market set up. They have also set up a Chamber of Commerce, effectively, in the area in which they work. It is a very inclusive value chain, if you like. I went, in Mozambique I think—I sometimes get my countries mixed up as to where I have been, but it was Mozambique or Zambia—

Chair: It has been known to happen.

Lynne Featherstone: It was in Mozambique, I think: it is where the cow product was that I was so impressed with. They have big seed and grain suppliers being brought to this market in the middle of nowhere, where lots and lots and lots of smallholders can come. There is an exchange going on. The big suppliers get their seed bought, but the exchange is they have very good seed, so the productivity from that smallholder is increased. They also give all the technical advice to the smallholder, so it is capacity building in terms of how to plant it, when to plant it, how to water it, all of those things. All of these things are changing the basis on which smallholders can operate.

Q169 Hugh Bayley: Could I ask just one other point? You have cited some examples in which markets are created that benefit smallholders, but it is still my view that most smallholders sell most of the produce that they are seeking to sell, rather than use for their own family, to middlemen, and they then sell it on to some other user, at many times the price that the smallholder gets. It was suggested to us by the Fairtrade Foundation that if smallholders were told what the final price to the brewery or the supermarket was, they would be in a much stronger negotiating position. Would you agree that that is a problem, and if so, what could DFID do to create greater market transparency for the benefit of smallholders?

Lynne Featherstone: Certainly I would agree there is an issue about information to market. I think that is being transformed, in a sense, by mobile phone technology. There is a programme—I think it is in Pakistan, is it not? Who has the information on that?

Professor Wheeler: Yes, there is a programme in Pakistan, providing exactly this sort of information using the mobile platform. Of course the FAO has the AMIS programme—the Advanced Market Information System, I think it is—which is very much addressing those points you have raised.

Q170 Hugh Bayley: How could you broaden schemes of that kind? Should it be a priority for DFID to do so?

Lynne Featherstone: All of these things are moving forward. That sort of thing is beginning to spring up on its own in-country. There are a number of networks—I forget their names—that actually have full networks of information through mobile phones, not just DFID programmes but in-country programmes. They are vast, and are transforming the information in terms of what the price should be so they cannot be gypped, I guess. I think it is phenomenal.

Obviously we at DFID are moving with the technology very fast. It is a great part of the answer in terms of information, because up to the point of mobile phone technology, radio was literally the key transmitter. Now it is quite extraordinary to go to some of these far-flung places—I am sure you as a Committee know that, because you go there as well—and see them having that information, let alone the M-Pesa and the banking and all of the things that are now done.

Q171 Chair: I think the Addis Ababa exchange had put up electronic notice boards in the provinces, to show instant prices.

Lynne Featherstone: I think all of that will drive change. I think you are right, is what I am saying, and we are involved in all of those things. I was going to go on to the social protection programmes of DFID.

Q172 Fiona O'Donnell: We will come on to that, I promise. Minister, it is very reassuring to hear that smallholder farmers are absolutely on your agenda and your enthusiasm. They are feeding a third of humanity, and your fellow Minister, Alan Duncan, has pointed out that in their own countries they feed 90% of the population. Obviously extension services are also part of getting access to basic information about how to improve crop yield, and deal with things like global warming and climate change. Can you tell us how DFID recognises this in its own work?

Lynne Featherstone: If it is for example through climate change, that is something that knocks everything before it, and particularly—

Fiona O'Donnell: So that I do not steal someone else's thunder, could you focus on agricultural extension services? I am thinking about Nigeria, where only 2% of farmers have access to agricultural extension services. What is DFID doing to focus on this?

Lynne Featherstone: In Nigeria, for example, we have a programme called Propcom Mai-karfi, previously called RAMP. It is a £27 million programme that targets 250,000 rural women to raise their incomes by 50%. I would have to turn to an official to say exactly what is in that programme.

Q173 Fiona O'Donnell: Is that going to take us beyond 2%, then?

Professor Wheeler: I have another example, sorry.

Lynne Featherstone: I have a number of examples, but I think the programmes support, for example, women farmers and entrepreneurs across agricultural value chains, to increase the value. In Somalia, we have a sustainable employment and economic development programme, which improves economic and employment prospects for women and girls. We focus on generating employment in livestock, fisheries and the agricultural production sector; that aims to create 20,000 jobs. I am sorry, I am kind of doing women as well. Is someone else covering women?

Fiona O'Donnell: I know it is a big issue for women.

Lynne Featherstone: It is a big issue for women in terms of the smallholders. We support them through capacity-building and credit through intermediaries. In Zimbabwe we have a core growth programme that expands access to financial services for the active poor, especially women. Women are becoming more and more involved in trying to move from smallholders to farmers. It is quite interesting. I have met a number of women farmers.

In terms of our smallholders, in the last year DFID spent about £500 million on food security. Much of that was on programmes to support smallholder agriculture. We have some difficulty tracking some of this, because the OECD Development Assistance Committee do not do it by gender, but in at least 13 countries in sub-Saharan Africa and Asia we are investing in public goods: that is infrastructure, research, and an enabling environment for agribusiness. We create market opportunities for smallholders, some of which I described. I told you about the land tenure reforms. In Malawi we are funding a farm input subsidy programme that will help 1.5 million poor farmers increase productivity.

Q174 Fiona O'Donnell: The IF campaign particularly is focused on this issue. Could I just ask, will the issue of smallholders be on the agenda at the hunger summit?

Lynne Featherstone: The agenda is being worked out, and the details are being worked out as we speak. Obviously I am aware of the IF campaign on smallholder agriculture. We have some issues with the actual ask, per se, which is an increase of $660 million—either dollars or euros—per year. The evidence they have used is just from one piece of FAO work. We would say that we prioritise them, and I particularly think they are incredibly important, but I do not necessarily think that it will be totally aligned with the ask from the IF campaign, because of the way we do our programming, which naturally has to go across a number of things, all of which contribute. If we do not deal with climate change, that will sweep away smallholders.

Fiona O'Donnell: Access to markets. Yes.

Lynne Featherstone: All of those things. We agree with the IF campaign, but we have a different approach from the IF campaign on that.

Q175 Fiona Bruce: You have quite rightly referred to land ownership as being critical if farmers are to

feel secure about working their land and then reap the rewards of doing so. I have a number of questions about land tenure, and what I think is now, by some campaigners, being widely referred to as "land grabbing". If I could start by just saying that in his speech outlining the UK's priorities for the presidency of the G8 during 2013, the Prime Minister said this: "We are going to push for more transparency … on who is buying up land, and for what purpose." Could you tell the Committee how you propose to promote that greater transparency in land use?

Lynne Featherstone: I cannot speak for the Prime Minister, but I think transparency is key. The minute you do not know who owns it or what they are doing with it, that is the issue. The other thing is that you said "land grab", but "grab" is really pejorative, because some land that is sold for commercial investment may be a very good thing for a country. The total land we are talking about is very small. That having been said, full credit for putting transparency at the heart of the G8. My understanding is that what we are really pushing for is effectively an open, worldwide land register, ultimately. That is the kind of thing. How that will be persuaded or operated is not in my purview.

Q176 Fiona Bruce: It is very interesting. You have referred to the very impressive work that DFID has done in Rwanda, with £40 million provided to help with the registration of land. I am particularly impressed, because as a lawyer with a background in property, I know this country is still working on their land registration from 1925. In Tanzania, too, you have worked with Farm Africa. I just wondered, now that this issue is very much coming to the fore—and I think that Oxfam have said that up to 58% of commercial land transactions now could be potentially for biofuels—it is becoming increasingly concerning, and I am wondering whether DFID is going to look at investing further in similar land registration projects elsewhere.

Lynne Featherstone: In fact, I was discussing that with the Committee to say, "How much further are we going?" because it has been tremendously successful in Rwanda. I do not have the answer on what is in the pipeline, but at the G8 itself we will be pushing very hard on the voluntary guidelines on the responsible governance of tenure of land, fisheries and forests. Our aim is to secure agreement from major G8 investors to commit to publish data on land acquisitions, and make that accessible to local communities, whether it is biofuels, commercial investments or China buying some land with an eye to in future feeding the Chinese rather than the Africans, which is always the fear that has arisen.

The answer is to be able to see who is buying what, and then trying to get country-led, as well as external-led programmes. The hard evidence that we can get is pretty limited at the moment on what is being grabbed, by whom, and for what, but the recent estimate we have is that there are deals covering 83 million hectares, which is 1.7% of global arable land. It is small, but it is a very real issue, and I think now is the time to try to set the principles on which the world can work, whereby communities would be able to see and therefore hold their own Governments to account one day. We do a lot of work with civil society as well; it is not just governmental. We need people in-country to keep pushing as well.

Q177 Fiona Bruce: Excellent, thank you. I am pleased to hear that, and I am pleased to hear also that you referred not just to land but fishing, because that is a key issue, having been to Tanzania and seen the impact of some commercial fishing on Lake Victoria. It is having a real impact on those who live along the lakeside. You will be working with countries to help them implement the UN's voluntary guidelines on land tenure?

Lynne Featherstone: Yes; we think that is really, really important. As the Chair said, I have only relatively recently come to this portfolio, but the way in which we operate is very much to set out what is right and good, and then work with countries and civil society to enable that to happen.

Q178 Fiona Bruce: I would be very interested if at some stage the Department could report back on how it is working with countries on this issue, both on the voluntary guidelines and with regard to perhaps extending the Rwandan project.

Lynne Featherstone: Okay.

Q179 Fiona Bruce: Thank you. A final question if I may, and it relates to the World Bank. Commercial investment in agriculture is often supported by loans from the World Bank, and Oxfam has suggested that a six-month moratorium on any World Bank lending of this type might allow the Bank to assess the impact of such investments. I wondered whether you would support such a proposal of a moratorium.

Lynne Featherstone: No, that is one area where we disagree with Oxfam, inasmuch as we do not think that would be effective. We also do not think the World Bank is the worst offender by a long shot. They do an awful lot of good, and they are looking at the way they do things, and we are working with them on their policies. There are occasions when I think the best way to get the best out of someone, or an organisation, is to work with them, not make their life more difficult.

Q180 Fiona Bruce: So your view is that perhaps it is more commercial organisations and commercial companies internationally that are perhaps some of the worst offenders in terms of the big land purchasing?

Lynne Featherstone: Yes. There are issues out there, without a doubt, but I do not think the World Bank is the answer, so therefore we disagree with the IF campaign on that one.

Q181 Hugh Bayley: We were talking earlier about the Government's development priorities for the G8. I know from the run-up to the Gleneagles G8 that an enormous amount of preparatory work was done through bilateral meetings with the other seven G8 countries, and that you do not deliver results at the conference unless you have built commitment earlier. Could I ask, shall we say, since the start of this year, how many of the other G8 countries our Secretary of

State has had a bilateral meeting with to explain the development goals we have for the G8? Can you give us a guarantee that before the conference she will have had a one-to-one with her opposite number in each of the other seven countries to seek commitments to the goals we are developing for our summit?

Lynne Featherstone: I cannot guarantee, and I do not know whom she has met with on a one-to-one basis. We can find out and let you know. However, she does—I was going to say "bomb around the world" but that does not sound very Secretary of State-worthy—and at all of these things she will meet counterparts, with whom I am sure she discusses this. You are absolutely right: in terms of what will be delivered at the G8 it would be unimaginable that most of it is not worked on extensively in advance. I am not privy to the—

Q182 Hugh Bayley: Could we just ask that you take the question—

Lynne Featherstone: I forgot to say, when we were talking about land grabs, that most of the acquisitions are internal, still. The majority of land purchased is within the country, still.

Dr Dick: I just wanted to make the point that the negotiations around the G8 are also led by the Cabinet Office, so there are Sherpa-level discussions. There are sectoral working groups; for example, I sit on the food security one. We are conversing with our G8 partners every day of the week. On the Secretary of State data, I am sure we can get that, but it is a multilayered effort to try to get to the point.

Hugh Bayley: I appreciate that from last time, but there is an added level, is there not—an added value that comes from getting the political head of the Department to meet with the political head?

Q183 Richard Burden: Without proper irrigation, it will be impossible to optimise the use of land for the various objectives we have been talking about today. If crops are produced and there are no roads, they cannot go to market, and while they are waiting to go on the road, if there is not proper crop storage, they are wasted anyway. Could I ask you to say something about how you see the relationship between the development of those forms of infrastructure, and tackling the food security issues we are talking about, and in particular what more you think should be done, maybe through the World Bank or maybe through other development banks?

Lynne Featherstone: The issues you raise are absolutely key. Irrigation is one part of it. Water more generally is a massive issue. The infrastructure, and getting things from place to place, seems to be one of the biggest barriers. The issue of food loss or waste is massive. I think about 30% of food that is produced is lost or wasted. One of the ways we tackle that particular thing is through our agricultural research programme, and in developing countries it is right to say the major problems arise from transport, storage and processing of food. Some of the work we have done is about storage of food where it is grown, so hermetically sealed food on site, before any transportation.

There are other things: I think it is cassava that can be processed as the crop is taken—I am not sure if it is cut or dug; forgive me, I don't know much about cassava. There is a lot of work that is going on to reduce that sort of waste, but in terms of infrastructure the problems are much larger. It is not something to date, as far as I am aware, that DFID has really put funding behind, other than through multilaterals, but I am prepared to be corrected by an official. Infrastructure is so massively expensive that we tend to work by encouraging the private sector to get involved.

I do not know if someone is coming on to the private sector, because I never know who has been allocated which bit, but one of the big issues that we have not really addressed is the raising out of poverty by investment either from within Africa or externally. Some of the things that need doing are so expensive that it is probably beyond even DFID. I do not know if any of my advisers want to comment on that.

Professor Wheeler: Maybe I can make three points. I agree with the points you have made. Agricultural sector growth is essentially trying to knit all those together. There is such a wide expanse of potential interventions that working on one alone, for example improving road infrastructure, without addressing some of those fundamental issues about production, irrigation or use of technologies, will be limited on its own. It is about the package of interventions.

It is also about working out where your investments are most efficient. A piece of evidence that DFID funded that was released this week showed how effective investments in the road infrastructure and the access to market infrastructure were in raising agricultural productivity, and there were other things that were less effective. You get some guidance there as to where investments in this vast array of possibilities could be most efficient. Returning finally to that last point, a lot of these impacts on the productivity of the food system are outside of the food system, so interventions have to be considered in a much wider context than just the food and agricultural system itself.

Q184 Richard Burden: Given that a lot of those activities and those investments rightly take place take place through multilaterals—an awful lot takes place bilaterally, often done by China, but let us just look at this—are we across that properly? Are we across understanding what works, influencing what the multilaterals do—the World Bank or the development bank—and what are the lessons coming from that? To give perhaps two examples, the first is irrigation. Our report in 2007 found that only 3.7% of arable land in sub-Saharan Africa was irrigated, whereas the proportions in India and China are much, much greater. That is a bit out of date now—that was 2007—but what is our overall policy direction that we are trying to get the World Bank and others to develop in relation to irrigation? On the one hand, there is huge need there, but on the other hand, you do not want to get into what, as some places have said, have been problems in relation to India and elsewhere, where doing that the wrong way or too intensively

leads to over-salination? What are we doing, who is doing it, and how do the different bits link up?

Professor Wheeler: I will not speak on the policy direction, but in terms of the technical direction, it is really to work on the efficiencies of all those different components. We know, as you say, that the widespread use of irrigation is not found in the continent of Africa, excluding Egypt. Where it is found, it is relatively inefficient, so the use of that resource is relatively inefficient. Through some of the research programmes, we are trying to work out how better to improve the efficiency of irrigation systems and how to use small quantities of water in a more efficient way, by better understanding their link into, for example, crop growth. In terms of storage, the hermetic storage is a good example. There are some reasonably small-scale initiatives that you can do that will improve, at a relatively low cost, the efficiency of the storage, and work into that 40% loss that is generally found within developing farmer agriculture.

Q185 Richard Burden: That is interesting, but what I am trying to get at is not really whether DFID is involved or supportive of work to find out what works and what does not work. My point is: having done that research, amassed that knowledge or worked with others, how does that then translate through to what the multilaterals actually do? I will give another example of roads. We did a visit last year to the DRC, Rwanda and Burundi, and a major emphasis was put to us on the role of TradeMark East Africa and its role in building roads. I am sure they did some really good work, but I would like to know where the policy read-across is between what they do in practice and what the strategies are for improving food security there. Where do you make judgments and who makes the judgments between whether you try to go for first-base road construction in DRC, where there is virtually none in certain parts of the country, and improving some existing infrastructure, which needs to be improved a bit more to get trade going a bit more quickly? I am just not getting a sense of where DFID's food security policy links up with its interaction with the multilaterals and with the projects it funds, like TradeMark East Africa. It may all be working properly, but nothing you have said tells me where those links are, unless I am missing something.

Lynne Featherstone: Working in a direction is part of it. There are massive challenges, as you identified, wherever we work. They are raised with multilateral partners when you go to countries, but there are so many different circumstances in which you find yourself from country to country that I am not sure there is an overarching strategy. We support the trading blocs. You mentioned East Africa TradeMark—is that what it is?

Richard Burden: TradeMark East Africa

Lynne Featherstone: TradeMark East Africa, ECOWAS, etc. My input on, for example, that particular one has been trying to encourage the Ministers involved in that to work together in Africa, to deal with some of the issues at their end. Where I have not linked it up myself is with the work that we may or may not have influenced within various multilaterals.

On one other point, in terms of evaluating what works and what does not work, there is a new innovative programme, for example. I think climate change is very closely linked with the water issue—either too much or too little. There is a new Agricultural Innovation Window under the 3ie programme, which we co-founded with the Gates Foundation, the International Fund for Agricultural Development and the Alliance for a Green Revolution in Africa. In terms of how we link it up, we take what we are interested in, and that is the partnership that then forms to promote that direction. I don't know if that is helpful at all.

Dr Dick: Perhaps if I could add a little bit. I am not sure we have something at the global level that covers all that, in part because, as we said before, we think that one of the key things that will solve global food insecurity is economic growth and agricultural sector growth, so in a sense infrastructure and all those other things are key to those.

At the regional level, for example, to get into the nuts and bolts, we have an Africa Regional Department, and that Africa Regional Department has infrastructure advisers in it, and those infrastructure advisers look across all the investments that we will be making in infrastructure in Africa. It engages with the Africa Development Bank, with the Private Infrastructure Development Group and with the World Bank on everything to do with infrastructure development in Africa. Then it works out where DFID investments can be made that will add most value to the efforts of either the multilaterals, or stuff that we do through other agencies or through our own bilateral programmes. At the regional level, at least, there is a join-up, and that infrastructure adviser will sit next to a food security adviser or an agriculture adviser. Globally it is a bit harder, but at least regionally those connections are made.

Q186 Hugh Bayley: Minister, what does your Department see as the role of GMOs in providing food security?

Lynne Featherstone: I think it probably has part of the answer. DFID invests, I would say, 90% of our research budget in conventional methods for intensifying productivity; 10% is cutting-edge stuff, which takes about 30 years to come online. Some of the things that GM can do are amazing, like the invention of scuba rice—when I first heard about a rice that could go dormant during a flood and then carry on growing when the flood recedes, I thought those sort of things are remarkable.[1] Whether it is using less water, which would come into the last question, or adding nutritional Vitamin A to foods, it does incredible things, but it really is for a developing country to decide for itself how much it wishes to use a GM-oriented agricultural programme. During its origins in this country, I certainly grew up in the

[1] Scuba rice is not the result of a GM process. Through collaborative research led by the International Rice Research Institute (IRRI), a flood-tolerant local rice variety was investigated to isolate the gene responsible for flood resistance. Using a technique known as marker-assisted backcrossing, scientists transferred the water tolerant trait of interest into commercially valuable local rice varieties without losing useful characteristics

formative time when we were scared of the GM monster—in my formative years, those were the mythologies—but the evidence that seems to come forward is that there has not been a track record of harm and there has been a track record of some very, very good innovations. However, it really is up to each country to decide.

Q187 Hugh Bayley: Good. Sir John Beddington gave us some evidence where he said the issue should not be GM versus non-GM; it should be, "Does this particular crop pass the tests of good yield, good safety, and so on?" and you seem to agree with that. What more do you think DFID could do to ensure that the benefits, where there are benefits, of GM technology in crops are used to benefit the poorest people? What needs to change to make sure the benefits are dispersed amongst the poor?

Lynne Featherstone: I am not sure that it is DFID's role to promote or not promote. The information should be out there. Even developing countries have access to information, and quite frankly the private sector companies who mostly sell the products are working very closely, right around the world, with all of the Governments. I do not think it is lack of information, particularly. It is private sector-led, and they are very big corporations who, on the whole, can take care of themselves and promote themselves very ably. What we do is, as I said, spend 10% of our own budget on research on the cutting edge, because of the advantages it could bring should a developing country want to go that way. Recently I met a crop—a GM crop—of people who were telling me about cotton. This is not part of food security, but what they have done with cotton is miraculous.

Q188 Hugh Bayley: Just for example, most—possibly all; I am sure the scientists can advise—of Government-funded research into these novel agricultural products in the UK, I think, is distributed free. Is that something that DFID should look at, to try to ensure that more of the good GM products are publicly owned and delivered without requiring a licence fee, in effect, to a provider? What more could you do in that field? Maybe one of your team could comment.

Professor Wheeler: It is fair to say that in generating new technologies, DFID's research is all towards public good, available products. In the UK we work closely with the John Innes Centre, for example, in Norwich, which has expertise in this. Globally we work together with the Bill & Melinda Gates Foundation on products such as more water-efficient maize for Africa. These are all public good products and all are tackling problems that, through conventional means, would either take a long time or simply would not be possible to solve.

Lynne Featherstone: We also support farmer-led research in-country, trying to help the demand internally in developing countries.

Q189 Mr McCann: Richard Burden and Hugh Bayley have touched upon this already, but DFID's written evidence summarises its work on agricultural research. I am keen to understand the link between research and policy. Could you give us perhaps a couple of examples where our investment in research has yielded policies that are working out in the field?

Lynne Featherstone: In terms of nutrition, for example, we supported the development and roll-out of orange-fleshed sweet potato, which is enriched with Vitamin A. That is rolled out to 24,000 families in Uganda and Mozambique, and that came from research. As I said, in South Asia the development of scuba rice has helped farmers increase resilience to the effect of floods. We have supported biotechnical research on bananas, maize, cowpeas and rice varieties that are resistant to different threats, and we then have programmes to deliver or support. We have so many programmes that use the basis of our report, but we can write to you on the specifics.

Q190 Mr McCann: It would be helpful, Minister. Could anybody answer the question: how long did it take? What was the timeline from research to delivery?

Lynne Featherstone: That I need to ask; I have no idea.

Professor Wheeler: There is a range of responses in the programmes. There are some very specific short-term policy-oriented research programmes, and the Future Agricultures Consortium would be one example of that, where those researchers are working directly with developing country policymakers within the ag and food sector. Then there are the much longer-term commitments, such as some of these nutrition programmes, where essentially the evidence and the technology is being built up within a research programme over 10 years or more, which provides, in a sense, a tool that the policy programme can then work with. Some of these nutrition-enriched staple crops now are at the stage where they are available to be rolled out through policy programmes, but it has taken 10 years or more to get to that point, in those examples.

Q191 Chair: The previous Committee in the previous Parliament looked at food right at the time when food prices hit their spike—in fact, when the then Prime Minister Gordon Brown held his Food Summit, it somewhat coincided with the evidence session of this Committee, and I think had something to do with it. At that time and subsequently, people have talked about what factors cause food price rises, and one of those has been speculation—people speculating. Although obviously the evidence is difficult, it has been suggested that speculation of that kind could have increased food prices by between 15% and 17%. Granted, the spikes were much higher than that, so you could argue it is not the determinant driver, but it is still significant. Do we accept that speculation has a contribution to make, even if the actual impact is questionable, and what could be done to tackle this?

Lynne Featherstone: The evidence or the analysis came to the conclusion that speculation was not the main issue. It may have been a small contributing factor to a small bit of the pricing, but the main problem was basically supply and demand when there were food price spikes. One of the main planks of

the way DFID has approached food price volatility—which is probably likely to get worse, I would say, over time—is through social protection programmes, because cash transfers stop smallholders from having to sell their livelihoods for the duration of the price hike, so they do not lose their sustainability. That is probably one of the most important innovations we have seen in recent times—a continuation of the ability to be self-sustaining and to be sustained throughout a period where that would not be possible. One of the issues that struck me most coming into post, which often happens with humanitarian aid, for example, and has knock-on effects for prices and so forth, is that if you do not deal with the sustainability of the product, the people and the financing, you go back to square one every single time. You cannot change anything.

Q192 Chair: I think we accept that, and we will explore some of the other aspects, but I am just trying to tie you down on the specifics. It seems to me that where there is a sudden spike in food prices, that is exactly the moment that speculators are most likely to intervene. Certainly in Australia and South Asia they have had position limits, where there has been a legal restriction on how much can be held. Does the Government have a view on whether this has a role to play in limiting the opportunity for speculators to add to a supply and demand spike?

Lynne Featherstone: I will ask Professor Dercon to come in, because he is an expert on that, but my understanding is that that is not really where we are looking, because we do not think the evidence points to speculation being the problem. Our efforts are aimed towards those aspects that we do think are the problem. Stefan?

Professor Dercon: It is of course a highly contentious issue in the evidence base and amongst researchers, but I would say that the call to make on the evidence base is that it probably contributed very little to the spike at the time. We could supply you with some of what we think are the better research papers. There was a very well attended high-level conference six months ago in the US that came more or less to this conclusion as well, so in terms of the responses it becomes then a little bit less relevant. Let's not deny that there will be occasions in food markets where positions can be taken and that there are benefits to be had and maybe some speculative forces could be there, but in general I would say that although we can blame financial markets for lots of things, maybe not for the food price spikes.

In terms of how to respond, as the Minister was saying, it is in the real economy where the bigger pressures were. A much more important part of why the spike developed following some supply shocks and of course these long–term pressures of demand that we touched upon earlier, was what was happening in the trade environment—export bans and so on. Arguably, putting your effort into ensuring that global markets for food keep on working well and that there is global action so that you can keep on avoiding these kinds of responses we have seen, which definitely exacerbated problems quite dramatically for some of the poorest countries, is quite important.

Chair: Okay, that is clear.

Q193 Hugh Bayley: Climate change poses a serious threat to food security. What should DFID's priority be: working on climate change adaptation, or climate change mitigation?

Lynne Featherstone: You have to do it all. In terms of the International Climate Fund, 50% of that goes around dealing with carbon emissions—20% on forestation and 30% on adaptation—but they are movable as we progress. As I began to say, one of the things that struck me in post was about building in resilience; that is absolutely critical, and should be critical to all of our programming. The Sahel is, for example, in my purview as Minister for Sahel and sub-Saharan Africa. Some of the shocks are relatively predictable—drought, flood, and all of those things—and some of the answers are biotech and advanced technology, but there are different ways.

In terms of the financial risk, we are looking at insurance instruments, for example. We are looking at production, and we are looking at social protection—the human side. There are three ways of adapting to what is happening and building resilience. When you rebuild after a physical shock, it is building resistance and resilience in the housing stock, for lack of a better way of doing it. If it is about floods, some of it is about developing things like the scuba rice. If it is about people then, as I said, the social protection programmes have been incredibly helpful in building resilience so that you do not go back to square one.

Obviously those shocks will increase; with climate change we can expect to see further extremes of weather, and one of the priorities is looking at how we cope with an increasing and more difficult environment in which to work, and in which to build resilience.

Q194 Hugh Bayley: Thank you. That is a very helpful answer. Do any of your advisers want to say more on what the Department is doing on adaptation?

Professor Wheeler: From where you started off, the answer is clearly that you have to carry out actions to address both adaptation and mitigation. I think that is important for the agricultural sector, because, as I am sure the Committee is aware, the agricultural sector is a considerable contributor to greenhouse gas emissions, as well as these potential impacts that you led off with. In a sense, that provides us with a potential win-win situation for interventions within agriculture.

The biggest policy programme addressing that is with IFAD, whom I believe you saw in an earlier evidence session, and this ASAP programme, which is a large programme to try to provide or incentivise more climate-smart practices for smallholder farmers across a whole range of countries. There is a pressure point there: you can work on building resilience, building better adaptation, but also potentially linking in to a reduction to greenhouse gas emissions, albeit in a small way, but still addressing some of the mitigation concerns as well.

Q195 Fiona Bruce: You have talked positively about the social protection programme, and certainly the

work in Ethiopia seems to be positive. We are interested to know that whilst you have 28 bilateral programmes, in your written evidence you say that you plan to fund social protection only in 17 countries. Why is this?

Lynne Featherstone: I expect it is a work in progress. It is about doing things as you can, where you can, and where that is the most effective way of enabling families and communities to deal with the shocks they endure. I do not know if anyone has a more detailed answer than that, on why we are not working in the other countries at the moment. As I say, it is relatively new, social protection, and we are virtually doubling the countries in which we are able to extend the social protection programmes.

Dr Dick: On the ground, it may be that the Government of that country, for example, judges that others are already intervening and they do not need DFID to intervene, or that others are better placed than us. As we are growing the amount of contribution we make globally, we will be looking at where it makes more sense for us to intervene.

Q196 Fiona Bruce: Leading on from there, on the issue of targeting, do you have a comment? I know there are some who take the view that targeting the poorest is the most efficient, but there are others who say that where everyone is poor, or the vast majority are poor, targeting is perhaps not the most efficient way to go about social protection.

Lynne Featherstone: There are so many poor and the needs are so huge that it is very invidious, but I do think targeting is an important part of some of it. I went to visit a social protection programme—I think that one was also in Zambia—and the targeting was on the most vulnerable. It was not just the poorest, but, say, people with disabilities. Disability is as yet quite under-attended to, in my view.

Fiona Bruce: Yes, it is.

Lynne Featherstone: I am working on it. I visited this woman. They had community activists who had selected the people who would be eligible for the social protection. This woman was disabled, she had five children, and with what I think was £2 per fortnight she was able to keep her children in school, buy a couple of chickens and some pots and have a little bit of a hard standing. She was able to do an amazing amount. I think it is a phenomenal investment. I am quite a fan of targeting, because everyone needs, but within that need there is even more need.

Q197 Richard Burden: I think we understand that there will always be a judgment about where DFID directly funds social protection programmes, and where it is best placed to do it compared with other players and partners. My question is really about learning lessons about what works and what does not work, how that evidence is gathered and how it is promulgated. We were in Ethiopia recently, as indeed you were, and saw some quite imaginative social protection programmes around the Productive Safety Net Programme. There were criticisms of it as well in some quarters, but there are certainly things about that programme that are interesting and may well be effective in that context.

There are also other things going on in other places. You talked about Zambia, but there are places where DFID does not operate. I am particularly thinking about South America, where DFID, for really good reasons, does not have programmes itself, but there is all sorts of creative thinking going on around these areas. How do we pick up on those things? How do we assess them, whether or not we are involved? How do we use our work with multilaterals, who often will be involved in those things even if we are not bilaterally, and how is that pulled together in DFID to influence policy and practice?

Lynne Featherstone: I would expect my officials to be advised of everything that is going on in the world, at all times.

Q198 Richard Burden: That is a good ministerial objective, but how does it happen?

Professor Dercon: This is an excellent question. As I am sure you aware, DFID has in recent years been upping the spend on evaluation in a big way, embedding evaluation within our own actions but also in the way that we spend on research, with a strong evaluative element on it, to try to find out what works. On the examples of social protection, which I know quite well, given that I am a researcher working on Ethiopia and have done some of the evaluations on the PSNP, that funding came in fact via DFID via other mechanisms.

This is something with our research programmes, either directly or via multilaterals, that we are funding a great deal of. We are funding, for example, in the World Bank several big impact evaluations, essentially also on these kinds of things, not just in the focus countries alone, so that we can also learn from all these lessons. I would say there is both a huge amount of investment, and also, within the research and evidence division, a huge amount of learning taking place, absorbing what we get out of that. If I may, you asked earlier also about infrastructure, it is in exactly the same way that we are trying to fund serious research to get a much better sense of what works almost anywhere, and trying to get the lessons out of it for the places we work.

This is work in progress, but I think we have made huge strides in embedding these lessons in terms of what works. If people have to do new business cases, particularly investments in social protection, we expect them to take a comprehensive look at the evidence base around social protection, the impact evaluations around the world, and what lessons are there to be drawn from it—not to pick and choose examples that suit the particular case, but to take a comprehensive look at it. It is embedded within the processes, and it is one of the criteria that are used to assess whether a business case can go forward in another country and another type of state.

Q199 Richard Burden: If there is a lot of research going on that is really good, but can you give three examples from all that evaluation about what works? I do not mean specific programmes, but things that

work, which you are looking for and you would like to promote, around social protection programmes.

Professor Dercon: Social protection is an area that has probably been more influenced by the evidence base gathered in this way than almost anything. The basic example is that we have learned a great deal from the Mexican programme, Progresa, which was an extremely carefully evaluated programme early on, with controlled trials and everything involved in it. We can definitely argue that the evidence base gathered from the experience of the Mexican social protection programmes has influenced a great deal that has been happening in conditional cash transfers all around the world.

The second one I would say is the Productive Safety Net Programme. That, rightly, is a very impressive programme. Just the scale that a country as poor as Ethiopia can achieve with such a programme, that it can have not just a pilot and a few hundred thousand people covered but actually millions and millions and millions of people covered in a country, is definitely something that impact evaluations showed that, while it has a mixed impact on some things, on a number of things it is really very positive, and also on the system, so that we can actually learn and promote it. It depends on whether countries want to adopt these things or not: that is another matter.

I suppose another thing from evidence—if we go a bit longer back—is that ultimately the evidence from the Maharashtra Rural Employment Guarantee Schemes in the early 1970s I think, has been crucial in building up the understanding that public works programmes can work, and has helped to get us thinking about it as a good humanitarian response in that respect. I am sure there are other examples.

Chair: As I think you know and Richard Burden knows, the Committee is in fact going to South America partly to look at how these things work. We will talk to the World Bank, the Inter-American Bank and also Brazilian agencies and NGOs. I think the point that Mr Burden is making is that there are a lot of good things going on, but we have no bilateral arrangement there. You have indicated that you have picked up on some things, but is there a better way of ensuring that we are part of that process? I hope our report can contribute constructively to that.

Q200 Hugh Bayley: One of the ways to reduce risks for smallholders is to encourage private companies to offer them guaranteed prices. We were told of the example of SABMiller providing smallholders in Uganda with guaranteed prices for sorghum. What can DFID do to encourage this, and to encourage private companies to guarantee prices for small producers?

Lynne Featherstone: We think, as I said, that in terms of hunger and nutrition the main problem is poverty, and the way out of poverty is private sector involvement. In terms of, as we said, smallholders being a vast part of the answer, much of the work we do is about supporting their entrepreneurial efforts. I described Zambia Sugar; I do not think they guaranteed prices, but they guaranteed to buy it, and I am not sure that those two are absolutely synonymous. To be honest, I don't know what we do in particular programmes to support actual guaranteed prices. I do not know if you know, Stefan.

Professor Dercon: I could add that it is not that we have a whole programme across the world where we want to encourage the private sector to start guaranteeing prices. The fact that they do this is the outcome of another process, which is this company investing within the value chain, but recognising that smallholders are a useful part of their value chain, and building up long-term relationships with them. Price guarantees could be something, or it could be quotas, where they guarantee to take on some part of the crop, and so on. It is this kind of interconnectivity. It is also something within our private sector department that we are looking into—challenge funds, good ideas to try to catalyse investment in that kind of arrangement.

Q201 Hugh Bayley: Where would you do that? Would it be a team at DFID headquarters who talk to the corporate boards at Nestlé, shall we say? Or would it be done at a country level?

Lynne Featherstone: I know that we facilitate contract farming agreements by providing finance inputs and guaranteed markets for smallholder produce. I will have to write to you about the mechanism by which we do that, but that is one of the strands of the very many things we do in terms of trying to support the whole of the value chain.

Q202 Hugh Bayley: One further question on guaranteed prices. We were talking about the private sector, but what role does the public sector, through Government marketing boards, have in guaranteeing prices? I know when we were in Zambia we saw an example of this, which we felt was not particularly helpful: the Zambian Government guaranteed a fairly high maize price to the producers of the crop.

Lynne Featherstone: That was not helpful. That was a bit of a problem.

Hugh Bayley: It cost the Government a lot of money, which of course was an opportunity cost; the money could have gone elsewhere. Is that one example of a bad marketing board arrangement, and should one be looking at marketing boards providing, through a better managed or better conceived scheme, price guarantees to small farmers?

Lynne Featherstone: The thinking is sound, but different Governments have a different approach to things. I had the same experience you had in Zambia. I was there at the time, and the ask from the British Government was not to raise the price of maize, because it was incredibly damaging to smallholders, but I don't think at this point in time we have a concerted programme across all Governments. There are a number of African-led development programmes, but I have not actually heard—do you want to intervene? Have I just not heard of it, or does it not exist?

Professor Dercon: No, I think there are good reasons why you have not heard of it, because I don't think it is something we do systematically. If you go back, what you have seen in Zambia was of course commonplace throughout the 1980s and early 1990s almost everywhere. The inefficiencies of these kinds of systems were quite well documented. It is

something we touched upon earlier: we think a better entry point is getting the markets to work better, getting a better, clearer price transmission to make sure that you do not get the prices collapsing in one region while in others they are still high.
You have seen the Commodity Exchange in Ethiopia functioning; ideas like that, the mobile phone-type of interventions, are probably the entry point where we would go. We would also encourage Governments to build the infrastructure to get much better price transmission and functioning of these markets to take place. There is a role there, as you have seen in Ethiopia, for Governments to play.

Q203 Hugh Bayley: On a related topic, we have received conflicting evidence about the value of food stocks, with the OECD and, a couple of years ago, the World Bank, saying to us that there is a role for having food stocks, but really it is a matter of pre-positioning in areas of food insecurity, such as the Horn of Africa. However, more people are now saying that this is a sensible way to control food price volatility. Where does DFID stand in this argument?
Lynne Featherstone: So far my connection in terms of food stocks has been in the instance of food insecurity. It was in Malawi, in fact, where the President, Joyce Banda, was saying that they thought they had stocks, but actually their stock-keeping was so poor that they did not have the stocks they thought they had, which further damaged the position. I have not heard of discussions about food stocks outside of a food security situation, but I hand over to Stefan to see if he does.
Professor Dercon: Where you get conflicting evidence, those people are not always very clear what they are really talking about. There is a key part of food stocks that is generally accepted: for national food security purposes, it makes sense to have some kind of stock that, say, would cover three or four months or something of essential supplies in particular areas, for humanitarian responses when sudden spikes happen—when the ship does not arrive, this kind of thing. We know this very well, not least in humanitarian situations but actually more in general: these disruptions can happen, especially for small and landlocked economies, say, in Africa.

Q204 Hugh Bayley: Aren't the size of the stocks, the number of days' supply retained in stocks, reducing at the moment?
Professor Dercon: There is that. That is another part of the evidence base, and it is probably something where we could do with a bit more transparency as well, because sometimes the data—not least, say, for countries like China—are highly disputed. In fact, we worry that some of the 2007–2008 peaks were caused by wrong information about Chinese stocks, as some people have argued. More recently, stocks had declined towards last summer, and that was causing the temporary worry. My latest understanding, but we can check this, is that it is not as bad anymore. They have definitely recovered to some extent, compared to where they were before the food crisis.
These things matter, and we should not underestimate them: if food prices are very high, keeping stocks is a very costly activity. This is also why, in terms of advice, we have to be very careful about the opportunity cost and whether encouraging countries into getting futures contracts, guaranteed supplies contracts and so on, may well be better alternative mechanisms. I would say the evidence base here makes it very difficult to say what the right response is for each country.

Q205 Hugh Bayley: In a sense, though, that is the problem, is it not? If food stocks damp down prices, or at least damp down price volatility, it may well be a very good way to spend money. I think what you are saying is that the economists are looking at this, but frankly the evidence is not strong enough. What more can you do to strengthen the evidence base, and work out where and how big a stock you ought to keep?
Professor Dercon: It is something that personally I have had close contacts with people in the World Bank researching it, and also colleagues at DEFRA. We want to get a much better take on food markets, on the functioning of international food markets, the way it feeds into price and the price transmission into countries. It is definitely one topic that we are actively talking about in terms of whether we can really up the evidence base. There is probably a recognition that before the food crisis, we had not really kept up properly with the evidence base in that kind of area.

Q206 Hugh Bayley: There certainly seems to be a consensus that as a pre-positioning tool food stocks are valuable, and I would say that if you have a food stock in a highly vulnerable area, that will have the economic effect of damping down volatility in prices simply because it is there. To the extent that you do retain food stocks, who should be holding and running the stock? Should it be the Government of the country concerned, or should it be an international agency like the World Food Programme or the Bank?
Professor Dercon: When you come to say that it should be a multilateral agency doing it, we are arguably probably talking much more about more humanitarian responses and being released for that kind of purpose. There, the general take that people would always take is that if a country can manage its own stocks, it would obviously give it much more ownership and embed it in its own policies, and it would be a bit strange not to take that approach. If it is really about trying to influence the markets, I would say that it is a much trickier proposition. I could probably give you an answer, country by country, region by region, and I would be very cautious about generalising that we should be doing this and that, it should be on a large scale, and so on. I think it could be a very difficult and costly thing to do. I will give you an answer: probably we do not know very well how best to do that.

Q207 Chair: The World Food Programme is pursuing its alternative strategy, which is contracting to buy from farmers within the regions in which it operates, their Purchase for Progress scheme. When we were in Ethiopia we were told that they had signed forward delivery contracts valued at $12.3 million

with 16 cooperatives, with 500,000 members. What they were obviously getting was reliability, which enabled them in turn to get bank loans to fund planting and so on. This scheme is operating in 20 countries. I have just checked the list, and I think 13 of them are countries in which DFID has a bilateral programme and DFID does fund it. The question is: is there more scope for that? Perhaps not surprisingly, when we asked the WFP what they thought—

Lynne Featherstone: They said yes.

Chair: The quote we have from the Executive Director was—and I remember her saying this—that she would scale up the scheme "in a heartbeat" if the donors would make the funds available. To be fair, they have made this point consistently over quite a number of years. There seems to be a difference of view as to what the role of the WFP is, but they seem to me to demonstrate that they have a mechanism that does two things: it gives farmers sustainable income, which is a development benefit, as well as giving them access to food within a region, which they can use when there is a crisis. It seems to be a win-win situation. DFID does support it, but the question is, is there more scope for doing more?

Lynne Featherstone: Should we do more? I think, Chair, there is not an issue you have raised today on which we could not do more. Everything needs scaling up; all of the programmes could do with more. I have visited one of the World Food Programme's projects such as you are saying, in Darfur. It is an amazing project, and I will look more closely at it and at the issue you have raised, because it does seem to have a double benefit.

Q208 Chair: I would really appreciate it. I repeat the point: it is really good when you have an organisation whose overriding function, if you like, is to deal with a crisis, but that can do it in a way that provides sustainable development as well as addressing the crisis.

Lynne Featherstone: That is why I am agreeing with you.

Q209 Chair: If I may say so—this is a slightly tangential point—this was also a debate within the EU about the Sahel, where I understand that the two different Commissioners ultimately negotiated a deal where some of the money that was going into short-term relief would actually be channelled in a way that might help some of the long-term supply problems.

Lynne Featherstone: DFID's position on the Sahel is very much to think in the longer term. I have just this week been talking to counterparts across the donor Governments to try to promote that attitude in terms of a longer-term approach to sustainability, really. Otherwise we will be there forever.

Q210 Chair: Thank you for that. I take note of what you have said. In terms of timing, obviously we are ongoing, but if you feel able to tell us anything in advance of our Report—you could probably already read the recommendations in your mind—

Lynne Featherstone: I cannot tell you anything in advance. What I am saying is that I was so impressed myself with what the World Food Programme were doing in Darfur, which has to be one of the most difficult circumstances in which to deliver all of the things they were delivering. It was quite remarkable, in the circumstances, to see a community being able to sustain itself, as well as grow some cash crops and a whole range of things. All I can undertake to do is to look at it closely.

Chair: Thank you very much for that. Thank you to all of your team for coming along. I think we have probably covered most of the things you would have anticipated, I hope reasonably systematically. We appreciate your answers, and it has been helpful to have the officials that are working with it giving evidence to us at the same time. I think it strengthens and deepens the value of the exchange.

Lynne Featherstone: I agree with you. I think you are a very wise Committee to do that.

Chair: We'll have a private conversation about that, which I will not put on the record. Thank you very much. I very much appreciate it.

Lynne Featherstone: Thank you.

Written evidence

Written evidence submitted by The Global Alliance for Improved Nutrition (GAIN)

Executive Summary

There has been a radical shift in the understanding of the significance of malnutrition to global development since 2008. In the public imagination, hunger and malnutrition are often treated as being synonymous. Hunger is the most direct and visible expression of a food system in crisis, but more people are affected by malnutrition which is caused by an insufficiently diverse diet containing the right nutrients, vitamins and minerals for normal and healthy growth. Just producing more food, while essential, will not on its own tackle global malnutrition and its consequent problems of lower growth, a high disease burden and high levels of child and maternal mortality. Solutions are needed to produce more food, but also better, cheaper and more nutritious foods, especially for women and children.

This new understanding was given prominence in the Olympic Hunger Event hosted by the Prime Minister in summer 2012 and forms a central part of the thinking around the post MDG goals. Identifying these linked challenges is essential to effective policy response and to creating food and nutrition security. In particular, this is vitally important in developing effective strategies for tackling stunting, a global scourge which affects hundreds of millions of children, and which cannot be addressed simply by providing more food: it is fundamentally about delivering a more diverse diet.

The 2008 Lancet series on Maternal and Child Undernutrition[1] showed that poor nutrition in the first 1000 days following conception damages and limits lifelong development and is the anchor point of the new global focus on child and maternal nutrition as key to survival and development. Recent scientific consensus has thus underlined that hunger and undernutrition are distinct aspects of a global food system in crisis, requiring linked but separate strategies.

Severe food and nutrition insecurity continues to dominate the lives of a third of people in the world, and is the pressing development issue of our time. There has been minimal progress in global malnutrition for decades, and the consequences to health, equity, capacity development and economic growth have been devastating. The challenge of food and nutrition security will loom larger as the global population increases, and will underpin the viability of all other development goals.

To achieve and sustain global food and nutrition security, stakeholders along the entire food value chain must be engaged and better linkages and collaboration between sectors is needed to deliver sustainable impact at a scale that no single organization can achieve alone. Particular focus is needed in catalysing those who actually produce and distribute the foods consumed by the poor. Most actors in the sector are from the private sector: farmers, finance, logistics, energy, natural resources, food companies, and more, but private investment lies far behind its potential in most developing countries. Innovative financing tools can help make investments in agriculture value chains and nutrition more attractive, and reduce the high level of risks associated with such investments. In addition to public funding to address food security, agricultural development requires high levels of private investments.

International systems are central to driving agendas, priorities, standards, thought leadership, and both political and resource commitments to address the global challenge of food and nutrition security.

How DFID Could Make a Difference

— Engage the G8 and other donors in strategies to mobilise more public and private investment in tackling malnutrition.

— Invest in policy and program measures to improve nutrition outcomes of agriculture programmes from production to consumption, including adding nutrition and dietary diversity indicators.

— Invest in agriculture research and technology development to improve quantity and nutritional quality of yield (eg biofortification), reduce post-harvest loss of nutrient-dense foods, and reduce the cost of nutritious foods including horticultural crops, animal-sourced foods, small nutritious grains and pulses.

— Support innovative financing mechanisms to make investments in agriculture value chains and nutrition more attractive, and to reduce the high level of risks associated with such investments

— Support innovative and efficient market mechanisms to improve access to affordable nutritious foods for base of the pyramid population, including efficient mechanisms for nutritious food production, trade and distribution, and aggregation of small farmers to produce and market nutritious foods locally.

— Ramp up support for direct interventions which tackle stunting, tackle vitamin and mineral deficiencies for women of child gearing age, and pregame and lactating women.

[1] Maternal and Child Undernutrition. The Lancet 2008 http://www.thelancet.com/series/maternal-and-child-undernutrition

The success or otherwise of the global food system in guaranteeing food security and eliminating under-nutrition with particular reference to women, children and other vulnerable groups, and the implications of demographic trends

1. The world faces an unprecedented challenge in malnutrition, one that will loom larger as the global population increases to 9 billion by 2050, and which underpins the viability of all other development goals. There has been minimal progress in global malnutrition for years: levels of malnutrition have fallen by only 10% in the past two decades, or about half a percentage point each year.

2. The consequences of underinvestment have been devastating. Today there is a crisis: we live in a world where almost 1 billion people are hungry,[2] some 171 million children are chronically malnourished, resulting in stunting[3] and an estimated 1.4 billion are overweight and obese.[4] Severe food and nutrition insecurity continues to dominate the lives of a third of humanity, and will become even more difficult to address due to the growing complexity of global challenges, such as population growth, increasing consumer demand from the growing middle class in developing countries, high and volatile food prices, energy scarcity, urbanization, the new competition between food and fuel, and climate change.

3. Food and nutrition security is inextricably linked to health, equity, capacity development and economic growth. Poor and maternal and infant nutrition in particular irreversibly damages not only the lifelong mental and physical capacities of individuals, but also the growth of communities and the economic performance of entire countries. Without adequate nutrition, a child's growth is stunted, and her health and education potential diminished, leading to the systematic compromise of the physical and cognitive capacity, lifelong productivity, and a loss of two to three percent Gross Domestic Product (GDP) of whole nations as a result of iron, iodine and zinc deficiencies.

4. There is increasing international consensus that improving nutrition—particularly during the 1000-day period from conception to a child's second birthday when the impact is greatest—is the pressing development issue of our time. A broader, holistic approach is needed to global food and nutrition security, as malnutrition is the ultimate expression of systemic and cultural challenges in our global food and health systems. While a health systems focus has allowed us to make significant gains, particularly in reductions in some of the most severe consequences of malnutrition, it is too narrow a mechanism to get us to significant reductions in malnutrition overall. Stakeholders along the entire food value chain must be engaged in the effort to achieve and sustain global food and nutrition security.

The role of the international system, including food and agriculture organisations and the G8 and G20, and ways in which collaboration could be improved

5. International systems are central to agenda setting, priority setting, standard setting, and both the G8 and G20 have a specific role in global thought leadership, and in driving both political and resource commitment to meaningfully address the global challenge of food and nutrition security, preventing malnutrition and its consequences. It is no longer just about quantity of food, but also the quality (nutritional value) of that food, and in strengthening systems to ensure that food is affordable and accessible to the poorest people, on a sustainable basis. The international systems can support mechanisms that ensure the meaningful integration of nutrition into food security, explicitly including nutrition considerations in the design of all agriculture and food security initiatives.

6. Technological innovations such as biotechnology, information and communication innovations, and bio-fortification, are crucial to increasing agricultural productivity, building resilience to weather-related shocks, enhancing the nutritional value of food crops, and ensuring food safety.

7. Addressing these challenges will also require better linkages to other sectors at the planning and community levels, supported by international evidence-based technical guidance, and support for improved country capacities. It will require smarter policy decisions in how we approach and finance these priorities, and how we leverage markets to work better for the poor. This means addressing systemic and structural challenges: expanding beyond traditional mechanisms to engage all sectors, and facilitating collaboration through mechanisms like public private partnerships to achieve the investment and sustainable reach needed to make global food and nutrition security a reality. International systems can lead on driving this collective action to scale up nutrition and achieve global food and nutrition security.

8. Mobilizing a diverse set of partners on the ground is critical—partners who work all along the food value chain and understand the needs of the community, who are embedded within the local or regional culture, and who can leverage public and market-based channels for investment to ensure access to, and consumption of, affordable and nutritionally adequate food. These efforts have the potential to foster change on the ground, spurring innovation and entrepreneurship, and create self-sustaining cycles of growth.

9. For example, in response to the need to better integrate sectors in addressing malnutrition at the international and national levels, the Scaling Up Nutrition (SUN) Movement, a country-led, global effort to

[2] State of Food Insecurity in the World, FAO, 2012.

[3] M de Onis, M Blossne and E Borghi (2011) "Prevalence of stunting among pre-school children 1990–2020", Growth Assessment and Surveillance Unit, *Public Health Nutrition* 2011, Jul 14:1–7.

[4] Obesity and Overweight Fact Sheet, WHO, 2012.

advance health and development through improved nutrition, convened a diverse range of public and private partners to drive the effort to reduce stunting and chronic undernutrition. Innovative, country-led collaborations between governments, the private sector, international organizations (including the United Nations), academia and civil society are integral to the "Collective Impact" approach to fighting hunger and malnutrition that delivers sustainable impact at a scale that no single organization can achieve alone.[5]

The role of the private sector in increasing food security

10. Past decades have shown that no one sector has the resources, capacity and reach to singlehandedly address the global challenge of food and nutrition security: all stakeholders need to be involved. The private sector includes farmers, finance, logistics, energy, natural resources, food companies, and the many more who take part in producing and distributing virtually all the food which poor people consume. Their engagement is a key lever to success, and any development approach that excludes market-based approaches significantly limits access by the poor to adequate nutrition. In order to empower the poor to have and make better nutrition choices for themselves and their children, it is essential to engage with those who actually produce and distribute foods.

The role of smallholder agriculture and large-scale farming in increasing food security

11. Farmers are part of the private sector and need market support, not only for improved income and livelihood, but also for expanding the basket of available diverse and nutritious foods.

The role of external interventions (land deals, corporate investment and donor interventions) in increasing food security

12. In addition to public funding to address food security, agricultural development requires high levels of private investments, as most actors in the sector are from the private sector. Most of the ground research indicates that private investment lies far behind its potential in most developing countries (and particularly in Africa), because investors and banks show little interest for a sector associated with high climatic, price and counterpart risks, and market failures. Moreover, there are a number of market failures and supply chain inefficiencies, which impede the private sector to receive the right market signals, due in particular to lack of information, infrastructure and efficient regulation.

13. A number of innovative financing tools can be identified to make investments in agriculture value chains and nutrition more attractive, and to reduce the high level of risks associated with such investments. These tools complement traditional financing mechanisms. While traditional resources are necessary to improve the public good required for nutrition and agricultural development, innovative financing and related delivery mechanisms are essential to bridge the investment gap and to catalyse private investment. Based on a review of available experiences and existing literature, few of the more promising mechanisms are the following:

14. Risk management tools to reduce the risk on bank credit and investments in agricultural activities, such as index based weather insurance;

15. Innovative credit mechanisms providing the lender with improved collateral guarantees, and thus facilitating the financing of agricultural value chains, especially for nutritious food crops and products;

16. Targeted sector-focused private equity and debt funds to provide additional finance and sector expertise to SMEs and progressive smallholder farmer cooperatives producing nutritious foods along the agriculture value chain.

Potential roles for DFID

17. DFID could make a difference in the following ways:

(a) Engage the G8 and other donors in strategies to mobilise more public and private investment in tackling malnutrition.

(b) Invest in policy and program measures to improve the nutrition outcomes of agriculture programmes from production to consumption.

(c) Encourage country agriculture plans that prioritise nutrition, including adding nutrition and dietary diversity indicators.

(d) Invest in research and technology development to improve yield and reduce the cost of nutritious foods including horticultural crops, animal-sourced foods, small nutritious grains and pulses.

(e) Invest in reducing post-harvest loss of nutrient-dense foods.

(f) Support new agricultural technologies that focus on improved nutritional quality, eg biofortification.

[5] Hanleybrown, Kania, Kramer. (2012) "Channeling Change: Making Collective Impact Work", *Stanford Social Innovation Review,* 2012, Jan 26.

(g) Support aggregation of small farmers to produce and market nutritious foods, with an emphasis on local production.

(h) Support efficient mechanisms that provide markets for nutritious food production, trade and distribution.

(i) Support innovative market mechanisms to improve access to affordable nutritious foods for base of the pyramid populations.

(j) Support innovative financing mechanisms to make investments in agriculture value chains and nutrition more attractive, and to reduce the high level of risks associated with such investments.

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The Global Alliance for Improved Nutrition (GAIN)
www.gainhealth.org

The Global Alliance for Improved Nutrition (GAIN) is a global foundation, which currently assists nearly 670 million people facing malnutrition in over 30 countries. Created in 2002 at a Special Session of the UN General Assembly on Children, and with the status of international organization, GAIN supports public-private partnerships to increase access to the missing nutrients in diets necessary for people, communities and economies to be stronger and healthier.

Written evidence submitted by Dr Shenggen Fan, Director General, International Food Policy Research Institute (IFPRI)

SUMMARY

— Significant progress has been made to reduce food insecurity over the last several decades but developing countries continue to be plagued by hunger, undernutrition, and, increasingly, obesity.

— A growing world population with a rising demand for food is placing progressively more pressure on global agriculture and natural resources, particularly water, land, and energy—a situation made even more precarious by climate change.

— In response, the international development community has made a series of commitments to strengthen its support toward global food security. While these initiatives should be applauded, now is the time for these commitments to move from rhetoric to concrete actions.

— Going forward, the focus of food security efforts should be on:

  — Improving smallholder productivity through the promotion of productive social safety nets; increased access to financial services; greater investments in smallholder-focused agricultural research and infrastructure; and, increased support for vertical and horizontal coordination.

  — Adopting an integrated ("nexus") approach that recognizes the complex and interlinked relationship that food production has with natural resources and nutrition. A nexus approach can help to ensure that benefits in one area do not come at the expense of another.

  — Exploiting the potential of agriculture for mitigating and adapting to climate change while increasing agricultural productivity.

  — Enhancing global cooperation through mutual learning between traditional and emerging actors and through the elimination of distortionary and destabilizing trade policies, such as export restrictions and bans.

  — Fulfilling past commitments on food security fully and in a timely manner. The post-2015 development agenda needs to focus on the complete elimination of hunger through country-driven strategies. Funding to strengthen food security efforts must be stable and sustainable, and should not fluctuate with changing governments and initiatives.

1. The International Food Policy Research Institute (IFPRI), established in 1975, provides evidence-based policy solutions to sustainably end hunger and malnutrition and reduce poverty. The Institute conducts research, communicates results, optimizes partnerships, and builds capacity to ensure sustainable food production, promote healthy food systems, improve markets and trade, transform agriculture, build resilience, and strengthen institutions and governance. Gender is considered in all of the Institute's work. IFPRI collaborates with partners around the world, including development implementers, public institutions, the private sector, and farmers' organizations, to ensure that local, national, regional, and global food policies are based on evidence.

INTRODUCTION

2. Many significant strides have been made in advancing global food and nutrition security in recent decades but much remains to be done as the global food and nutrition situation is under increasing stress. Roughly one in eight individuals do not have access to enough food, and an interwoven set of emerging challenges threaten to aggravate this situation even further. Future strategies to combat food insecurity need to incorporate solutions

to these challenges, taking into account that no single solution or set of solutions will be appropriate everywhere and for everyone. The United Kingdom has an important role to play in global food security efforts, as a major donor, development partner, and the current president of the G8. This paper will outline the current food security situation and challenges facing future food security, followed by a series of recommendations.

Hunger and Malnutrition—New Numbers, Same Problem

3. Global hunger continues to be a major problem throughout the developing world. Recent efforts by the Food and Agriculture Organization of the United Nations (FAO) to overhaul the way in which it measures hunger only paint a slightly more optimistic picture of the food security situation. According to the new estimates, nearly 870 million individuals worldwide suffer from hunger currently—nearly one out of every eight people.[6] The overwhelming majority of the undernourished (850 million) live in developing countries, primarily in South Asia and Africa south of the Sahara. Although the world as a whole is much closer than previously thought to meeting the first Millennium Development Goal to halve hunger—thanks to a significant reduction in East Asia and Latin America—progress in Africa, South Asia, and Western Asia has lagged behind.

4. The food security problem in the developing world extends beyond an insufficient intake of calories. An estimated 2 billion people suffer from deficiencies in essential vitamins and minerals such as vitamin A, iron, and iodine—referred to as "hidden hunger" because the effects are often not visible in the short-term. These micronutrient deficiencies have the potential both to weaken the mental and physical development of children and lower the work capacity and incomes of adults. The economic cost of micronutrient deficiencies has been estimated to be between 2.4 and 10 percent of GDP in many developing countries.[7]

5. On the other side of the nutrition spectrum, a rise in obesity rates in a number of developing countries has been linked to recent shifts toward higher incomes, labor-saving technologies, and processed foods. In fact, recent estimates indicate that 35 million of the world's 42 million overweight children under the age of five live in developing countries.[8] Furthermore, childhood overweight and obesity in developing countries increased by 65 percent between 1990 and 2010, in comparison to an increase of 48 percent in developed countries. An increasingly overweight population brings with it a plethora of adverse economic and health consequences—including a rise in chronic diseases (such as diabetes and heart disease), increased health care costs, and decreased labor productivity. For example, China and India are estimated to lose 558 and 237 billion international dollars, respectively, in national income from heart disease, stroke, and diabetes between 2005 and 2015.[9]

Challenges to Future Global Food Security

6. **Higher incomes and urbanization:** A growing, urbanizing, and more affluent global population will put enormous stress on global food and nutrition security going forward. By 2050, the global population is expected to reach 9.3 billion.[10] A significant portion of this growth will occur in urban areas of developing countries. In fact, the world's urban population is expected to increase by 75 percent from 2010 to 2050. As a result global demand for food is expected to rise by 60 percent by 2050.[11] At the same time, global per capita income is expected to more than double throughout the developing world in the coming decades. As global incomes grow, people will demand not only more but better food—moving away from traditional staple crops toward a more resource-intensive diet of meats, vegetables, and fruits.

7. **Natural resource constraints:** Attempting to meet the growing food demand through business as usual methods jeopardizes the very natural resources that are needed to produce more food for a growing population.

8. **Water:** Currently, 2.4 billion people—nearly one-third of the global population—live in water scarce areas.[12] Water withdrawals for agriculture have played an instrumental role in increasing past agricultural production.[13] Yet, current projections indicate that only 66 percent of irrigated water demand is likely to be met by 2050.[14] Increased competition with non-agricultural uses adds to the challenge of sustaining future food production. Indeed, total global water withdrawals in 2025 are expected to rise by 22 percent above 1995 levels.[15] Water pollution is also expected to cause significant stress for future agricultural production.

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6 FAO. 2012. State of food insecurity in the world 2012. Rome: FAO. http://www.fao.org/docrep/016/i3027e/i3027e00.htm.

7 For summary of studies, see A. Stein and M. Qaim. 2007. The human and economic cost of hidden hunger. *Food and Nutrition Bulletin*, 28(2): 125–134.

8 de Onis, M., M. Blössner, and E. Borghi. 2010. Global prevalence and trends of overweight and obesity among preschool children. *American Journal of Clinical Nutrition* 92(5): 1257–1264.

9 WHO. 2005. Preventing chronic diseases: A vital investment. Geneva: WHO.

10 UN. 2011. World Urbanization Prospects, the 2011 Revision. http://esa.un.org/unup/CD-ROM/Urban-Rural-Population.htm.

11 Alexandratos, N., and J. Bruinsma. 2012. World agriculture towards 2030/2050: The 2012 revision. Working Paper No. 12–03. Rome: FAO.

12 Ringler, C., T. Zhu, S. Gruber, R. Treguer, A. Laurent, L. Addams, N. Cenacchi, and T. Sulser. 2011. Sustaining growth via water productivity: Outlook to 2030/2050. Washington DC: IFPRI. Mimeo.

13 Rosegrant, M.W., C. Ringler, and T. Zhu. 2009. Water for agriculture: Maintaining food security under growing scarcity. *Annual Review of Environment and Resources* 34: 205–222.

14 Nelson, G.C., M.W. Rosegrant, J. Koo, R. Robertson, T. Sulser, T. Zhu, C. Ringler, S. Msangi, A. Palazzo, M. Batka, M. Magalhaes, R. Valmonte-Santos, M. Ewing, and D. Lee. 2009. *Climate change: Impact on agriculture and costs of adaptation.* Washington DC: IFPRI.

15 Rosegrant, M.W., X. Cai, and S. Cline. 2002. *Global Water Outlook to 2025: Averting an Impending Crisis.* Washington DC: IFPRI.

9. **Land:** Almost half of the world's poor depend on degraded lands for their livelihoods and a quarter of all global land area has been affected by degradation.[16] This is equivalent to a one percent loss in global land area annually—an area which could produce 20 million tons of grain per year.[17] In Africa south of the Sahara, for example, the cost of land degradation could amount to as much as 10 percent of the region's GDP. Land degradation can reduce crop yields and increase production costs because farmers need to use more inputs to offset lower yields.[18] The underlying causes of land degradation include limited access to agricultural extension, distortionary trade policies, and input subsidies.[19] Over the past several decades, a sizeable increase in agricultural output has come from both land expansion and yield increases, but arable land per capita is expected to decline by more than 50 percent by 2050.[20]

10. **Energy:** Rising energy prices present a number of challenges to future food security. This includes higher input and production costs for farmers that could translate into increased food prices for consumers. Rising energy prices also make alternative energy sources more profitable. Indeed, biofuel production is expected to increase by 50 percent before the end of this decade.[21] More demand for biofuels increases the competition between biofuels and food production for already scarce natural resources. Energy access also remains a challenge, as roughly 1.5 billion people lack access to modern energy sources to support activities that help improve their livelihoods.[22]

11. **Climate change and agriculture:** The production of food is both a cause and casualty of increasing climate change. Activities along the entire food supply chain make agriculture a significant contributor of greenhouse gases that cause climate change. In fact, food production is estimated to generate between a quarter and a third of global greenhouse gas emissions, due to activities such as the clearing of land for agricultural cultivation and fertilizer use.[23]

12. Climatic change is expected to complicate global food production systems through higher and more variable temperatures and the increased occurrence and severity of extreme weather events.[24] Recent evidence shows that developing countries are projected to suffer most from the impacts of climate change and bear up to 80 percent of its costs.[25] Climate change is expected to reduce crop yields and increase food prices. Between 2010 and 2050, maize, rice, and wheat prices could increase by 87, 31, and 43 percent, respectively. Climate change is also projected to increase malnutrition. The impact will be especially harsh among poor people, who spend a large share of their income on food and have limited capacity and resources to adapt to changing and more erratic weather patterns. What is more, without serious policy changes, all of these impacts will be significantly magnified given recent reports of a potential four degree Celsius increase in global temperatures—which is higher than previously estimated.[26]

Food Security Commitments of International Community

13. In recent years, the international development community has made a series of commitments to strengthen their support to increase food security and improve agricultural productivity and nutrition. Years of relegating agriculture to the back burner have been replaced with increasingly more attention being given to the substantial role that agriculture plays in the development process. In the shadows of the 2007–2008 spike in food prices, the G8 countries committed US $22 billion within three years for improving global food security under their L'Aquila Joint Statement on Global Food Security in 2009. With the closing of the three-year funding window at the end of 2012, G8 countries were on track to commit all of the pledged funds.[27] However, disbursement rates vary across countries. While several G8 countries (including the United Kingdom, Canada, and Italy) have fully disbursed their pledges, other member countries lag behind.

14. More recently, the G20 and G8 summits in 2012 included discussions on the need to increase investment in both agricultural research to enhance agricultural productivity and food security, and nutrition to enhance long-term human capital. As a result, G8 leaders launched the "New Alliance for Food Security and Nutrition",

[16] Nkonya, E., N. Gerber, J. von Braun, and A. De Pinto. 2011. Economics of land degradation: The costs of action versus Inaction. IFPRI Issue Brief 68. Washington DC: IFPRI.

[17] IFPRI. 2011. *2011 Global Food Policy Report.* Washington DC: IFPRI.

[18] Rosegrant, M.W., E. Nkonya, and R.A. Valmonte-Santos. 2009. Food security and soil water management. *Encyclopedia of Soil Science* 1: 1–4.

[19] von Grebmer, K., M. Torero, T. Olofinbiyi, H. Fritschel, D. Wiesmann, Y. Yohannes, L. Schofield, and C. von Oppeln. 2011. *Global Hunger Index 2011. The challenge of hunger: Taming price spikes and excessive food price volatility.* Bonn, Washington, DC, Dublin: Welthungerhilfe, IFPRI, and Concern Worldwide.

[20] *Ibid*.

[21] IEA (International Energy Agency). 2011. *World Energy Outlook 2011*. Paris: IEA.

[22] United Nations Development Programme. 2011. *Human Development Report 2011. Sustainability and equity: A better future for all.* New York: United Nations.

[23] Beddington, J., M. Asaduzzaman, M. Clark, A. Fernández, M. Guillou, M. Jahn, L. Erda, T. Mamo, N. Van Bo, C.A. Nobre, R. Scholes, R. Sharma, and J. Wakhungu. 2012. Achieving food security in the face of climate change: Final report from the Commission on Sustainable Agriculture and Climate Change. Copenhagen, Denmark: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).

[24] Nelson, G., M. Rosegrant, A. Palazzo, I. Gray, C. Ingersoll, R. Robertson, S. Tokgoz, T. Zhu, T. Sulser, C. Ringler, S. Msangi, and L. You. 2010. *Food security, farming, and climate change to 2050: Scenarios, results, policy options*. Washington DC: IFPRI.

[25] World Bank. 2010. *World Development Report: Development and climate change*. Washington DC: World Bank.

[26] World Bank. 2012. *Turn down the heat: Why a 4°C warmer world must be avoided*. Washington DC: World Bank.

[27] G8. 2012. Camp David accountability report: Actions, approach, and results. www.state.gov/documents/organization/189889.pdf.

a US $3 billion agricultural investment plan in Africa to lift 50 million people out of poverty over the next decade in partnership with the private sector.

15. Likewise, the 2012 United Nations Conference on Sustainable Development in Rio de Janeiro (Rio+20) was used as a springboard to launch two noteworthy initiatives to improve food security. The Zero Hunger Challenge is an ambitious bid to combine hunger reduction with sustainable development efforts. Among its goals, the initiative calls for access to adequate food all year round for all people. At the same time, leaders agreed to the goal of Zero Net Land Degradation with the targets of zero net land degradation by 2030, zero net forest degradation by 2030, and drought preparedness policies in all drought-prone countries by 2020.

Recommendations

Improve smallholder productivity

16. Converting smallholder farmers into profitable businesses is a key ingredient in future hunger reduction efforts. To do so requires improved access to smallholder-friendly and productivity-enhancing inputs, technologies, services, and markets. This includes:

- Better-targeted and more productive social protection policies that cushion livelihood shocks and offer productivity-enhancing tools, such as vocational training, maternal and child health programs, and primary schooling.
- Innovations in the channels and instruments through which financial services are offered to smallholders, especially young people, including value chain finance and information and communication technologies (ICTs).
- The promotion of productivity-enhancing agricultural technologies that address smallholder-specific needs, capacities, and vulnerabilities through increased investment in agricultural research and extension.
- Increased market access of smallholders through improved rural infrastructure and increased support toward innovative institutional arrangements for collective action, such as producers' associations.

17. Above all, smallholders should not be treated as a homogenous group but rather a diverse set of households who have different needs and capacities. Development strategies should reflect and be adapted to this diversity.

Adopt a nexus approach for resource-efficient and nutrition-sensitive food security

18. Food security efforts should adopt an integrated approach that recognizes the complex and interlinked relationship that food production has with emerging challenges, namely natural resource constraints and micronutrient deficiencies. A nexus approach can help to ensure that benefits in one area do not come at the expense of another.

19. The increasingly scarce and degraded state of natural resources demands emerging technologies that promote more resource-efficient and productivity-enhancing food production practices. This includes developing and promoting smallholder-friendly technologies that encourage more sustainable and efficient land and water use systems—such as organic soil fertility management, low-cost (solar panel) drip irrigation, and the recycling of wastewater for agricultural use (which also has the potential to reduce land degradation). Post-harvest technologies can also improve resource-use efficiency by decreasing post-harvest losses. Similarly, as rising oil prices drive up demand for biofuel production, new biofuel technologies and policies are needed that reduce the competition between biofuel and food crops for land and water resources. More investments need to be directed toward the development of biofuel crops that grow on marginalized lands (that are not suitable for food crops) or come from the non-edible parts of crops or from nonfood crops.

20. Food security efforts should also be leveraged to improve nutrition and health outcomes in developing countries, and not be solely focused on increasing food production and consumption. Forging links between agriculture, health, and nutrition includes the development and promotion of more nutritious staple food crop varieties, safety regulations to ensure that agricultural intensification does not harm people's health, and more efficient postharvest handling to reduce deterioration in the nutritional quality of foods.

Promote agricultural climate change mitigation and adaptation

21. Agriculture (including smallholders) has a large potential for adapting to and mitigating climate change, and exploiting this potential will become increasingly important for food security. Agricultural investments and policies should target measures that simultaneously provide productivity, mitigation, and adaptation benefits. A climate change policy environment that creates value and incentives for smallholder farmers and integrates them into global carbon markets is essential.[28] Investments in adaptation could help farmers improve land management, adjust their planting dates, and introduce new crop varieties that are more resistant to floods and droughts. Investments in mitigation could be used to help farmers improve their energy efficiency, raise crop

[28] De Pinto, A., M. Magalhaes, and C. Ringler. 2010. *Potential of carbon markets for small farmers: A literature review,* Discussion Paper 1004. Washington DC: IFPRI.

yields, and manage their land in ways that increase carbon storage. For win-win-win solutions, strategies and investments must provide benefits for mitigation and adaptation, as well as productivity.

22. At the same time, the collection of internationally coordinated data on climate change and food security needs to be stepped up. This includes rigorous monitoring and evaluation of mitigation and adaptation interventions and their impact on relevant outcomes such as food security. The use of modern technologies such as remote sensing is needed to increase the quality and quantity of biophysical and socio-economic data, thereby helping policymakers implement climate change mitigation and adaptation polices that are compatible with food security. Specific focus needs to be given to monitoring changes in the food production and climate of population groups and regions that are especially vulnerable to climate change and food insecurity.

Increase global collaboration among traditional and emerging partners

23. New actors are increasingly working together to reduce global hunger, ranging from private-sector corporations to philanthropic organizations and emerging economies (such as China, India, and Brazil). This presents a unique opportunity for mutual learning among traditional and emerging actors. For example, the United Kingdom in general and DFID specifically have an important role to play by sharing the lessons learned from both its successes and failures with past food-security initiatives. Traditional donors should encourage and support South-South cooperation, which offers the opportunity to harness the expertise and experiences of emerging countries. The private sector can also play an effective and sustainable role in improving smallholders' productivity and should be supported by a business-friendly environment including a sound legal and regulatory framework to ensure that its engagement is socially and environmentally responsible.

24. The global community should work together to enhance the efficiency of world food markets through the elimination of distortionary and destabilizing trade policies, such as export restrictions. Export bans in recent years have led to tighter markets for other exporting countries and induced panic purchases by food-importing countries, both of which fuel further food price increases and food insecurity. The elimination of export bans could be beneficial for domestic food markets since export bans tend to inhibit a domestic production response, which could potentially exacerbate domestic supply problems. The UK can leverage its position and influence within the G8 and global development community to build global support for freer trade and less distortionary agricultural and trade policies.

Fulfill past food-security commitments and develop post-2015 agenda

25. Governments need to ensure that their past commitments to hunger reduction initiatives are completely fulfilled (and disbursed) in a timely manner. As the president of the G8 in 2013, the United Kingdom has a unique opportunity to influence other member countries to honor their commitments and move toward implementation. While past food-security initiatives should be applauded, they need to be accompanied by clear measures, timeframes, and accountability mechanisms. Now is the time for food-security efforts to move from rhetoric to action, including: increased agricultural investments (particularly in agricultural research) by governments, the private sector, and farmers; and the development of a concrete action plan with clear goals and accountability measures to improve smallholders' livelihoods while maintaining environmental sustainability, turning farming into a modern, forward-looking occupation that offers a future for young, rural people.

26. Focus should shift toward the development of a post-2015 agenda that gives greater priority to eliminating hunger entirely. Developing countries should lead this process with their own strategies that are developed through experimentation and innovation. Effective, efficient, and sustainable policies that are well adapted to the local context can help countries maximize the local impact of the global agenda. DFID, in collaboration with the international community, should play a significant role in facilitating this process through knowledge, resource, and best-practice sharing. Collaborative research and capacity-building initiatives are especially needed to support region- and country-led programs within developing countries. Above all, funding to improve food security must be stable and sustainable, and should not fluctuate with changing governments and initiatives.

21 March 2013

Written evidence submitted by Oxfam GB

Oxfam GB welcomes the opportunity to make a submission to the Committee's inquiry on global food security. Oxfam works with partners around the world to find lasting solutions to poverty and injustice. As part of Oxfam International, a confederation of more than 17 Oxfam affiliates around the world we work in more than 90 countries and respond to an average of 30 emergency situations each year. Oxfam believes that people are entitled to five fundamental rights: a sustainable livelihood; basic social services; life and security; to be heard; and equity. We work to support people in realising these rights and fight poverty and suffering through campaigning, long-term development work, and emergency response.

Introduction

1. There is enough food in the world to feed everyone. And yet one in eight women, men and children go to bed hungry every night. Despite the fact that the 500 million small farms in the world currently feed a third of humanity, most of the people going hungry are small scale food producers themselves, and 60 to 80% of them are women (whose rights to land, credit, resources and political voice are often denied). As rising and volatile food prices compound the effects of the economic crisis, parents struggle to feed their children. And climate change means that their children's futures are increasingly uncertain.

2. Faced with the challenge of hunger and a resource constrained world the international policy response has been inadequate, or in some cases directly harmful. Increased biofuel production is directly putting pressure on the resources needed to grow food as well as contributing to rising food prices. The level of investment in agriculture in the developing world has been inadequate and there has been a failure to govern satisfactorily private investment such as large scale land acquisitions or to bring transparency to global food markets.

3. Oxfam's GROW campaign had built on our decades of experience working with poor families and communities in developing countries to address some of the root causes of food insecurity. In 2013 we are joining with other major development and aid agencies to launch a joint campaign on food and hunger. This submission outlines some of the key factors in food insecurity: The trends of climate change and rising, volatile food prices, and advocates the need to invest in smallholder agriculture, the need to protect land rights, and to address biofuels. This is in no way a complete picture of every aspect of the global food system that needs addressing—but where there are significant gabs we try to point to further Oxfam reading that may be useful.

Climate Change[29]

1. As Oxfam has seen from our programmes around the world, the impacts of climate change are already starting to affect food production. Creeping, insidious changes in the seasons, such as longer, hotter dry periods, shorter growing seasons, and unpredictable rainfall patterns are making it harder for farmers to know when best to sow, cultivate, and harvest their crops. Slow onset changes like gradual temperature increases and changing rainfall patterns are expected to put downward pressure on yields.

2. Climate change will also increase the frequency and severity of extreme weather events such as heatwaves, droughts and floods which can wipe out entire harvests at a stroke. In March 2012 a special report on extreme weather by the Intergovernmental Panel on Climate Change warned of "unprecedented extreme weather and climate events" in the future. The 2012 US drought, the most severe in over half a century, shows that weather-related shocks, especially in major crop exporting countries, can cause prices to shoot up. Such events can trigger political responses which cause prices to escalate further, like the Russian export ban in response to the 2010 drought.

3. Oxfam commissioned research estimates that average global prices for key staples could double by 2030, with up to half this increase caused by slow onset impacts of climate change.[30] On top of this, recent Oxfam commissioned research suggests that one or more extreme events in a single year could bring about short-term price spikes of comparable magnitude to two decades of projected long-run price increases.[31]

4. Our food system cannot cope with unmitigated climate change. Reducing hunger means tackling emissions and fast. The UK meeting its domestic carbon budgets in line with the advice of the Climate Change Committee, pushing the EU to move to 30%, and continuing to take a leadership role internationally in pursuit of an ambitious global deal in 2015, are critical to food security and this should be consistent messaging from DfID within Whitehall.

5. Scaling up international climate finance to help developing countries adapt to the effects of climate change is also essential if we are to ensure food security in a warming world. The UK maintaining its commitment to provide £1.8billion in climate finance over the next two years is key. UK leadership to help secure global agreement on mobilizing new sources of climate finance, additional to aid, in particular carbon pricing of international transport which remains a promising new source will also be important.

Global and Local Food Shocks[32]

6. High and increasingly volatile food prices are compounding the effects of the global economic crisis. Food prices are rising much quicker than wages all over the world. The poorest families spend as much as three quarters of their income on food, which means that even slight increases in the cost of food can affect families for generations. Assets, once sold off, take years to buy back. Working extra hours in second or third

[29] See further Oxfam, 2011, *Growing a Better Future: Food Justice in a Resource Constrained World,* available at: http://www.oxfam.org/en/grow/reports/growing-better-future; and Oxfam, 2012, *Extreme Weather, Extreme Prices*, available at: http://www.oxfam.org/sites/www.oxfam.org/files/20120905-ib-extreme-weather-extreme-prices-en.pdf

[30] The time period examined is 2010 to 2030, and average prices are determined based on extrapolations from 2004 prices in order to get the most comprehensive dataset available. See further, Willenbockel, 2011, *Exploring Food Price Scenarios Towards 2030 with a Global Multi-Region Model*, http://oxf.am/448

[31] See further, Oxfam, 2012, *Extreme weather, extreme prices: feeding a warming world*. Available at: http://www.oxfam.org/sites/www.oxfam.org/files/20120905-ib-extreme-weather-extreme-prices-en.pdf

[32] See further, Oxfam, 2010, *The Global Economic Crisis and Developing Countries*. Available at: http://www.oxfam.org/en/policy/global-economic-crisis-and-developing-countries

jobs, especially without enough to eat, leaves a legacy of exhaustion. Loans taken on to make up the gap between income and expenditure accumulate into crushing debt burdens. And missing meals, even for a relatively short period, can affect children for their entire lifetimes. Oxfam research shows that women in particular bear the brunt of higher prices. They often eat last and least, their assets are the first to be sold, and women often have to take on extra work in the precarious informal economy to support their families.[33]

7. Higher export prices for agricultural commodities should have benefitted millions of poor people who make their living from agriculture. But the commodity price spike was in the form of a shock, not a structural change in how our food is produced. Oxfam research shows that many farmers couldn't wait until prices are high to sell their crop. These same farmers then need to buy food in lean periods, which drives prices up.[34] Some vulnerable producers are so powerless that they are almost completely excluded from markets. Others participate in markets on poor terms—they lack negotiating power or options because of geographical isolation, they are price-takers, or are engaged in monopolistic markets. Even for those producers who engage with markets on good terms, escalating input costs have often absorbed or even outstripped the increase in export prices.[35]

Impact of Biofuels[36]

8. Evidence of the contribution of biofuel policies to rising and increasingly volatile food prices on international markets is so compelling that it led ten international bodies—including the IMF, the World Bank, the FAO and UNCTAD—to recommend in 2011 that G20 governments abolish biofuel mandates and subsidies. Not only do biofuel mandates put upward pressure on prices, they also increase volatility, contributing to sudden price spikes after bad harvests. Analysis by DEFRA suggests that suspending the EU biofuel mandate in 2018 could reduce global food price spikes by up to 35%.

9. The development of unsustainable land-based biofuels are undermining international food security, driving biodiversity loss and land grabs and risks making climate change worse. The recent European Commission proposal to cap the proportion of food-based biofuels that can count towards the 10% EU mandate for renewable energy in transport is not good enough: at the moment we use less than 5% biofuels in transport fuel, so not only would the proposal allow for an increase in the amount of food-based biofuels we use, but it would allow biofuels made from non-food crops to make up the difference—which use up our limited resources of land, water and soil.

10. To help reduce the pressure that biofuels policies are putting on food prices and increasingly scarce land and water resources, DfID should:

(a) Push for the abolition of the EU's distorting de facto biofuel mandate;

(b) Advocate within government for the scrapping of the UK's own biofuels target, choosing to support only sustainable sources of renewable energy; and

(c) Contribute to the expected EC assessment of the social and environmental impact of the European biofuels mandate outside the EU, ensuring it recognises their impact on food security and land rights.

Competition for Land Use and Global Policy Measures for Greater Transparency and Accountability Around Land Deals[37]

11. In the past decade global land deals have rapidly accelerated; in poor countries, foreign investors have been buying up an area of land the size of London every six days. Volatility of food prices has led richer countries that are dependent on food imports to acquire large amounts of land, and water, in developing countries in order to ensure a secure supply of food for their domestic needs. With food prices spiking again for the third time in four years, interest in land is likely to accelerate as rich countries try to secure their food supplies and investors see land as a good long-term bet.

12. Whilst positive investment in agriculture is to be welcomed, the scale of this fast-rising interest in land is outpacing the ability of national, regional and global governance to keep up. According to World Bank analysis, most land deals happen in countries with the weakest protection of rural land rights and promised benefits rarely materialise: large-scale land acquisitions and abuse of land rights go together all too often.

[33] See further Oxfam, 2011, *Living on a Spike: How is the 2011 Food Crisis Affecting Poor People?* Available at: http://www.oxfam.org/en/grow/policy/living-spike

[34] Oxfam, 2010, *The Global Economic Crisis and Developing Countries*. Available at: http://www.oxfam.org/en/policy/global-economic-crisis-and-developing-countries

[35] See further Oxfam, 2012, *Making Markets Empower the Poor: Programme perspectives on using markets to empower women and men living in poverty.* Available at: http://policy-practice.oxfam.org.uk/publications/making-markets-empower-the-poor-programme-perspectives-on-using-markets-to-empo-188950

[36] See further Oxfam, 2012, *The Hunger Grains*, available at: policy-practice.oxfam.org.uk/publications/the-hunger-grains-the-fight-is-on-time-to-scrap-eu-biofuel-mandates-242997.

[37] See further, Oxfam, 2012, *Our Land, Our Lives: Time Out on the Global Land Rush.* Available at: http://www.oxfam.org/sites/www.oxfam.org/files/bn-land-lives-freeze-041012-en_1.pdf; and Oxfam, 2011, *Land and Power: The Growing Scandal Surrounding the New Wave of Investments in Land.* Available at: http://policy-practice.oxfam.org.uk/publications/land-and-power-the-growing-scandal-surrounding-the-new-wave-of-investments-in-l-142858.

Affected communities rarely have a say, and women are the least likely to be consulted even though they are often the most seriously affected.

13. Two-thirds of agricultural land deals by foreign investors are in countries with a serious hunger problem. And yet, perversely, much of this land is left idle. Of those who do intend to use the land they acquire, two-thirds intend to export everything they produce rather than make it available on local markets where it is desperately needed. The land acquired in the past decade has the potential to feed a billion people, equivalent to the number of people who go to bed hungry each night.

14. The UN Voluntary Guidelines on the Responsible Governance of Tenure of Land—agreed in May 2012—pave the way for much-needed reforms to land governance, for example promoting equal rights for women in securing land title and encouraging states to ensure that poor people get legal help during land disputes. The key now is to ensure that governments now implement them in a process involving all relevant stakeholders, especially the most marginalised.

15. The World Bank Group is a key actor in this field as a standard setter for other investors, and as an investor itself. Oxfam is calling on the Bank to freeze its financing of land deals to provide the space to implement reforms and to send a clear signal to investors and governments that the risks associated with large-scale land deals are unacceptable.

16. It is encouraging to see land rights feature in the Prime Minister's articulation of the foundations, or golden thread, of development. Next years' G8 summit and the hunger summit preceding it are key opportunities for the UK to move this agenda forward.

17. To achieve governance and transparency of land deals, the UK needs to:

(a) Put land grabbing on the agenda of the G8, promote G8 action to improve governance, transparency and accountability in land agreements, and press for G20 discussions on this issue.

(b) Push for implementation of all relevant aspects of the UN Voluntary Guidelines on land tenure.

(c) Push for the World Bank to review the impact of its funding of land acquisitions on communities and the environment, and change Bank policies to make sure they prevent land grabs. World Bank Lending involving large-scale land acquisitions should be frozen for six months to provide space to start this process.

(d) Use its G8 presidency to launch a under a new land partnership, in partnership with developing country governments, businesses, and civil society, to improve transparency around land deals, to strengthen community capacity to negotiate and monitor deals, and to support dispute resolution.

Small Holder Agriculture and Large Scale Farming[38]

18. Growth in small-scale agriculture benefits poor people twice as much as growth in other sectors. Small farms provide food for a staggering one third of the human race. In the past, industrialized agriculture has provided large yield gains but yield growth has fallen to just over 1% per year, well below rising demand. In contrast, there is much room for yield improvement on smallholder plots if smallholders are given access to resources they currently do not have. For example, the System of Rice Intensification, developed to help smallholders increase yields, was associated with average yield increases of 47% and average reductions in water use of 40%.

19. Well-targeted public and private investment can provide women and men with the resources they need to use their land more productively, to help themselves out of poverty and to cope with unexpected shocks. Simply targeting investment towards women farmers to provide them with equal access to resources as men could reduce the number of hungry people by up to 150 million. Donors play a role in bolstering developing country governments' budgets to support development of strong and effective regulatory frameworks and delivery of critical public goods for agriculture, which are particularly important for the food security and livelihoods of small-scale producers that are not yet market ready.

20. Aid to agriculture collapsed in recent decades, from 17% of all aid in 1980 to under 4% in 2006. While it has rebounded slightly since the 2008 food price crisis, it is still well below the amounts needed. An Oxfam review of the UK's bilateral and multilateral spending showed that spending on agriculture is significant, but that impossible to know how much money is going to support small-scale producers, partly because most of this money is spent through multilateral agencies with little impact evaluation.

21. Therefore, the UK should do the following:

(a) Fulfil existing commitments to spend 0.7% of gross national income on aid by 2013 and bring forward legislation in or before the 2013 Queen's Speech.

(b) From within this increase, commit to spend at least an additional £425 million per year in sustainable small-scale agriculture as their fair share of the amount of investment in agriculture and rural development needed to achieve zero hunger by 2025.

[38] See further Oxfam, 2011, *Growing a Better Future: Food Justice in a Resource Constrained World*, available at: http://www.oxfam.org/en/grow/reports/growing-better-future

(c) Work with other donors to improve effectiveness, commissioning a joint evaluation of support to small-scale food producers and evaluating support to small-scale food producers on an ongoing basis against poverty, food security, and nutrition goals. The first step is for DFID to clearly define the objectives of its support to agriculture, including small-scale agriculture, and how it will achieve those goals.

22. Achieving a world free from hunger by 2025 through supporting agriculture and rural development is estimated to cost the public sector (donors and governments) an additional $42.7 billion per year. The UK Government should use its presidency of the G8, which has promised to support country agriculture investment plans, including The Comprehensive African Agriculture Development Programme (CAADP) to achieve agreement to mobilise DAC donors towards funding their fair share of this. It is also important to ensure that private sector commitments are additional to public sector commitments, are transparent, and help to improve food security by supporting sustainable small-scale production.

The Role of the Private Sector[39]

23. When private investment is done well, it can act as a catalyst for innovation and job creation, inclusive growth and the protection of our precious environmental resources. It is important to recognise that investment by farmers themselves is more than three times as large as other sources of agricultural investment combined. In order to benefit the poorest, business models should adhere to some key principles: focusing on staple food crops and diversified cropping; investing in local and regional markets; working with producer organisations; investing in processing; investing in access to services and focusing R&D on what is appropriate for small-scale producers; investing in sustainable agriculture; and empowering women.

24. Some commercial investments in agriculture are undesirable under any circumstances, for example if investments lead to large-scale clearances or make no contribution to domestic food security. A good regulatory environment is crucial: governments need to incentivise the right kinds of private investment to flow into agriculture, as well as regulate once the investments are made.

25. The G8's New Alliance on Food and Nutrition Security, the World Economic Forum's New Vision for Agriculture, and Grow Africa all recognise the important role that private sector investment plays in agriculture. However, there is a worrying lack of evidence supporting the growing trend of "blending" ODA with private funds to leverage private finance for development purposes; a recent report by the World Bank's Independent Evaluation Group pointed out that less than half of IFC's projects successfully reached the poor.

(a) The G8 and other donor countries and developing country governments should prioritise leveraging investment in small-scale farming and small to medium enterprises.

(b) Blended non-ODA funds should never be counted as a contribution towards existing aid commitments.

December 2012

Further written evidence submitted by Oxfam

There is enough food in the world to feed everyone. And yet one in eight women, men and children go to bed hungry every night. Though not a complete picture, this submission outlines some of the key factors in the broken food system and persistent food insecurity:

— *Climate change:* Oxfam programmes around the world bear out the research that climate change is affecting food production. Shifting seasons, slow onset changes to temperature and rainfall as well as an increase in extreme weather events are already having an impact on food production and food prices. Our food system cannot cope with unmitigated climate change. Reducing hunger means tackling emissions and fast. Climate finance is also essential to help vulnerable countries adapt to a warming world.

— *Food prices and biofuels:* High and increasingly volatile food prices are having a significant impact on poor families—who in some cases are already spending three-quarters of their income on food. Evidence of the contribution of biofuel policies to rising and increasingly volatile food prices on international markets is so compelling that it led ten international bodies—including the IMF, the World Bank, the FAO and UNCTAD—to recommend in 2011 that G20 governments abolish biofuel mandates and subsidies. DfID should push for the abolition of the EU's distorting de facto biofuel mandate.

[39] See further, Oxfam, 2012, *Private Investment in Agriculture: Why it's essential and what's needed.* www.oxfam.org/en/grow/policy/private-investment-agriculture-why-essential-whats-needed

— *Land rights:* The increase in large scale land acquisitions, fuelled by rising food prices and demand for biofuels, is outpacing the ability of national, regional and global governance to keep up. Next years' G8 summit and the hunger summit preceding it are key opportunities for the UK to move this agenda forward—possibly launching a new Land Partnership with developing country governments, businesses, and civil society, to improve transparency around land deals. DfID should also push for the global implementation of all relevant aspects of the UN Voluntary Guidelines on land tenure and push the World Bank Group (as a major financer of such investments) to review and change Bank policies to make sure they prevent land grabs.

— *Agricultural investment (public):* Whilst aid to agriculture has rebounded slightly since the 2008 food price crisis, it is still well below the amounts needed. Whilst DfID spending on agriculture is significant, it is impossible to know how much money is going to support small-scale producers, partly because most of this money is spent through multilateral agencies with little impact evaluation. As part of the budgeted increase to meet the 0.7 target, DfID should commit to spend at least an additional £425 million per year in sustainable small-scale agriculture as their fair share of the amount of investment in agriculture and rural development needed to achieve zero hunger by 2025.

— *Agricultural investment (private):* When private investment is done well, it can act as a catalyst for innovation and job creation, inclusive growth and the protection of our precious environmental resources. In order to benefit the poorest, business models should adhere to some key principles: focusing on staple food crops and diversified cropping; investing in local and regional markets; working with producer organisations; investing in processing; investing in access to services and focusing R&D on what is appropriate for small-scale producers; investing in sustainable agriculture; and empowering women. The G8 and other donor countries and developing country governments should prioritise leveraging investment in small-scale farming and small to medium enterprises.

December 2012

Written evidence submitted by Andrew Dorward, Professor of Development Economics, SOAS, University of London

Executive Summary

This submission focuses on a number of issues raised by the enquiry, regarding food security indicators, the performance of the global food system in guaranteeing food security for vulnerable groups, the impact of global food shocks, challenges to the global food system, strategies for addressing these, the roles of small holder agriculture and large scale farming, and global policy measures. Various indicators of food insecurity are discussed. None provide comparable measures of food insecurity for vulnerable groups. The Food Expenditure Ratio is proposed as a measure that provides this for low income groups, and it is used to demonstrate the impacts of the 2008 food price spike on low income groups.

Widely recognised challenges to the global food system are summarised. These involve tightening of both supply and demand, making the system more susceptible to increasingly severe and frequent production shocks. Strategies for addressing these issues should focus particularly on smallholder agriculture as this offers not only potential for large food production and global food security gains, but also increased productivity and incomes of large numbers of poor rural people, reduced rural food insecurity and poverty, contributions to broad based growth, and improved fertility and sustainability of large areas of cultivated land.

Contributor

Andrew Dorward, Professor of Development Economics, SOAS, University of London, and member of the Leverhulme Centre for Integrative Research in Agriculture and Health (LCIRAH).

Submission

Introduction

1. This submission focuses on a number of the issues raised in the invitation for submissions, but sets these in an argument that links:

(1) Definition of key indicators of food security.

(2) The success or otherwise of the global food system in guaranteeing food security … with particular reference to …. vulnerable groups and the impact of food shocks.

(3) The challenges to the global food system.

(4) Strategies for addressing these challenges.

(5) The roles of small holder agriculture and large scale farming.

(6) Global policy measures.

The analysis in the submission has implications for other issues but does not explicitly discuss these.

Definition of key indicators of food security with particular reference to …. vulnerable groups and the impact of global and local food shocks

1. A number of different measures are used to provide indicators of food security. These share common but not universal difficulties in (a) obtaining up to date and reliable data, and (b) differentiating between vulnerable and less vulnerable groups within countries and country groups.

2. One approach for these measures is exemplified by FAO recent estimates of the *Prevalence of Undernourishment* (or PoU) using country level estimates of population, dietary energy requirements for different population groups, and dietary energy availability net of food losses (FAO, 2012). This is calculated on an annual basis with changes in population and estimated production and trade. It does not provide any information about the food insecurity of particular groups.

3. The *Global Hunger Index* (or GHI) is another indicator based on country level analysis of publicly generated statistics, with the construction of an index from (a) the FAO PoU (as above), (b) the incidence of under five children that are underweight (measured as low weight to age), and (c) child mortality (IFPRI, 2012). The inclusion of incidence of underweight children and of under-five mortality incidence is significant as an attempt to directly include measures of nutrition outcomes as well as of food or nutrition access. However although the GHI is estimated annually, child under-nutrition and mortality rates are often not available on an annual basis, and the annual indicators therefore come with a warning that some of the information on which they are based is not current. Like the FAO PoU it does not provide any information about the food insecurity of particular groups.

4. Headey (2011) and Verpoorten *et al* (2012) use national survey data (from Gallup World Poll and Afrobarometer respectively) to look at global and African populations' perceptions of food security and access. Access to raw data allows Verpoorten *et al* to differentiate between some groups within countries (for example between rural and urban people, between more and less educated people, and between male and female headed households). This was not possible for Headey, as he had access only to country level summaries.

5. A third approach explicitly measures food insecurity of vulnerable groups with specific studies on these groups (see for example reviews by Compton et al (2010) and Dorward (2012a)). While these provide valuable information on the food security of the groups that they study, they are set in specific contexts and seldom employ standard comparable measures, leading to difficulties in drawing generalizable and comparable findings.

6. Food prices, normally deflated by consumer or manufactures price indices, are widely used as a very blunt indicator of changes in food access over time. Although information on "global food grain prices" is readily accessible, problems arise with

(a) price differences between countries,

(b) standard root crops prices, and

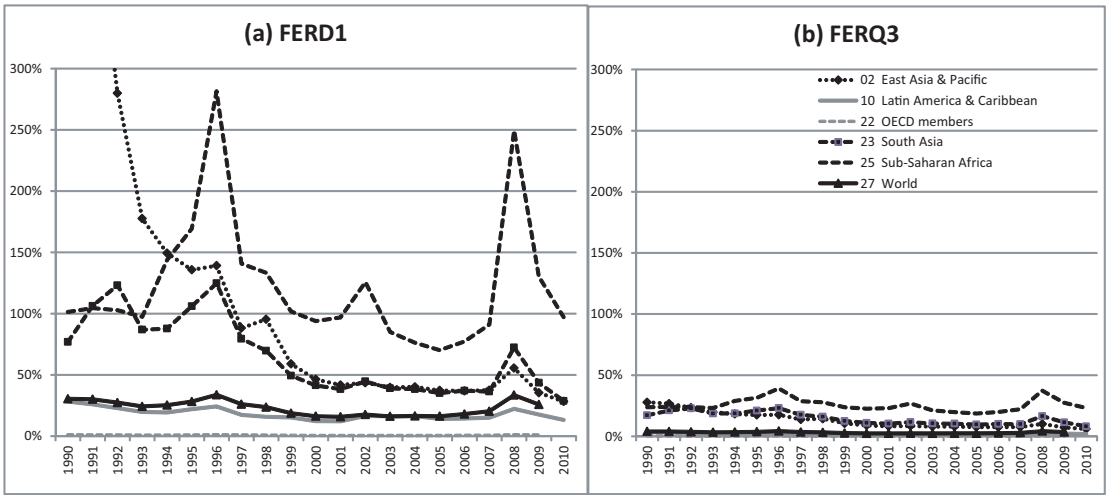
(c) differential impacts on specific population groups across and within countries and over time.

More fundamentally (but closely associated with (c) above), the use of consumer or manufactures price indices to measure changes in global food prices over time fails to recognise that it is changes relative to incomes that are critical for food security, and these changes differ widely for different income groups in different countries.

7. The *Food Expenditure Ratio* uses price and income information to measure differential impacts of changes in food prices on specific population groups across and within countries and over time, addressing problem (c) above (Dorward, 2012b). The Food Expenditure Ratio for the lowest income decile (FERD1) is computed as the ratio of food to non-food expenditure for this group. In this, food expenditure is the cost of a minimal per capita calorific requirement from staple foods, and non-food expenditure is per capita household final consumption expenditure for the lowest income decile minus food expenditure. Non-food expenditure is thus the residual income available after food expenditure has been met. Currently available data allow calculation of the indicator for different income groups (for example the lowest income decile and the middle income quartile) at a global level, for standard World Bank country groupings, and for some individual countries. The Food Expenditure Ratio for the middle income quartile (FERQ3) is roughly the same as for households with median income per capita, and is calculated as for FERD1 but using per capita household final consumption expenditure for the middle income quartile instead of the lowest income decile. FERD1 and FERQ3 estimates for different continent/country groups are shown in figure 1.

Figure 1

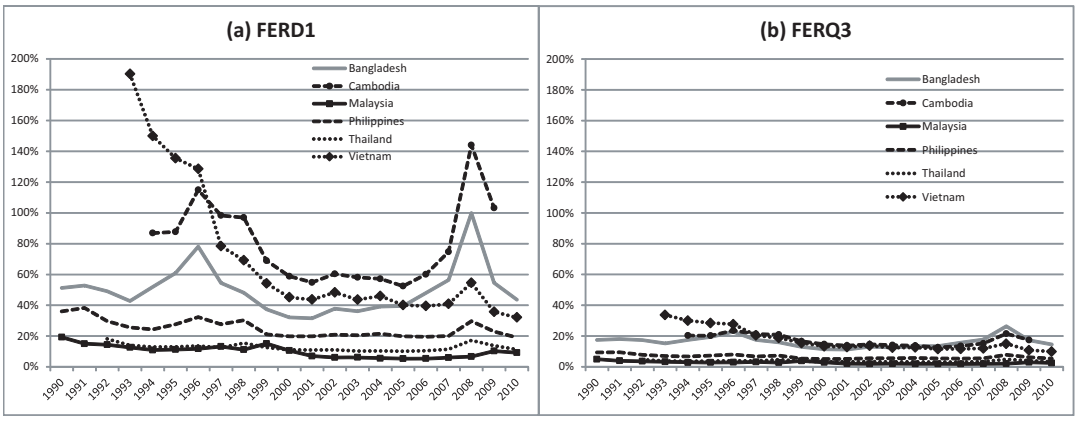
FOOD EXPENDITURE RATIOS FOR DECILE 1 AND QUINTILE 3 (FERD1 AND FERQ3) BY REGIONS



8. Figure 1(b) shows how the Food Expenditure Ratio for the middle income quartile (FERQ3) gives a similar overall picture of changes in food security as measures reviewed earlier: a generally improving global situation, particular improvements in south and east Asia, a more stagnant situation in Africa, and a substantial impact from the 2008 food spike in Africa but a smaller effect, largely dwarfed by growth effects, elsewhere. However the picture with the Food Expenditure Ratio for the lowest income decile (FERD1) is a little different (Figure 1(a)). The situation in Asia shows dramatic improvement in the 1990s but poor households still show a substantial increase in FERD1 in 2008. This is dwarfed by the dramatic impact of the 2008 food spike in Africa, without any prior improvement in the incomes of the poorest groups in the 1990s. The vulnerability of this group to food price rises is very clearly demonstrated, and hence the value of the FERD1 as an indicator of food insecurity of vulnerable groups. Similar types of observation can be made when examining differences between FERQ3 and FERD1 for Bangladesh, Cambodia and Vietnam in figure 2.

Figure 2

FOOD EXPENDITURE RATIOS FOR DECILE 1 AND QUINTILE 3 (FERD1 AND FERQ3), SELECTED ASIAN COUNTRIES



9. The Food Expenditure Ratios in figures 1 and 2 do not, as calculated, describe the impact of local food price shocks as they are calculated with global food prices. If calculated with local food prices then the effects of the 2008 food price spike might be lower than indicated, as many Asian countries implemented measures to protect domestic markets from high global food prices. Where African countries suffered higher or more prolonged domestic food price shocks as a result of local food shortages (FAO, 2011), the FER spikes may be higher than indicated. Use of domestic rather than international prices in FER calculation would address this, is possible, and should be adopted as part of wider use of the FER as a food security indicator. Other refinements alongside this could include allowance for staple root crops, for consumption of own produced food (for poor food deficit producers the food price impacts will be a little lower than indicated), and, perhaps more relevant for colder countries, for essential energy expenditures (allowance for "fuel poverty" would change the measure to a Food and Energy Expenditure Ratio or FEER).

10. Problems with access to micronutrients are ignored by all of the measures discussed above—but consumption is often correlated with staple access as high staple prices reduce expenditure on more expensive non-staple foods that provide micronutrients.

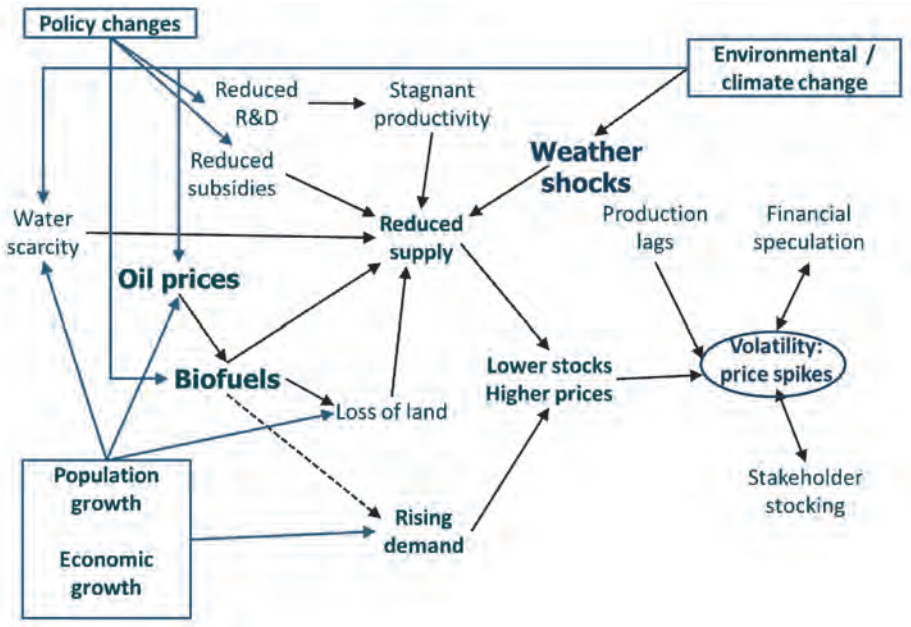
The success or otherwise of the global food system in guaranteeing food security … with particular reference to …. vulnerable groups and the impact of global and local food shocks

11. Figure 1 shows that there has been some success in terms of declining Food Expenditure Ratios for the lowest income decile in East and South Asia since the early 1990s, but it also shows that FERD1 was still high in East and South Asia in the early 2000s (at around 40%) and was very vulnerable to increases in food prices. In Africa, however, there is little evidence of any decline, and FERD1 is highly sensitive to increases in food prices, as shown in both 1996 and 2008. Similar observations apply to Cambodia and Bangladesh in figure 2. This suggests that the global food system is not guaranteeing food security for vulnerable (in this case low income) groups.

The challenges to the global food system (including demographic trends, rising income and climate change)

12. Challenges to the global food system are well known, and are summarised in figure 3.

Figure 3



13. Systemic changes in the 2000s are shown in boxes (environmental and climate changes, policy changes, and population and economic growth). These led to reduced supply and to expansions in demand, which tightened stocks and began to raise prices from about 2005 (indicated in light bold). Simultaneous shocks (in heavy bold) of higher oil prices, biofuel policies and weather (drought in some parts of the world) then caused a sharp tightening of stocks and the price spike. This was exacerbated by financial and stock holding speculation.

14. Links and feedbacks between these variables mean that attempts to identify the most important of these interacting factors are not very helpful. This is particularly the case with speculation, which only occurs where there are expectations of tight stocks and price rises. The fundamental issue is therefore the tightening of supply versus demand and smaller stock or buffers and the increasing volatility of supply.

15. Figure 3 and the discussion above are concerned with overall food supply, demand, and prices at international, national and local scales. A major issue that is not addressed is differential ability to access food, and the differential effects of food shortages and of high food prices on particular vulnerable groups. This major issue is considered in this submission as regards differential measures of food insecurity (discussed above) and the particular potential and need for measures to increase the productivity and incomes of poor smallholder farmers (discussed below). Food insecurity of other vulnerable groups is not discussed. Another major challenge to the global food system that is not addressed here is the problem of over-consumption and obesity.

Strategies for addressing these challenges and reducing risk from short term shocks….and the roles of small holder agriculture and large scale farming

16. The argument above suggests that the fundamental issues needing to be addressed (apart from distributional issues) are the tightening of supply and demand and the susceptibility to shocks. Figure 3 indicates the variables involved. Attention is needed to both demand and supply issues.

17. As regards demand, increasing food demands of the livestock rich diets of higher income groups are a major environmental, food security and health issue, while policies that promote the use of some biofuels decrease resources available for food supply and/or compete with food for grain.

18. As regards supply, this may be increased by renewed research to increase productivity of land, water, labour and energy use; by increases in irrigation in some areas (notably sub Saharan Africa) with wider increases in efficiency of water use; and by institutions, services and infrastructure (for example land tenure, financial, market and trade institutions; extension and market services; and roads and communications infrastructure) that support the uptake of more productive technologies.

19. Reduced vulnerability to shocks requires attention to reduce the incidence and severity of shocks, to reduce sensitivity to them, and to increase resilience. Although past greenhouse gas emissions mean that increases in the incidence and severity of climate shocks affecting crop production are inevitable (principally high temperatures, droughts and storms), mitigation to prevent further increases is critically and urgently needed. Measures listed above to raise supply should also be directed to reduce susceptibility to shocks and to increase resilience.

20. In considering strategies for increasing supply and its reliability, critical questions arise regarding the relative importance of smallholder and large scale farming. Both are important for global food supplies and global food security, but smallholder agriculture offers further potential gains in reducing rural food insecurity and poverty, particularly in Africa, where some 50% of farmers are poor net buyers rather than sellers of food.

21. Increased productivity of land currently under smallholder agriculture, particularly in Africa, offers great potential for production increases, as smallholder agriculture yields are much further below potential yields than large scale farming yields. However this is not an argument for transferring land from smallholder to large scale farming. Significant yield increases can be achieved in smallholder farming, which can be very efficient. Furthermore, alienation of land from smallholder to large scale farming would lead to severe social and food security costs. Increased smallholder production and productivity, however, should lead to major social and food security gains because it can directly address both rural poverty and food insecurity in smallholder economies, and make a major contribution to wider growth. Large scale farming, on the other hand, offers little in the way of increased labour productivity and employment opportunities for large numbers of poor people and hence little in the way of opportunities to address food insecurity and poverty.

22. Increasing the productivity of smallholder agriculture therefore potentially offers multiple benefits:

(a) Increased food production from currently relatively unproductive land, thus promoting global food security;

(b) Increased productivity and incomes of large numbers of poor rural people, reducing rural food insecurity and poverty and contributing to broad based growth; and

(c) Improved fertility and sustainability of large areas of land where fertility and sustainability are currently declining.

23. This promotion of smallholder agriculture should not be seen as suggesting that large numbers of smallholder farms represent an optimal long term structure for agricultural production. With time an evolution of large numbers of smallholder farms to a smaller number of larger commercial family farms and businesses is likely, reflecting the needs for (and historical development patterns of) growing labour productivity and incomes with increasing relative importance of the non-farm economy, and, in this context, increasing relative efficiency of large agricultural units. In the medium term, however, increasing the productivity of existing smallholder farms is essential to allow phased, favourable and chosen (rather than forced) exits from smallholder agriculture to productive non-farm employment (rather than unproductive unemployment).

Global policy measures

24. Global policy measures required follow from the strategic issues outlined above:

(a) Promotion of less livestock consumption in rich "western" diets, with food security, health and environmental benefits.

(b) Modification of policies promoting biofuels to ensure that biofuel crops are promoted where these do not compete with staple foods and where they are efficient and effective in mitigating greenhouse gas emissions.

(c) Investment in research to increase land, water, labour and energy productivity.

(d) Investment in new and extended irrigation systems and in increasing irrigation efficiency.

(e) Investment in institutions, services and infrastructure to support the uptake of more productive technologies and to promote adaptation and resilience to shocks.

(f) Urgent and major action to agree and implement actions to achieve rapid and substantial reductions in greenhouse gas emissions.

(g) Attention to ensure that all the measures above are compatible and/or promote climate change mitigation, adaptation and resilience.

(h) A particular focus on raising productivity in smallholder agriculture in ways that promote broad based increases in food security and in incomes relative to food prices.

December 2012

ATTACHMENT

Dorward A (2012b). Agricultural labour productivity and food prices: fundamental development impacts and indicators. *Policy Brief*. Future Agricultures Consortium, Brighton. www.future-agricultures.org/publications/research-and-analysis/doc_download/1550-agricultural-labour-productivity-and-food-prices-fundamental-development-impacts-and-indicators

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Written evidence submitted by the UK Food Group

The UK Food Group welcomes the opportunity to make the following submission to the International Development Commons Select Committee's (IDC) enquiry on "global food security". The UK Food Group is the main network of NGOs in the UK working on global food, agriculture and hunger issues, including development, environment, farmer, consumer and academic groups.

This submission is structured according to the outline of issues given by the IDC, except that the specific topics listed in the final bullet are addressed as they arise within the other issues, rather than separately.

Key points we wish to highlight are:

— The world already produces enough food to be able to feed everybody. However large amounts of agricultural production are not currently used to feed people, but instead are either used for animal feed, agrofuels or are wasted. The focus for development needs to be improving access to food, in a sustainable manner that restores the environment.

— Small-scale agroecological production, developed in a framework of social equity and justice, has the best potential for achieving global food security.

— The UN Committee on World Food Security (CFS) is the central, legitimate and democratic centre for global governance of the world's food system. It has been agreed that it should guide the work of other international bodies on food security and it is important that other initiatives do not undermine or run counter to its work.

1. *The success or otherwise of the global food system in guaranteeing food security and eliminating under-nutrition with particular reference to women, children and other vulnerable groups*

There are currently around 870 million people in the world living with constant hunger[40]—this is a measure of chronic under-nourishment, and does not include short term emergency situations or cyclical seasonal hunger. At the same time over 1.4 billion adults are overweight.[41] The number of chronically hungry people has been decreasing overall, although this has stalled recently and regionally the number of chronically hungry people has been increasing in Africa for decades. Despite the success of the overall decrease, this is not a food system that is working in delivering the right to food.

[40] FAO, *The state of food insecurity in the world 2012*. Rome: FAO, 2012, p8. www.fao.org/docrep/016/i3027e/i3027e00.htm
[41] WHO, *Obesity and overweight*. Fact sheet no. 311. Geneva: WHO, 2012. www.who.int/mediacentre/factsheets/fs311/en/

This failure is not due to any overall shortage of food. It is over a decade since the then UN Special Rapporteur on the Right to Food, Jean Ziegler, noted that the world already produced enough food to feed 12 billion people,[42] and food production has increased since then.[43] The problem is access to food and the means for its production, as a result of structural failures of the food system, which cause and are caused by poverty, marginalisation and injustice.

We currently have a dual food system in the world. On the one hand, a system of internationally traded, industrialised commodity production, controlled by a few major agri-businesses, that trades grain from the global North and high value products such as year-round fresh fruit and vegetables from the global South. This system feeds the world's affluent population, largely in the global North. On the other hand is the food system that still feeds the majority of the world's people,[44] through a plethora of webs of local, small-scale food production. This system is often marginalised as backward, something that can become a self-fulfilling prophesy when policies neglect local food systems as a result. Since the World Development Report of 2008,[45] support for small-scale farmers has become an orthodoxy, however there is still division as to whether the aim is to expand the industrial, global system to incorporate small-scale farmers, or to strengthen local food systems in their own right. For the UK Food Group, it is clear that it is the second that needs to be supported.

Increasing production will not alter levels of hunger, if those living in hunger continue to be unable to afford food. Reducing poverty is the most effective way to reduce hunger and, because many of the world's poorest people are themselves small-scale farmers and other food producers, investing in agriculture is one of the best ways to do this. But as the current UN Special Rapporteur on the Right to Food, Olivier de Schutter notes:

> "some types of investments are more effective than others in achieving that objective. The multiplier effects are significantly higher when growth is triggered by higher incomes for smallholders, stimulating demand for goods and services from local sellers and service-providers. When large estates increase their revenue, most of it is spent on imported inputs and machinery, and much less trickles down to local traders. Only by supporting small producers can we help break the vicious cycle that leads from rural poverty to the expansion of urban slums, in which poverty breeds more poverty."[46]

Agriculture faces many environmental problems—soil degradation and erosion, water pollution and excess demand, loss of biodiversity, loss of jobs and livelihoods and undermining of local and traditional knowledge of ecosystems. Industrial, largescale agriculture has contributed to these problems. In response to the environmental challenges, the groundbreaking International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) recommended that:

> "An increase and strengthening of AKST [agricultural knowledge, science and technology] towards agroecological sciences will contribute to addressing environmental issues while maintaining and increasing productivity."[47]

Agroecology is explained by de Schutter as follows:

> "Agroecology is both a science and a set of practices. It was created by the convergence of two scientific disciplines: agronomy and ecology. As a science, agroecology is the 'application of ecological science to the study, design and management of sustainable agroecosystems.' As a set of agricultural practices, agroecology seeks ways to enhance agricultural systems by mimicking natural processes, thus creating beneficial biological interactions and synergies among the components of the agroecosystem. It provides the most favourable soil conditions for plant growth, particularly by managing organic matter and by raising soil biotic activity. The core principles of agroecology include recycling nutrients and energy on the farm, rather than introducing external inputs; integrating crops and livestock; diversifying species and genetic resources in agroecosystems over time and space; and focusing on interactions and productivity across the agricultural system, rather than focusing on individual species. Agroecology is highly knowledge-intensive, based on techniques that are not delivered top-down but developed on the basis of farmers' knowledge and experimentation."[48]

Investment and support in strengthening agroecological farming by small-scale food producers has the most potential for supporting livelihoods and rural communities, reducing poverty, enabling people to have a healthy

[42] Commission on Human Rights, *The right to food: report by the Special Rapporteur on the right to food, Mr. Jean Ziegler*. E/CN.4/2001/53. Geneva: UN, 2001, p2. www.unhchr.ch/Huridocda/Huridoca.nsf/0/f45ea4df67ecca98c1256a0300340453/$FILE/G0111035.pdf

[43] FAO, *The state of food and agriculture 2010–11*. Rome: FAO, p73. www.fao.org/docrep/013/i2050e/i2050e.pdf

[44] ETC Group (2009), *Who will feed us? Questions for the food and climate crises*. Ottawa: ETC Group, p4–5 www.etcgroup.org/upload/publication/pdf_file/ETC_Who_Will_Feed_Us.pdf

[45] World Bank, *World development report 2008: agriculture for development*. Washington DC: World Bank, 2007. siteresources.worldbank.org/INTWDR2008/Resources/WDR_00_book.pdf

[46] Human Rights Council, *Report submitted by the Special Rapporteur on the right to food, Olivier De Schutter*. A/HRC/16/49. Geneva: UN, 2010, p5. www.srfood.org/images/stories/pdf/officialreports/20110308_a-hrc-16–49_agroecology_en.pdf

[47] IAASTD, *Global Summary for Decision Makers*, Washington DC: Island Press, 2009, p6. www.agassessment.org/reports/IAASTD/EN/Agriculture at a Crossroads_Global Summary for Decision Makers (English).pdf

[48] Human Rights Council, *Report submitted by the Special Rapporteur on the right to food, Olivier De Schutter*. A/HRC/16/49. Geneva: UN, 2010, p6. www.srfood.org/images/stories/pdf/officialreports/20110308_a-hrc-16–49_agroecology_en.pdf

diet and restoring the environment. The UK Food Group does not see GM technologies as forming any part of the solution for a sustainable and equitable food system.

A key part a successful agroecological approach is formed by policies and practices that will sustain agricultural biodiversity: the diversity of seeds, plants, livestock breeds and fish used for food and of the associated pollinators, pest predators and soil organisms. Agricultural biodiversity is the component of biodiversity that has been developed by and has co-evolved with people, and it underpins the food system and the wider economy, human health, the security of food supplies, and the viability of the biosphere. It is therefore essential to regulate, transform or prohibit any systems, methods, processes or technologies, which might damage agricultural biodiversity and related ecosystem functions or restrict access to them. In order to develop agricultural biodiversity priority should be given to on-farm conservation and development of domesticated species by small-scale food producers.[49]

In order to achieve a sustainable and equitable food system, policies need to be shaped by, and respond to, the needs of small-scale food producers and vulnerable consumers themselves. Their rights need to be recognised and their organisations need to have a decisive involvement in governance.

Global networks[50] and social movements of small-scale food producers, including farmers, pastoralists, fisherfolk and indigenous people, have defined their own vision for the food system through the framework of food sovereignty:

> "Food sovereignty is the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agriculture systems. It puts the aspirations and needs of those who produce, distribute and consume food at the heart of food systems and policies rather than the demands of markets and corporations."[51]

A series of guiding questions to help determine whether an agricultural system, small-scale or large-scale, contributes to sustainable livelihoods has been outlined by some leading academic thinkers, and is included as an appendix to this submission.

1.1 Women

Women make up an average of 43% of the agricultural labour force in developing countries but they have less access than men to productive resources and opportunities, such as land, livestock, education, extension services, financial services and technologies such as machines and tools. FAO considers that closing the gender gap in agriculture could increase yields and in turn reduce the number of hungry people in the world by 12–17%.[52]

In all countries, women still carry the main burden of household work and caring responsibilities for children and the sick. This creates a duel burden, on top of women's work as food producers, that is not faced by men.

In some countries, particularly in Asia, entrenched gender discrimination is such that women and girl children are more vulnerable to hunger and malnutrition than men and boys, due to the way food is shared within the household.

There are sound economic rationales for improving the situation of women in order to improve food security, as the FAO report cited above indicates. However fundamentally it is an imperative of justice and equality.

2. *The implications of demographic trends, rising income and climate change on the global food system and on key indicators of food security and good nutrition*

2.1 Demography and income

The apparent contradiction between the calculation, quoted above, that the world already produces enough to feed 12 billion people, and the oft cited prediction that we need to increase food production by 60% by 2050[53] is firstly that large amounts of agricultural production are not currently used to feed people, but instead are either used for animal feed, agrofuels or are wasted. Nearly half of global cereal production is currently used for animal feed, and even accounting for the energy value of the meat produced, the loss of calories that result from feeding cereals to animals instead of using cereals directly as human food represents the annual calorie need for more than 3.5 billion people.[54] Estimates for food waste, including losses in the field, post-harvest losses, retail losses and consumer waste vary, but could be as much as a third.[55] Losses in the field

[49] For more on this see: UK Food Group, *Securing future food: towards ecological food provision*. London: UK Food Group, 2010. www.ukfg.org.uk/pdfs/Securing_future_food.pdf

[50] La Vía Campesina, the international movement of peasants, small and medium scale farmers, has 150 member organizations in 70 countries from Africa, Asia, Europe and the Americas, and altogether represents about 200 million farmers.

[51] *Declaration of Nyéléni*, Sēlinguē, Mali, February 2007. www.nyeleni.org/IMG/pdf/DeclNyeleni-en.pdf

[52] FAO, *The state of food and agriculture 2010–11*. Rome: FAO, 2011, pp5, 36. www.fao.org/docrep/013/i2050e/i2050e.pdf

[53] OECD & FAO, OECD-FAO Agricultural Outlook 2012–21. www.oecd.org/site/oecd-faoagriculturaloutlook/ The prediction was originally for a 70% increase, but this has since been revised—see www.fao.org/fileadmin/user_upload/FAODG/docs/2012–02–08-DG_Economist_Conference-FINAL.pdf

[54] UNEP, *The environmental food crisis*. 2009, p. 27. www.grida.no/files/publications/FoodCrisis_lores.pdf

[55] Tristram Stuart, *Waste*. London: Penguin, 2009, pp190–191.

and post-harvest losses tend to be higher in developing countries, while retail and consumer waste are higher in developed countries.

Secondly this prediction assumes that current demand curves are fixed and cannot be changed—the original prediction was simply a modelling of what would happen with a "business as usual" approach, and was not intended to be normative.[56] There are strong health reasons for developed countries to be seeking to change the current dominant diet, high in meat and dairy, and the proposed decrease by developed countries would more than compensate for an increase in meat and dairy consumption in developing countries to healthy levels.

2.2 Climate

Agriculture, along with land use change, enjoys the double distinction of being both a driver and a victim of climate change. On one hand, the carbon emissions related to each stage of the industrial food system,[57] from seed to plate, contribute to climate change, while on the other hand, the negative impacts of climate change are predicted to lead to crop damage, land degradation, and food insecurity. Broadly, there is need for changes in conventional, industrial agriculture in the global North to contribute to mitigation, but the most urgent food security issue, particularly in the global South is adaptation measures.

Climate change will increase the pressure on land and, even more critically, water. In this context it is inappropriate to increase intensive agriculture, with its high demand for water and degradation of soil quality.

Options for adaptation to climate change include:[58]

- adjusting to changes in long-term trends and weather patterns, by changing the prevalent crops grown and livestock breeds reared in a locality to suit the new conditions, including using more robust native varieties and breeds;
- adjusting to increased weather variability, diversifying the varieties and crops used at any one time to hedge against the risk of failure of any one variety or crop;
- changing irrigation to adapt to reduced availability of water—improving water conservation and making more use of rainwater;
- reducing water loss from the ground through techniques such as cover crops, reduced tillage and incorporation of manures and composts;
- preparing for more extreme weather events; and
- adapting pest, weed and disease strategies as the pests etc themselves react to climate change, and similarly anticipating disruption of pollinators.

All of these options are suited to agroecological approaches, and do not need to be addressed through a high tech, high external input approach. Methodologies for adaptation need to be suited to the needs and resources of small-scale food producers.[59]

Agroecology contributes to climate change mitigation by delinking agricultural production from reliance on fossil fuels, both by reducing energy use and by changing practices away from use of pesticides, herbicides and artificial fertilisers derived from fossil fuels.

The World Bank's proposal for "Climate-Smart Agriculture" is problematic in particular because of its potential for promoting GM crops containing "climate-ready" genes and the inclusion of soil carbon markets. Soil carbon markets do not exist at present and are not the most appealing to investors because soil carbon sequestration can easily be reversed and the costs of running such schemes is high. The idea also has the flaw of all offset approaches to climate change mitigation: that they depend upon continued emissions to be offset, and as such undermine the fundamental obligations of rich countries to reduce emissions. If soil carbon markets were implemented, small-scale farmers would be unlikely to receive any financial benefit, partly because investors are likely to be attracted instead to larger, high quality land, and because revenues from the scheme would mainly be swallowed by the high running costs.

2.3 Agrofuels

Agrofuels, or industrial biofuels, were originally proposed as a major option for climate change mitigation. However the climate benefits have now been found to be doubtful,[60] while the use of land and crops for energy damages food security.

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[56] For more on this see: Tomlinson, "Doubling food production to feed the 9 billion: A critical perspective on a key discourse of food security in the UK" *Journal of Rural Studies*. 2011, www.fcrn.org.uk/sites/default/files/tomlinson...pdf.pdf

[57] See High Level Panel of Experts, *Food security and climate change*. Rome: CFS, 2012, pp67–69. www.fao.org//fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-3-Food_security_and_climate_change-June_2012.pdf

[58] High Level Panel of Experts, *op cit*, pp55–56. www.fao.org//fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-3-Food_security_and_climate_change-June_2012.pdf

[59] Practical Action, *Biodiverse action for a changing climate*. Rugby: Practical Action, 2009. www.practicalaction.org/advocacy/docs/advocacy/biodiverse-agriculture-for-a-changing-climate-full.pdf

[60] See for example: European Environment Agency Scientific Committee, *Opinion of the EEA Scientific Committee on greenhouse gas accounting in relation to bioenergy.* 2011, www.eea.europa.eu/about-us/governance/scientific-committee/sc-opinions/opinions-on-scientific-issues/sc-opinion-on-greenhouse-gas/view and David Laborde (IFPRI), *Assessing the land use change consequences of European biofuel policies.* EU, 2011. www.ifpri.org/sites/default/files/publications/biofuelsreportec2011.pdf

Agrofuels have an impact on food prices because crops and land, including prime arable land, are diverted into agrofuel production and because they strengthen the link between food and oil prices. The extent of the impact has been hotly debated, but a consensus is gradually emerging that the effect is damaging food security. Last year FAO, IFAD, IMF,OECD, UNCTAD, WFP, the World Bank, the WTO, IFPRI and the UN HLTF recommended to the G20 that countries should remove policies that subsidise or mandate agrofuel production, because of the impact on food prices.[61] As a result of the EU's biofuels policies, by 2020 oilseed prices may increase by up to 20%, vegetable oil prices by as much as 36%, maize prices by up to 22% and wheat prices by as much as 13%.[62]

Agrofuels have also been a driver of the global land grab, in three ways:[63]

— land in developing countries has been acquired for agrofuel production;

— land in developed countries that previously was used for food production has been switched to agrofuel production, meaning that more land elsewhere is needed to replace the food production; and

— land prices have been inflated by this, drawing interest from speculators in acquiring land as an investment.

3. *The impact of global and local food shocks and how different countries and/or regions cope with food crises and the role of democracy in increasing food security*

3.1 Speculation

In recent years, financial markets have come to affect food prices. The agricultural futures markets were originally set up to enable farmers and commercial purchasers of agricultural produce to protect themselves from adverse fluctuations in the prices, but developments in recent years have seen more complex derivative contracts developed. Prices in the commodity derivative markets affect food prices through:

— influencing the expectations of buyers and sellers in the physical food markets;

— incorporation of derivative prices directly into food contracts; and

— traders taking advantages of differences in price between the futures and physical markets.[64]

Strong evidence now shows that speculation can and does exacerbate food price volatility and spikes, rather than smoothing them out as originally intended, and distorting prices away from those that would be expected based on supply and demand conditions. For example, the UN and OECD's Agricultural Outlook 2011–20, while recognising the role played by fundamental factors, acknowledges:

> "Almost all researchers agree that non-commercial participation in futures markets may amplify price movements in the short term, even if they differ in their conclusions about other possible impacts."[65]

It is worth noting the spillover effects of price changes between commodities: in the 2007–08 spike, speculation-fuelled increases in wheat prices contributed to an increase in rice prices, even though rice itself is not subject to speculation. Similarly, the price of oil (itself subject of speculation) can have a knock-on impact on food prices.[66]

When such artificial price inflation occurs and global prices changes are translated to local markets, this can undermine the food security of poor consumers, including small scale food producers who in many cases are net purchasers of food. Even if price changes are in a favourable direction, middlemen often capture much of the additional value with producers seeing little benefit, while increased volatility makes it more difficult for them to plan their production.[67]

These problems have emerged since deregulation in the 1990s up until 2000. Reregulation, including limits on financial participation in the commodity derivative markets, is currently being discussed in both the US and EU. We are disappointed that, to date, the UK government has championed ineffective self-regulatory position management approaches to the oversight of these markets, rather than an independently overseen system incorporating position limits on speculative transactions.

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[61] FAO, IFAD, IMF,OECD, UNCTAD, WFP, the World Bank, the WTO, IFPRI and the UN HLTF, *Price volatility in food and agricultural markets: policy responses*. 2011, pp 26–27. www.oecd.org/tad/agriculturaltrade/48152638.pdf

[62] ActionAid, *Biofuelling the global food crisis*. p2. London: ActionAid, 2012 www.actionaid.org.uk/doc_lib/biofuelling_the_global_food_crisis.pdf

[63] EuropAfrica, *(Bio)fuelling injustice*. Rome: Terra Nuova, 2011, pp 5–6. www.europafrica.info/file_download/13/europafrica_2011_report.pdf

[64] Worthy, M, Broken markets: How financial market regulation can help prevent another global food crisis, 2011 www.wdm.org.uk/stop-bankers-betting-food/broken-markets-how-financial-regulation-can-prevent-food-crisis

[65] UN and OECD, Agricultural Outlook 2011–20, 2011

[66] Jones, T, The great hunger lottery: How banking speculation causes food crises, 2010, www.wdm.org.uk/food-speculation/great-hunger-lottery

[67] Jones, T, The great hunger lottery: How banking speculation causes food crises, 2010, www.wdm.org.uk/food-speculation/great-hunger-lottery

3.2 Trade

Abrupt and inequitable trade liberalisation in agriculture contributes to vulnerability to hunger. Liberalised markets are exposed to the much greater price volatility of the international commodity markets, without having the capacity to protect domestic producers and consumers from shocks.

Import surges and dumping of agricultural products at less than the cost of production drives local producers out of business. Import surges have been a frequent occurrence; a survey covering 102 developing countries over the period 1980–2003 documented 12,000 cases.[68] The provisions in the WTO Agreement on Agriculture for responding to import surges are insufficient to allow countries to react in most cases and they are also particularly inappropriate for agricultural products, because they only allow reaction after the case rather than prevention.

When international prices increase, developing countries that have come to depend upon imports for their food security face balance of payments problems.

3.3 Land grabs and agricultural investment

Land grabs or "large-scale land acquisitions" reflect a grab for control of natural resources—land, water,[69] minerals, forests, energy sources and biodiversity. Land grabbing emerged as a phenomenon following the 2008 food price shock, and has also been encouraged by policies supporting agrofuels (see above). Once it got underway, the effect on land value has also attracted purely speculative investment. Far too often the land grabs have displaced people, without genuine prior informed consent, through forced evictions and without adequate compensation.[70]

Land grabs are justified by their supporters as providing investment in agriculture that is needed. The World Bank led a process to propose set of guidelines[71] to try and define how large-scale investment in land could be done in a way that was "responsible". However large-scale external investment is not the most crucial, particularly compared to the investment of farmers themselves. The recent FAO *State of Food & Agriculture* report points out:

> "..farmers in low- and middle-income countries invest more than four times as much in capital stock on their own farms each year as their governments invest in the agriculture sector. What's more, farmers' investment dwarfs expenditures on agriculture by international donors and private foreign investors. The overwhelming dominance of farmers' own investment means that they must be central to any strategy aimed at increasing the quantity and effectiveness of agricultural investment."[72]

A inclusive consultation on developing principles on responsible agricultural investment is now underway at the CFS, building upon the *Voluntary Guidelines* on land tenure.[73]

Bilateral investment treaties (BITs) and investment chapters in trade agreements often greatly restrict the scope for placing any social or environmental conditions on foreign investment in land.

3.4 Democratic control of food systems

One of the pillars of the food sovereignty framework, proposed by Southern networks small-scale food producers, is local and democratic control of food systems:

> "Food sovereignty places control over territory, land, grazing, water, seeds, livestock and fish populations on local food providers and respects their rights. They can use and share them in socially and environmentally sustainable ways which conserve diversity; it recognizes that local territories often cross geopolitical borders and ensures the right of local communities to inhabit and use their territories; it promotes positive interaction between food providers in different regions and territories and from different sectors that helps resolve internal conflicts or conflicts with local and national authorities; and rejects the privatisation of natural resources through laws, commercial contracts and intellectual property rights regimes."[74]

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[68] FAO, *Import surges: what is their frequency and which are the countries and commodities most affected?* FAO Briefs on import surges—issues, no. 2. ftp://ftp.fao.org/docrep/fao/009/j8675e/j8675e00.pdf

[69] See: GRAIN, *Squeezing Africa Dry: Behind every land grab is a water grab*. Barcelona: GRAIN, 2012. www.grain.org/article/entries/4516-squeezing-africa-dry-behind-every-land-grab-is-a-water-grab.pdf

[70] For example see: Aprodev, *Stolen land stolen future*. Brussels, Aprodev, 2011, www.aprodev.eu/files/Trade/landgrab_aprodev.pdf; Oxfam International, *Our land, our lives*. Oxfam, 2012, www.oxfam.org/sites/www.oxfam.org/files/bn-land-lives-freeze-041012-en_1.pdf; GRAIN, *Brazilian megaproject in Mozambique set to displace millions of peasants*. GRAIN, 2012, www.grain.org/e/4626

[71] FAO, IFAD, UNCTAD and World Bank, *Principles for responsible agricultural investment that respects rights, livelihoods and resources*. 2010. http://siteresources.worldbank.org/INTARD/214574–1111138388661/22453321/Principles_Extended.pdf

[72] FAO, *The state of food and agriculture 2012*. Rome: FAO, 2012, p xi. www.fao.org/docrep/017/i3028e/i3028e.pdf

[73] CFS, *Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security.* Rome: CFS, 2012, www.fao.org/fileadmin/templates/cfs/Docs1112/VG/VG_Final_EN_May_2012.pdf

[74] *Nyéléni 2007—Forum for Food Sovereignty: synthesis report*. Sélingué, Mali, February 2007. www.nyeleni.org/IMG/pdf/31Mar2007NyeleniSynthesisReport-en.pdf

Corporate control of the industrial food system threatens democratic control. For instance:[75]

- Four seed companies control over half the world's commercial seed market.
- Ten pesticide corporations control 82% of the world pesticides market.
- Ten food processing corporations control 28% of the global food processing market.
- Fifteen supermarket companies account for over 30% of global food sales.

DfID has long championed a model of agriculture based on corporate owned technology and greater private sector control over the production and distribution of food. Accordingly, much of DfID's aid to agriculture has the effect of extending the power of agribusiness over the global food system.[76] Instead we recommend that DfID should redirect its aid to support agroecological models and partner with networks of small-scale food producers.

4. *The role of the international system, including food and agriculture organisations and the G8 and G20, and ways in which collaboration could be improved*

The UN Committee on World Food Security (CFS) is the central body for international governance of food security. The CFS was renewed in 2009 at the initiative of governments following the 2008 food price shock in order to become the:

> "foremost inclusive international and intergovernmental platform for a broad range of committed stakeholders to work together in a coordinated manner and in support of country-led processes towards the elimination of hunger and ensuring food security and nutrition for all human beings."[77]

The roles of CFS are:[78]

- coordination at global level initially and over time also at national and regional levels;
- policy convergence;
- support and advice to countries and regions; and
- over time to increasingly also promote accountability and share best practices at all levels by developing mechanisms to monitor progress toward objectives.

This year the CFS has agreed a *Global Strategic Framework for Food Security and Nutrition*.[79] Its purpose is to improve coordination and guide synchronized action by a wide range of stakeholders by providing an overarching framework and a single reference document with practical guidance on core recommendations. It is intended to be a living document that will be adapted in future to respond to emerging issues.

The CFS recognises that in policy discussions on food security it is particularly important that the voices of those most affected by food insecurity are part of the discussion,[80] and thus it also has formal participation for civil society, as well as for the private sector and private philanthropic foundations. The CFS is supported by a High Level Panel of Experts (HLPE) and its existing reports may be of interest to the IDC: www.fao.org/cfs/cfs-hlpe/en/

The CFS is the central, legitimate and democratic centre for global governance of the world's food system. It is inclusive of a range of stakeholders and is supported by independent expert advice. The political decisions and guidance of the CFS should guide the work of other international bodies on food security. It is important that initiatives of other bodies and groupings, particularly those made up mainly of countries that do not experience significant levels of hunger, do not undermine or run counter to the work of the CFS. Unfortunately currently too many initiatives do exactly that. The "New Alliance" of the G8 is particularly worrying. It perpetuates the imposition of policies and conditions on African governments, is not in line with CFS guidance and opens the door to corporate control by global agribusiness rather than supporting the priorities and investments of small-scale food producers.[81]

5. *The best strategies for reducing risk from short term shocks and long term structural factors and for building resilience among the most vulnerable*

Agroecological approaches are the most comprehensive way of building environmental resilience to climate shocks. For instance:

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[75] UNEP, *Towards a green economy*. Nairobi: UNEP, p53. www.unep.org/greeneconomy/Portals/88/documents/ger/ger_final_dec_2011/Green%20EconomyReport_Final_Dec2011.pdf . See also Sophia Murphy, *Concentrated market power and agricultural trade*. EcoFair Trade Dialogue, 2006. www.iatp.org/files/451_2_89014.pdf

[76] For more on this, see: War on Want, *The hunger games*. London: War on Want, 2012, www.waronwant.org/attachments/The%20Hunger%20Games%202012.pdf

[77] Committee on World Food Security, *Reform of the Committee on World Food Security*. CFS:2009/2 Rev.2. Rome: FAO, 2009, p2. www.fao.org/fileadmin/templates/cfs/Docs0910/ReformDoc/CFS_2009_2_Rev_2_E_K7197.pdf

[78] Committee on World Food Security, *op cit*, pp2–3. www.fao.org/fileadmin/templates/cfs/Docs0910/ReformDoc/CFS_2009_2_Rev_2_E_K7197.pdf

[79] Committee on World Food Security, *Global strategic framework for food security and nutrition*. CFS 2012/39/5 Add.1. Rome: CFS, 2012. www.fao.org/docrep/meeting/026/ME498E.pdf

[80] Committee on World Food Security, *Reform of the Committee on World Food Security*. CFS:2009/2 Rev.2. Rome: FAO, 2009, p2. www.fao.org/fileadmin/templates/cfs/Docs0910/ReformDoc/CFS_2009_2_Rev_2_E_K7197.pdf

[81] Civil society intervention on "Global and regional coordination and linkages with CFS", CFS 39 Session, Oct 2012.

> "Following Hurricane Mitch in 1998, a large-scale study on 180 communities of smallholders from southern to northern Nicaragua demonstrated that farming plots cropped with simple agroecological methods (including rock bunds or dikes, green manure, crop rotation and the incorporation of stubble, ditches, terraces, barriers, mulch, legumes, trees, plowing parallel to the slope, no-burn, live fences, and zero-tillage) had on average 40% more topsoil, higher field moisture, less erosion and lower economic losses than control plots on conventional farms. On average, agroecological plots lost 18% less arable land to landslides than conventional plots and had 69% less gully erosion compared to conventional farms."[82]

Agroecology also contributes to drought resistance and to maintaining biodiversity. The more diverse range of foods grown as part of agroecological farming improve nutrition.[83]

Strengthening networks of small-scale food producers, and promoting their meaningful engagement in policy and decision-making is a central component of resilience to all kinds of shocks. One aspect of this is investing in knowledge through a bottom-up approach to agricultural research for development that is driven by networks of food producers own priorities and needs.

In the face of shocks, social protection instruments can provide an effective safety net. These may include social assistance, social insurance and efforts at social inclusion. There can be controversy over social protection due to bad experiences of weak schemes, but well designed social protection schemes can be good for growth and improve food security. The Brazilian "Zero hunger" and "Bolsa Familia" programmes, including conditional cash transfers are a well-known example that has helped to reduce the prevalence of undernourishment in Brazil from 9% to 6%, although challenges still remain.[84] Social protection is a human right.

The CFS High Level Panel of Experts recently studied social protection for food security and recommended that all countries should strive to put in place comprehensive social protection systems contributing to food security, using a twin-track approach of providing essential assistance in the short-term and supporting livelihoods in the long-term. These systems should be underpinned by a human rights approach, including accountability mechanisms. They noted a need for better design of social protection programmes in terms of able to react quickly to shocks such as droughts, floods and food price spikes, and also highlighted that because a large proportion of the people most vulnerable to hunger make their living in agriculture, social protection programmes should support agricultural livelihoods directly.[85]

The UN Special Rapporteurs on the Right to Food and on Extreme Poverty & Human Rights recently proposed establishing a "Global Fund for Social Protection".[86] This would:

- close the funding shortfall for putting in place a social protection floor in least developed countries (LDCs);
- help underwrite these schemes against the risks of excess demand triggered by major shocks by:
  - advising LDCs on suitable private reinsurance options;
  - subsidising premiums where necessary; and
  - acting as the reinsurer of last resort in cases where private schemes are not extensive or affordable enough.

To address the recent high levels of food price volatility governments in both the North and South have recognised and strengthened the role of food reserves in providing vital relief in food emergencies. However, there is a growing recognition that food reserves can move beyond emergency response and play a vital role in reducing excessive volatility in agricultural commodity markets. Through predictable, accountable and coordinated management of stocks food reserves at the national and regional level can ease price volatility and pre-empt price spikes.[87] At the same time food reserves can have significant developmental impacts by providing stable and more remunerative prices for producers, provide a market for small-scale farmers produce, and create supplies for food-based social protection schemes.[88]

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[82] Eric Holt-Gim̄enez, "Measuring Farmers' Agroecological Resistance After Hurricane Mitch in Nicaragua" Agriculture, Ecosystems and the Environment, 93:1–2, 2002, pp. 87–105, cited by Human Rights Council, *Report submitted by the Special Rapporteur on the right to food, Olivier De Schutter.* A/HRC/16/49. Geneva: UN, 2010, p13. www.srfood.org/images/stories/pdf/officialreports/20110308_a-hrc-16–49_agroecology_en.pdf

[83] Human Rights Council, *loc cit*. www.srfood.org/images/stories/pdf/officialreports/20110308_a-hrc-16–49_agroecology_en.pdf

[84] High Level Panel of Experts, *Social protection for food security.* Rome: CFS: 2012, pp 53–55. www.fao.org//fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-3-Food_security_and_climate_change-June_2012.pdf

[85] High Level Panel of Experts, *op cit*, pp16–17. www.fao.org//fileadmin/user_upload/hlpe/hlpe_documents/HLPE_Reports/HLPE-Report-3-Food_security_and_climate_change-June_2012.pdf

[86] Olivier de Schutter and Magdalena Sepúlveda, *"Underwrite the poor like we underwrote the banks"—UN experts propose Global Fund for Social Protection*. 9 Oct 2012. www.srfood.org/index.php/en/component/content/article/1-latest-news/2513-underwrite-the-poor-like-we-underwrote-the-banks-un-experts-propose-global-fund-for-social-protection

[87] IATP, *Grain reserves and the food price crisis*. Minneapolis: IATP, 2012. www.iatp.org/files/2012_07_13_IATP_GrainReservesReader.pdf

[88] ActionAid International, *No more food crises: the indispensable role of food reserves*. Johannesburg: ActionAid International, 2009. www.actionaid.org/sites/files/actionaid/polcy_briefing_-_the_role_of_food_reserves.pdf

APPENDIX

From Koohafkan *et al*, 2011 "Green agriculture: Foundations for biodiverse, resilient and productive agricultural systems".[89]

A set of guiding questions to assess if proposed agricultural systems are contributing to sustainable livelihoods

1. Are they reducing poverty?
2. Are they based on rights and social equity?
3. Do they reduce social exclusion, particularly for women, minorities and indigenous people?
4. Do they protect access and rights to land, water and other natural resources?
5. Do they favour the redistribution (rather than the concentration) of productive resources?
6. Do they substantially increase food production and contribute to household food security and improved nutrition?
7. Do they enhance families' water access and availability?
8. Do they regenerate and conserve soil, and increase (maintain) soil fertility?
9. Do they reduce soil loss/degradation and enhance soil regeneration and conservation?
10. Do practices maintain or enhance organic matter and the biological life and biodiversity of the soil?
11. Do they prevent pest and disease outbreaks?
12. Do they conserve and encourage agrobiodiversity?
13. Do they reduce greenhouse gas emissions?
14. Do they increase income opportunities and employment?
15. Do they reduce variation in agricultural production under climatic stress conditions?
16. Do they enhance farm diversification and resilience?
17. Do they reduce investment costs and farmers dependence on external inputs?
18. Do they increase the degree and effectiveness of farmer organizations?
19. Do they increase human capital formation?
20. Do they contribute to local/regional food sovereignty?

December 2012

Supplementary written evidence submitted by Patrick Mulvany, Co-chair UK Food Group

First, I would like to thank the IDC for their questions and hope that the oral evidence provided pause for thought on the key issues related to "global food security". I welcome the opportunity to submit additional written evidence that underscores the main points made in the oral evidence session and provides some of the extra information promised to members of the IDC.

Governance

There is a need for improved governance. Using the Committee on World Food Security (CFS), the UN body in charged with ensuring coherence of governance on food and agriculture and nutrition issues will improve the actions by the multiple actors which are unhelpfully claiming dominance in this area.

The G8, while representing significant economic interests, increased through its New Alliance with more than 40 major agribusinesses, should not assume powers to dictate what should be delivered in terms of food security and nutrition policy. Rather, the G8 should support what the majority of countries in the CFS decide and the processes they have agreed. Civil society organisations, in support of the majority of countries, provided the decisive input, at a conference in 2009 that effectively killed off the earlier G8's Global Partnership for Food Security and Nutrition, in favour of the process which renewed the CFS. This meeting, RANSA 2009 (Reunión de Alta Nivel Sobre Alimentación para todos, January 2009), hosted by the Spanish government, was before the G8 L'Aquila meeting. The joint CSO declaration at RANSA 2009,, supported by a wide range of international NGOs including Oxfam and Action Aid, was presented by Henry Saragih Secretary General of La Via Campesina, The key CSO message in terms of governance, "One country, One vote, not One

[89] P Koohafkan, M A Altieri and E H Gimenez, "Green agriculture: Foundations for biodiverse, resilient and productive agricultural systems." *International Journal of Agricultural Sustainability* 10 (1) 2012, pp61–75. http://dx.doi.org/10.1080/14735903.2011.610206

Dollar One Vote", was strongly applauded by most governments present. See www.ukabc.org/CommonCSO-Declaration_RANSA2009.pdf.

Supporting Small-Scale Food Providers

Those who grow or harvest the food consumed by most of the world's people require protection and support for their food regime which:

1. gives priority to (more biodiverse and ecologically-based) food provision for direct human consumption rather than commodity production for value chains controlled remotely;
2. provides social and environmental sustainability, with better use of soils, water and agricultural biodiversity, strengthened through their autonomous institutions; and
3. improves livelihoods through local value addition, retaining as much as possible of the final price paid by consumers.

These attributes of small-scale food provision are underscored in a wealth of documents produced by social movements and the food sovereignty movement, see Nyéléni 2007: forum for food sovereignty www.nyeleni.org; the IAASTD, cited in our written evidence, which found that "An increase and strengthening of AKST [agricultural knowledge, science and technology] towards agroecological sciences will contribute to addressing environmental issues while maintaining and increasing productivity" see www.iaastd.org ; and, indeed, our own briefing "Securing Future Food: Towards ecological food provision" www.ukfg.org.uk/securing_future_food_publication .

Support for this type of food regime is the dominant demand by African farmers whose slogan is "Africa can feed itself". The europAfrica campaign, an EU funded consortium of European NGOs supported by the UK Food Group through its member, Practical Action, works with the African Union recognised African farmers regional networks of West, Central and East Africa. These networks are ROPPA (Réseau des organisations paysannes et de producteurs de l'Afrique de l'Ouest), PROPAC (Plateforme Régionale des Organisations Paysannes d'Afrique Centrale) and EAFF (East Africa Farmers' Federation). The Networks have prepared studies which present their priorities for agricultural investment. These are in support of their model of food production and consumption and local markets, which provides food for 80% of Africans. These studies build on their previous report completed in 2011, which has already been influential in the CFS and FAO processes on determining priorities for agricultural investment: "Agricultural Investment for strengthening family farming and sustainable food systems in Africa. Mfou, Yaoundé, Cameroon, 2011". Available at: www.ukfg.org.uk/projects_campaigns/.

Artisanal Fisheries, Small-Scale Aquaculture, Local Processing and Trading

I promised to provide more information about these activities, which are vital for securing food and livelihoods, for example in West Africa[90] The men and women of coastal and inland communities in the West African region have, for generations, derived their livelihood from fishing and related activities, providing an essential part of the diet of millions of people in the region. To secure this food supply and nutrition for West Africans, appropriate interventions that will support artisanal fish production and local small-scale aquaculture, as well as processing and trading of the products, are needed at both national and regional levels.

Globally, at least 90% of the world's 30 million fishers[91] work in small-scale fisheries, which provide about 60% (two thirds) of the world's fisheries production used for direct human consumption; about 1 billion people rely on small-scale fisheries for their main source of animal protein, not only in coastal communities. There is a huge trade of marine fish within coastal countries and with neighbouring landlocked countries. If fisheries-associated livelihoods, such as marketing and processing are also included, an estimated 150 million people worldwide directly depend on small-scale fisheries and associated enterprises.

Traditionally, fish is an important part of the diet and the culture of the region, especially in coastal and riverine areas. While part of the fish is consumed fresh, another part is processed in diverse ways—salted, dried, fermented and smoked—and traded within and between countries of the region. Such trade continues to be important today, taking place largely at the informal level. People in landlocked countries like Mali, Burkina Faso, and Niger consume fish from rivers, but they are also highly dependent on processed marine fish (frozen, smoked, dried) for their food. While no accurate figures are available, It has been estimated by the Food and Agriculture Organization of the United Nations (FAO) that the number of persons working in fish processing and marketing in the region is about 1.8 million. Studies[92] covering eight West African countries indicate that women constitute at least 60% of all post-harvest workers.

River fishing provides an important source of food and income in the region. Mali has the largest catch of river fish in West Africa, taken from the Niger and Senegal rivers. This activity is dominated by artisanal

[90] Based on information provided to UK Food Group by Mamaodou Goïta, IRPAD, Mali and the International Collective in Support of Fishworkers (ICSF) *icsf.net*

[91] The 30 million figure is published by FAO, drawing from regional and national data, but it is likely to be a considerable underestimate as many countries do not compile statistics on small-scale fisheries and informal processing and trade www.fao.org/fishery/statistics/en and other sources.

[92] Report of the Study on Problems and Prospects of Artisanal Fish Trade in West Africa. International Collective in Support of Fishworkers (ICSF, 2002) aquaticcommons.org/256/

fisheries from two main social groups: the "Bozos" and the "Somonos". They are called the "people of the water" because of their attachment to the river. Artisanal river fishing, processing and trade is an important source of livelihood for families in Mali; it provides hundreds of thousands jobs to men, women and youth all across Mali.

Possibly because of a lack of information about artisanal fish production, processing and trade within the region, and its economic, social and environmental importance, little systematic effort has been made to deal with the problems of those engaged in it.

This perspective is hardened by the rise of industrial aquaculture production that captures fishery resources, water courses and farmland, displaces communities, and squeezes out local processing and markets. Aquaculture could make an important contribution to livelihoods and food sovereignty in many African countries, if developed appropriately at smaller-scales and integrated in the socially and environmentally sustainable family farming system. But the model being promoted is not the smallholder type of production common in Asia. Rather, it is an intensive, fishmeal-based, high input commercial model, designed to produce foreign exchange earnings rather than fish for local consumption. In Africa, aquaculture production increased by 56 percent in volume and more than 100 percent in value between 2003 and 2007. This growth was due to increasing prices for aquatic food products stimulating the emergence and spread of export-oriented small and medium enterprises, mostly owned by men. This resulted in a significant investment in cage culture, accompanied by the expansion of larger commercial ventures, producing high-value commodities for overseas markets.

The economic, social and cultural importance of small-scale and artisanal fish production, processing and trading are not peripheral activities but important in their own right. Given critical concerns about food provision in the region, encouraging intra-regional trade in cured fish products could play an extremely vital role, making fish available in remote regions at affordable prices. To achieve this will require greater recognition of the rights of these fishers, and especially women processors, and improved trading opportunities through reduced tariffs for cross-border exchanges.

Landgrabs and Water Grabs

With regard to landgrabs and water grabs, the IDC will have access to many sources of information provided by organisations and witnesses. Our membership is kept informed by several organisations, information from which is shared through our list serves, especially FIAN International and GRAIN. FIAN International provides a helpful watchdog role on where resource grabs are taking place and by whom, summarising these in a range of publications and alerts see www.fian.org/what-we-do/issues/land-grabbing/. GRAIN launched a website some 6 years ago, cited by many which provides current information on resource grabs, see www.farmlandgrab.org. It is estimated that at least 70 million hectares of agricultural land have been transferred in the last few years, A 2011 case study on Ethiopia is published at www.farmlandgrab.org/post/view/18255.

Speculation

The committee was posed a question by another witness on the panel about speculation, doubting the need for increased regulation and asking if "greater regulation at this point, now that investors and banks are involved in the markets, [is] the right thing to do?" Another member in the UK Food Group, World Development Movement, has provided our Members with useful analysis on this point, which is summarised as follows:

- **Position limits** were used effectively in the US for most of the twentieth century to prevent market manipulation and excessive speculation, and are used on markets in Australia, Japan, Hong Kong, Singapore, China and South Africa today. They are transparent and give traders legal certainty.
- By contrast, the **UK's current self-regulatory approach** has a track record of failure (most notable failing to prevent the near corner of the European cocoa market by hedge fund Armajaro in 2010) and creates conflicts of interest and a regulatory race-to-the-bottom.
- On the issue of liquidity, WDM has drawn particularly on Better Markets' analysis of the regulation of the US markets until the 1990s (see sections 4.6 and 7.2 of Broken Markets www.wdm.org.uk/stop-bankers-betting-food/broken-markets-how-financial-regulation-can-prevent-food-crisis). The argument that position limits, if set too low, could damage liquidity for hedgers is redundant when current levels of financial speculation are so far above historic norms.
- There is evidence of excessive financial speculation increasing hedging costs (UNCTAD, 2009—referenced in section 4.7 of WDM's *Broken Markets* report,).
- WDM also considers that an additional benefit of the introduction of position limits could be a reduction in the opportunity cost of excessive speculation, through the diversion of capital into genuine, productive investment (see p. 9 of WDM's report on the issue, The great hunger lottery, www.wdm.org.uk/sites/default/files/hunger%20lottery%20report_6.10.pdf).

DFID and Food and Agriculture Corporations

TH IDC requested some specific information about DFID's engagement with transnational agribusinesses. As our member War on Want has summarised in its report Hunger Games http://waronwant.org/about-us/extra/extra/inform/17755-the-hunger-games DFID has a close relationship with several large multinational corporations in the food and agriculture sector: Unilever, Syngenta, Diageo and SAB Miller. Some of the work with these corporations is channelled through public-private partnerships such as the Alliance for a Green Revolution in Africa (AGRA), the Southern Agricultural Growth Corridor of Tanzania (SAGCOT), Grow Africa, the New Vision for Agriculture and, latterly, the G8's New Alliance for Food Security and Nutrition. These public-private partnerships include support for genetically modified (GM) food and seeds through DFID's funding of initiatives such as the African Agricultural Technology Foundation (AATF) and, at least at research levels, HarvestPlus. This lurch towards supporting research in GM crops, through support for the BBSRC, CGIAR and others has been highlighted in a 2009 report of the GM Freeze, an alliance including many members of the UK Food Group. Blind Alley?: Is DFID's policy on agriculture in danger of failing to deliver food and environmental security?

www.gmfreeze.org/site_media/uploads/publications/blind_alley_final.pdf

It analyses how DFID has allocated agricultural research and development funding since 2000.
The report also points to DFID's failure to make any changes to their agricultural R&D programs in response to the key findings of the International Assessment of Agricultural Knowledge Science and Technology for Development (IAASTD) published in 2008. Projects cited in the report involve partnerships with biotech and agro-chemical corporations, including Monsanto and Bayer. The present danger that the IDC should be aware of is that such partnerships and focus on proprietary technologies could be central to the BIS AgriTech strategy, making it even more difficult for DFID to break loose from these arrangements.

Small-scale food providers require a very different approach to research that makes a radical shift away from the existing top-down and increasingly corporate-controlled agricultural research system to an approach which devolves more responsibility and decision-making power to farmers, indigenous peoples, food workers, consumers and citizens for the production of social and ecological knowledge. The whole process should lead to the democratisation of research, diverse forms of co-inquiry based on specialist and non-specialist knowledge, an expansion of horizontal networks for autonomous learning and action, and more transparent oversight.[93]

CFS and G8

In response to questions about which members of G8 are "less than helpful in CFS negotiations" there is reasonable consensus among Members of the UK Food Group and their networks who participate in the CFS process that both the G8 members from North America can be "unhelpful". In one instance one of the countries applied severe Diplomatic pressure on to several dozen countries, later withdrawn, to get them to change their position to one which favoured the interests of the G8 member. Our Members also report that the UK is not visibly active in the processes, nor being particularly supportive of the process behind the scenes, something that the IDC might wish to explore when questioning the minister. Specific and long-term support to the Civil Society Mechanism, that brings together a wide range of civil society actors, especially the social movements of small-scale food providers, and support for CFS processes at national level eg on implementing the Voluntary Guidelines on land tenure[94] Would be a notable and constructive commitment by DFID.

March 2013

Written evidence submitted by the World Food Programme

THE ZERO HUNGER CHALLENGE: ENSURING ACCESS TO FOOD

Executive Summary

The United Nations Secretary-General's Zero Hunger Challenge made the elimination of hunger a top priority for global governance. The World Food Programme (WFP) has embraced this challenge. As the United Nations frontline agency on access to food, WFP provides food assistance to about 90 million people in more than 70 countries every year. WFP implements projects across the spectrum of food and nutrition security interventions, ranging from emergency relief to resilience building and safety net programmes, with the objective of ensuring that vulnerable populations have access to food.

Food and nutrition security interventions are among the most cost-effective of development interventions, with potential to support economic growth and long-term poverty reduction. Considerable progress has been made in the fight against world hunger in recent decades. The number of people affected by hunger, however, remains unacceptably high. Approximately 870 million people are undernourished and 165 million children

[93] Michel Pimbert, Transforming knowledge and ways of knowing for food sovereignty. London: IIED, 2007. Available at: http://pubs.iied.org/pdfs/14535IIED.pdf

[94] Voluntary guidelines on the responsible governance of tenure of land, fisheries and forests in the context of national food security. Rome: CFS, 2012, www.fao.org/fileadmin/templates/cfs/Docs1112/VG/VG_Final_EN_May_2012.pdf

suffer from chronic malnutrition. In order to meet the objective of the Zero Hunger Challenge, it is essential to ensure access to food for the hundreds of millions of people who do not possess adequate means for meeting their daily dietary needs.

Meeting the food access needs of undernourished populations will require the concerted effort of the international community and, most importantly, governments in countries where the extent and severity of hunger is greatest. Innovative food access solutions must be developed and taken to scale. Approaches to ensuring food access must also consider emerging global trends related to hunger and economic development, the relationship between food insecurity and natural and man-made disasters, the evolving geography of global poverty, and the impact of rising food prices. Given the scale of global food access needs, WFP is focusing its investments in three key areas: facilitating direct access to food for the most vulnerable; catalysing inclusive food and nutrition access systems; and strengthening the enabling environment for hunger and nutrition investments.

WFP encourages the UK to continue its leading role, including among the G8, in the fight against world hunger. The UK has been a world leader in promoting market-based solutions to hunger, resilience building and disaster risk reduction, and the prevention of undernutrition. The UK is a strong and long-standing partner of WFP, providing a total of GBP 500 million over the past 5 years. The flexible, multi-year funding approach of the UK is a model for Good Humanitarian Donorship.

I. Introduction

1. With the announcement of the Zero Hunger Challenge at the 2012 UN Conference on Sustainable Development in Brazil, the United Nations Secretary-General made the elimination of hunger a top priority for global governance. The World Food Programme (WFP) has embraced this challenge. As the United Nations frontline agency on access to food, with GBP 2.9 billion in expenditures in 2012,[95] WFP provides food assistance to about 90 million[96] people in more than 70 countries every year. WFP implements projects across the spectrum of food and nutrition security interventions, ranging from emergency relief to resilience building and safety net programmes, with the objective of ensuring that vulnerable populations have access to food.[97]

2. Considerable progress has been made in the fight against world hunger in recent decades. Over the past twenty years, the absolute number of undernourished[98] has declined by 132 million, while the proportion of undernourished has declined from 18.6% to 12.5% of the world's population.[99] The number of people affected by hunger, however, remains unacceptably high, particularly in sub-Saharan Africa, where the absolute number of undernourished people has increased over the past five years.[100] An estimated 870 million people are undernourished worldwide and more than 165 million children under five will suffer the long-term effects of chronic malnutrition.

3. With the global population expected to increase from seven to more than nine billion people by 2050, meeting the global food and nutrition security needs of an additional two billion will require concerted international action. Global economic growth means that a greater proportion of consumers will shift their dietary preferences toward resource-intensive products, and an increasing share of agricultural production will be dedicated to non-food uses. Global food production must increase by approximately 60% over the next 40 years to meet global demand.[101] In order to meet higher levels of demand, ensuring sustainable increases in agricultural productivity will be critical to global food security in the years ahead.

4. At the same time, it is essential to ensure access to food for the hundreds of millions of people who do not possess adequate means for meeting their daily dietary needs. Meeting these needs will require focused leadership from governments and the international community, particularly in those countries where the proportion of global hunger is most highly concentrated. WFP and its partners engaged in the fight against hunger must develop innovative access solutions that can be adopted by governments and taken to scale.

5. Food and nutrition insecurity is a significant constraint on economic growth, which is the key to sustaining development gains and lifting people out of poverty. A recent study indicates that the economic cost of hunger

[95] Provisional figure based on WFP 2012 Statement of Financial Performance.
[96] Over the last five years, WFP reached between 80 and 110 million beneficiaries per year.
[97] To ensure food access, a household must have sufficient physical and economic resources to acquire an adequate amount of nutritious food required for meeting daily dietary needs. Access to food is determined by household ability to meet dietary requirements through production, purchase, barter, and gifts.
[98] Undernourishment refers to the proportion of the population in a country with dietary energy consumption that is lower than dietary energy requirements.
[99] State of Food Insecurity in the World 2012. FAO, WFP, and IFAD. 2012.
[100] State of Food Insecurity in the World 2012. FAO, WFP, and IFAD. 2012.
[101] OECD-FAO Agricultural Outlook 2012–2021. OECD/FAO. 2012.

can amount to as much as 11% of GDP.[102] Increasing access to food and nutrition is among the most cost-effective of development interventions. A panel of eminent economists convened to review the cost-effectiveness of development interventions for the 2012 Copenhagen Consensus ranked food and nutrition interventions, particularly those that improve access to micronutrients, as the most cost-effective investments for the advancement of global welfare. Based on evidence from several low-income countries, every pound invested in the prevention of chronic undernutrition generates a return on investment of between 15 and 139 pounds.[103]

6. In recognition of the Zero Hunger Challenge, the Rome-based Agencies of the United Nations—the Food and Agriculture Organization, the International Fund for Agricultural Development and the World Food Programme—are redoubling efforts to enhance partnerships and leverage comparative advantages that help food insecure communities become more resilient and support government initiatives that address the food and nutrition security needs of their populations. The Rome-based Agencies continue to build on existing partnerships to increase the alignment of policy and planning frameworks. The Rome-based Agencies have developed a five year strategic framework with UN Women to promote the economic empowerment of rural women in developing countries. WFP is also strengthening strategic partnerships with UNICEF, the International Food Policy Research Institute, the World Bank, private sector actors and, most critically, national governments.

7. This paper looks at: 1) global trends in food access; 2) investing in access to food; and 3) UK support for access to food.

II. Global Trends in Food Access

8. In order to place the effort to eliminate global hunger in perspective, there is a need to consider emerging trends related to hunger and economic development, the relationship between food insecurity and natural and man-made disasters, the evolving geography of global poverty, and the impact of rising food prices.

Access to food in Low Income Developing Countries

9. Until recently, the international community has concentrated on hunger in low-income countries, particularly low-income food deficit countries (LIFDC).[104] According the 2012 Global Hunger Index, 20 countries around the world have "extremely alarming" or "alarming levels" of food insecurity and nearly forty countries have "serious" levels of food insecurity. The majority of these are LIFDCs. For the most vulnerable households, who may spend as much as 80% of their income on food, the effects of a sudden shock, such as sudden price increases or crop failure, may have a dramatic impact. Three out of five people in developing countries, including more than three quarters of households in sub-Saharan Africa, do not have access to any form of social protection.[105]

10. The importance of food security and nutrition in long-term economic development has been well established.[106] Food security and economic growth are mutually reinforcing. Food security is dependent on improvements in governance, public service delivery, infrastructure, human capital development and economic performance. At the same time access to decent food has a significant impact on human productivity and, as a consequence, rates of economic growth.[107] Improving access to food for women, including through increased access to productive agricultural inputs and credit, has the potential to be a significant driver of economic productivity gains at the national level. Breaking the cycle of hunger and malnutrition is critical to unlocking the development potential of low-income developing countries.

The impact of conflict and natural disasters on food access

11. Humanitarian assistance is increasingly concentrated in conflict-affected states,[108] where the ability of governments to provide basic services is often limited and where access to food is affected by displacement and disruptions to markets and livelihoods. Food insecurity is both a cause and a consequence of conflict, particularly in fragile states.[109] Promoting access to food through price stabilization, safety nets and livelihood support is critical for mitigating the risk of conflict and political instability.[110] A recent OECD analysis found that people living in fragile states are more than twice as likely to be undernourished as those in other

[102] Martinez *et al*. The Cost of Hunger: Social and Economic Impact of Child Undernutrition in Central America and the Dominican Republic. ECLAC. 2008.

[103] Hoddinott *et al*., Hunger and Malnutrition, Copenhagen Consensus 2012.

[104] LIFDCs are countries with Gross National Income (GNI) per capita that is less than USD 1,025 with negative net food trade balances.

[105] World Bank Social Protection and Labour Strategy 2012–2022. World Bank. 2012.

[106] Timmer, P. "Food Security and Economic Growth: An Asian Perspective". Center for Global Development. 2004.

[107] Kwadwo, A *et al*. "Interactions between Health and Farm Labor Productivity". IFPRI. 2011.

[108] Global Humanitarian Assistance Report 2011. Global Humanitarian Assistance. 2011.

[109] There is no standard definition for fragile states. For the purposes of this paper fragile states refers to the OECD definition, "states unable to meet the expectations of their populations or manage changes in expectation and capacity through a political process."

[110] Brenkman, H and Hendrix, C. "Food Insecurity and Violent Conflict: Causes, Consequences, and Addressing the Challenges". WFP Occasional Paper. 2011.

developing countries.[111] According to recent estimates, nearly 50% of the global poor live in fragile settings. Ensuring access to food for populations in states affected by conflict or the potential for conflict will continue to be a priority on the global food security agenda.

12. Since 2000, the number of people affected by disasters has remained at or above 200 million every year.[112] In spite of improvements in prediction and preparedness, sudden onset natural disasters in developing countries that result in large-scale needs and require immediate humanitarian response, such as the Haiti earthquake and Pakistan floods of 2010, are likely to continue to require significant levels of support from the international community. The impact of natural disasters on food access is likely to increase in the context of climate change.

13. Current estimates indicate that more than two-thirds of natural disaster events are now related to climate change.[113] The majority of vulnerable and food insecure farmers reside on marginal and degraded land, cultivating crops that are sensitive to increasing temperatures and volatile weather patterns. In many arid and semi-arid regions of the world, such as the Sahel and the Horn of Africa, climate change is already having an impact on food security. In the years to come, the potential for reductions in agricultural yields, soil degradation and increasing water scarcity will pose an increasing threat to food security and livelihoods.

The changing demographics of hunger

14. As income levels in India, Indonesia, Nigeria and other countries have risen, three quarters of the global poor and the majority of food insecure people are now found in countries officially classified as "middle-income countries".[114,115] The proportion of food insecure people living in middle-income countries is likely to increase as more countries attain middle-income status, including in sub-Saharan Africa.

15. Rapid urbanization is also changing the geography of hunger within countries. The number of people living in urban areas is expected to reach five billion by 2030.[116] Population growth in developing countries will be concentrated in urban areas. The proportion of poor people in developing countries living in urban areas is projected to reach 50% by 2030.[117]

16. At the same time, economic growth increases the potential for governments to take the lead in addressing domestic food security concerns. This has implications for the type of support demanded by government partners. WFP is responding by prioritizing the provision of technical assistance to government-led initiatives, strengthening institutional capacity and developing market-based instruments for addressing hunger. Increasing levels of poverty and food insecurity in urban settings will require enhanced partnerships with government at the municipal level, the development of new tools for targeting vulnerable groups in urban environments, and the scaling up of new modalities for food assistance transfers, such as cash and voucher systems.

The impact of high food prices on food access

17. High prices remain important because access to food is a key determinant of food security—perhaps the most important determinant for many of the world's hungry. High prices have the greatest effect on the food security status of the very poor, who allocate a greater share of their incomes to the purchase of food. Global price shocks are more likely to translate into hunger and increased potential for social instability in countries having large numbers of people with significant levels of underlying vulnerability and limited capacity for addressing increasing needs through existing safety net programmes. The disproportionate impact of price increases on urban populations, who rely to a greater extent on markets for food access, has the potential increase political instability at the national level.

18. In 2008, increased food and fuel prices and reductions in the level of remittances from developed countries resulted in an increase[118] in the number of undernourished people globally. While the effects of this shock on global undernourishment were relatively temporary, with rates slowly returning to pre-shock levels, the relationship between global economic volatility and hunger were clearly demonstrated.

19. A number of variables determine the extent to which global market dynamics influence domestic food security. Countries with low economic growth rates, low domestic production, low international currency reserves, high rates of inflation and budgetary constraints related to high levels of debt servicing are less capable of mitigating the effects of rising food prices. While the effects of food price volatility on short-term

[111] OECD-DAC International Network on Conflict and Fragility (INCAF) "Ensuring Fragile States are Not Left Behind". 2011.

[112] Guha-Sapir *et al*. Annual Disaster Statistical Review 2011—The Numbers and Trends. WHO Collaborating Center for Research on the Epidemiology of Disasters. 2011.

[113] Climate Change: Coping with the Humanitarian Impact. Office for the Coordination of Humanitarian Affairs. 2011.

[114] The World Bank classifies countries with GNI per capita between USD 1,026 and USD 12,475 as middle-income countries. Middle income countries are classified under two additional categories, low middle-income countries, with GNI per capita between USD 1,026 and USD 4,035, and upper middle-income countries with GNI per capita between 4,036 and USD 12,475.

[115] Summer, A. "Global Poverty and the New Bottom Billion: What if Three-Quarters of the World's Poor Live in Middle-Income Countries?" Institute of Development Studies, September 2010.

[116] Baker, J. Urban Poverty: A Global View. Urban Sector Board, The World Bank Group. 2008.

[117] Ravallion, M, *et al*. New Evidence on the Urbanization of Global Poverty. World Bank Policy Research Working Paper Series. 2007.

[118] According to FAO, the increase in undernourishment during 2007–10, the period characterized by food price and economic crises, was less severe than previously estimated. *State of Food Insecurity in the World 2012*. FAO, WFP and IFAD. 2012

hunger have received considerable attention in food security policy circles in recent years, many medium to long-term projections suggest the potential for a structural shift towards higher food prices over the coming decade.[119] The underlying causes of increased food prices include the increasing demand for non-food crops, changing dietary preferences in emerging economies, population growth, and the limited availability of productive land and water resources for expanding agricultural production in many countries.

III. Investing in Access to Food

20. WFP is adapting to an operating environment that is increasingly crisis-prone, politically complex and crowded in terms of the number of state and non-state actors it must work and partner with globally. Given the scale of food access needs, WFP focuses its investment in three areas: facilitating direct access to food for the most vulnerable (eg direct food assistance, nutrition programmes, safety nets); programmes that help reduce global hunger by catalysing inclusive food and nutrition access systems (eg resilience building, livelihoods support, market development); and strengthening the enabling environment for hunger and nutrition investments (eg the integration of capacity building and knowledge management across all areas of investment).

(a) *Emergency food assistance*

21. Ensuring access to food in emergencies is critical for maintaining the health and nutrition status and protecting the household assets and livelihoods of affected populations. Meeting the food access needs of vulnerable populations during a crisis contributes to longer-term resilience and other food and nutrition security objectives. In Ethiopia, for example, evidence suggests that children born during a disaster are more than three times as likely to suffer from undernutrition.[120] Household asset depletion, such as distress sales of livestock during drought, delays household recovery and affects access to food over the long-term.

22. Direct transfers that ensure access to food for populations affected by crises, particularly support for internally displaced persons and refugees, are essential for limiting the potential for increased mortality and morbidity. Recent estimates indicate there are an estimated 15 million refugees globally, while more than 26 million people are internally displaced by conflict and an additional 15 million people are displaced by natural disasters.[121] Under the auspices of the Committee on World Food Security (CFS), the Rome-based agencies of the United Nations are leading an initiative to improve approaches to food security in protracted crises. The CFS initiative explores opportunities for promoting the resilience of populations affected by crises through efforts to complement food access transfers with investments in agriculture, the strengthening of national and sub-national institutions affected by prolonged periods of conflict, and the prioritization of market-based solutions to food insecurity.

23. As mechanisms for meeting food security needs evolve to include new food assistance approaches, agencies are developing innovative tools for ensuring access to food. Cash and voucher transfers are becoming an increasingly important means for addressing food insecurity in crises. In contexts where food is readily available and households are well connected to markets, addressing food access through the instrument of cash and vouchers presents several distinct advantages.

24. Food that is available locally is more likely to meet the dietary preferences of affected populations, the introduction of effective demand through cash and vouchers supports linkages between local and national markets to expedite economic recovery, and the provision of assistance from local sources has the potential to reduce the cost and supply concerns associated with in-kind food aid. Cash and vouchers also have the potential to reduce undernutrition by increasing dietary diversity, as populations are able to access foods that are not included in traditional food aid baskets, such as animal products and fresh fruits and vegetables. WFP is significantly scaling up the use of cash and voucher transfers, with the total value of these transfers increasing from GBP 27 million in 2009 to GBP 134 million in 2011.

25. Approaching emergency food security through disaster risk reduction frameworks moves the focus from reactive approaches to emergency response towards preparation and mitigation. Limiting the exposure of populations to shocks and increasing capacity for early warning and response has the potential to both save lives in emergencies and improve the efficiency of humanitarian response.[122] Food security plays a role in promoting stability and social cohesion, reducing the likelihood of civil unrest, rioting, and political violence.[123] Empirical data shows that, between 1990 and 2011, food price increases have been a significant risk factor for political unrest.[124] As many analysts have noted, high food prices and unemployment were contributing factors to the unrest that has unfolded across much of North Africa and the Middle East in recent years.[125]

[119] OECD-FAO Agricultural Outlook 2012–2021. OECD/FAO. 2012.

[120] Fuentes, R and Seck, P. The Short and Long-Term Human Development Effects of Climate-related Shocks: Some Empirical Evidence. Human Development Report Office, UNDP. 2007.

[121] World Disaster Report 2012. International Federation of the Red Cross and Red Crescent Societies. 2012.

[122] Venton, C, *et al*. "The Economics of Early Response and Disaster Resilience: Lessons from Kenya and Ethiopia." Department for International Development. 2012.

[123] Brinkman, Genk-Jan and Hendrix, Cullen s, Food insecurity and violent conflict: causes, consequences, and Addressing the challenges, WFP occasional Paper no. 24, (2011).

[124] Bellemare, M. "Rising food prices, food price volatility, and political unrest" June 2011

[125] OECD-DAC International Network on Conflict and Fragility (INCAF) "Ensuring Fragile States are Not Left Behind" 2011 report on resource flows in fragile states

26. The Humanitarian Emergency Response Review, for example, estimates that every pound spent in crisis prevention saves four pounds in emergency response.[126] Efforts undertaken to improve the quality and credibility of early warning tools following the 2011 Horn of Africa crisis helped to galvanize international efforts to mitigate the impact of drought in the Sahel through the expansion of safety nets, resilience, and preventive nutrition programmes. Several regional organizations, such as Association of Southeast Asian Nations and the African Union, have established mechanisms for improving emergency preparedness and response capacity at the national level. Employing innovative uses of technology, including remote sensing and geographic information systems, also contributes to increased accuracy in the predictive modelling of natural disasters.

27. In line with efforts to improve efficiency and reduce lead times for emergency response, WFP's Forward Purchase Facility (FPF) represents a more strategic approach to the procurement and delivery of commodities to meet food access needs in emergencies. The FPF aggregates global demand to allow purchases to be made at lower costs, incorporates forward planning to anticipate demand at regional levels and reduces transport timelines by procuring commodities closer to final destinations. The FPF has contributed to more effective response and efficient use of funding for emergencies by reducing the lead times for the delivery of commodities by approximately 70%.

(b) *Safety nets*

28. Safety nets that provide vulnerable populations with transfers of cash, food or vouchers are one of the most effective tools for ensuring access to food. Safety nets can be part of an emergency response or part of wider social protection provision. When functioning safety net systems exist, countries can more rapidly, effectively and efficiently support food access in times of crisis, such as food price increases and crop failure. The G20 Development Working Group and the Busan Partnership for Effective Development Cooperation have recently emphasized the critical importance of embedding food security and nutrition within national safety net policies.

29. Since the food price crisis of 2008, many developing countries have significantly scaled up investments in safety nets. Nearly 80% of developing nations currently have plans to establish or strengthen safety nets.[127] More than 20 countries in Sub-Saharan Africa and South Asia have recently established safety net policies.[128] Brazil's Fome Zero initiative established innovative safety nets that have been crucial to reducing food insecurity, while India's extensive social protection system supports an estimated 500 million people annually.[129]

30. School feeding, a key feature of Brazil's safety net programme, both improves educational outcomes and ensures access to food for the most vulnerable. The WFP Centre of Excellence Against Hunger, which is supported by the Brazilian government, facilitates policy dialogue, south-south learning and technical assistance in school feeding. Working with the centre, Rwanda has developed plans for national school feeding that link support for vulnerable schoolchildren to production from smallholder farmers. In Ecuador and El Salvador, school feeding programmes started with external support are now entirely financed and managed by the state.

31. Ethiopia's Productive Safety Net Programme (PSNP), which was established following a widespread food security crisis in 2003, provides cash and food transfers to approximately 7 million food insecure people. The multi-annual approach of the PSNP allows for more predictable and harmonized planning, permitting the government and partner agencies to expand population coverage in response to crises. PSNP has effectively contributed to the stabilization of food consumption at the household level and led to the rehabilitation of rural infrastructure. The approach of PSNP, which combines national ownership and resourcing with the technical and financial contributions of international aid agencies, such as WFP, acknowledges the potential for reducing reliance on external support as institutional capacity and domestic resources increase over time.

(c) *Access to nutritious food*

32. An estimated 165 million children under five suffer from chronic undernutrition. Recent research indicates that inadequate nutrition during the first 1,000 days of a child's life—the period between conception and two years of age—leads to irreversible impairment of physical and cognitive development. The prevention of undernutrition, including severe and moderate acute malnutrition, is significantly more cost-effective than treatment. In the case of chronic undernutrition, the damage caused during the early stages of a child's life is irreversible. The prevention of chronic undernutrition during the first 1000 days also significantly reduces the risk of acute malnutrition. Ensuring that young children and pregnant and lactating mothers have access to nutritious foods is critical to the prevention of undernutrition. Improved access to nutritious foods can be achieved through policy initiatives at the national level and through direct support to populations at risk. This support includes micronutrient fortification, interventions that improve community-based care and nutrition education, and cash and food-based transfers, particularly of fortified supplementary foods.

[126] Humanitarian Emergency Response Review. 2011.
[127] World Bank Social Protection and Labour Strategy 2012–2022. World Bank. 2012.
[128] Safety Nets Work: During Crisis and Prosperity. Development Committee of International Monetary Fund and World Bank. 2012.
[129] The 2011 Atlas of Social Protection: Indicators of Resilience and Equity. World Bank. 2011.

33. Several international initiatives have emerged that present unique opportunities for ensuring access to nutritious food. Scaling Up Nutrition (SUN) is a multi-stakeholder movement that has mobilized unprecedented political commitment to improving nutrition during the critical 1,000 days. SUN brings together representatives from government, the private sector, academia, civil society and the UN system in a collective effort to mobilize resources and promote innovative approaches. More than 30 developing countries have committed to the SUN movement. The Renewed Efforts to Address Child Hunger and Undernutrition (REACH) initiative builds on existing national programmes and enhanced coordination between relevant stakeholders to strengthen national capacity. REACH brings together UN agencies, NGOs and governments—including finance, health, agriculture, and education departments—to align programmes at the national level.

34. Improving the capacity for the local manufacturing of nutritious products used for the prevention and treatment of undernutrition, such as fortified blended foods and ready-to-use supplementary foods, is critical for increasing national ownership of nutrition programs. In Pakistan, WFP is collaborating with local manufacturers to produce two specialized nutritious food products using locally grown chick-peas. Private sector partners, including DSM and PATH,[130] are working with WFP on a large-scale rice fortification initiative. The fortification of staple grains is a cost-effective opportunity for improving access to micronutrients through daily food consumption. Under the "Building the Future for Children under Two—the Right Foods at the Right Time Initiative", the Children's Investment Fund Foundation (CIFF) is working with WFP to develop a model for private sector support to child nutrition.

(d) *Resilience building and livelihoods*

35. Resilience-based approaches to ensuring food access recognize that transitions between relief, recovery and development are not linear. Natural disasters and climate change, particularly in drought-prone environments, have the potential to reverse development gains and lead to increasing levels of risk for households and communities. In sub-Saharan Africa, 650 million people are dependent on rain-fed agriculture in areas that are facing water scarcity, land degradation, and erratic weather. The 2011 Somalia famine, which resulted in mass population movements, high levels of morbidity and mortality and social dislocation, demonstrated how shocks interact with underlying vulnerability to push people into severe food insecurity.

36. There is an emerging consensus on the need to overcome the dichotomy between humanitarian and development paradigms to enhance resilience to shocks at the household and community level. By approaching vulnerability and food security through resilience frameworks, relief and recovery support to populations in crisis is embedded within longer-term investments in community-level infrastructure, health and nutrition services, and livelihood diversification. As national policies and development plans incorporate efforts to build community and household resilience, the need for large-scale expenditures on relief assistance can be reduced over time.[131] In addition, short-term interventions in response to a shock can be directed through existing food security and livelihood programmes. Moving beyond reactive approaches to crisis management and towards more predictable resilience building approaches provides significant advantages for ensuring access to food.

37. International initiatives have highlighted the potential for resilience-based approaches to food security. The Global Alliance for Action for Drought Resilience and Growth is a partnership between African governments and international donors that is dedicated to resilience building in the Horn of Africa and the Sahel. In response to the 2011 Horn of Africa crisis, governments in the region came together under the Inter-Governmental Authority for Development (IGAD) Regional Disaster Resilience and Sustainability Platform to mobilize resources for development in arid and semi-arid lands and to develop strategies for enhancing resilience to drought within national planning frameworks.

38. Working with the Somali government, WFP, FAO and UNICEF have established a joint resilience strategy that builds on the comparative advantage of each agency. The joint strategy seeks to increase household income through: livelihood diversification and community asset creation; human capital investments and improved access to basic services; and the establishment of predictable safety nets. The aim of the initiative is to adapt programmes to the livelihood systems and level of institutional capacity in different parts of the country. This resilience-based approach represents a paradigm shift in the way that aid agencies have approached vulnerability in Somalia. The components within this strategy have also been embraced by relevant line ministries in the newly elected government, providing the building blocks for plans to expand and strengthen public services at the community level.

IV. UK Support for Access to Food

39. WFP encourages the UK to continue its leading role, including among the G8, in the fight against world hunger. We would particularly recommend continued and increasing UK involvement in nutrition. UK support in this area -in large part owing to the contributions of UK-based organisations, including The Lancet, the Institute for Development Studies, the Overseas Development Institute, Imperial College, Save the Children, Oxfam and the Department for International Development—has helped to establish the evidence base for what is needed to tackle undernutrition at scale, especially among children and mothers.

[130] Royal DSM is a global science-based company active in health and nutrition; PATH is an international non-profit organization promoting innovation in global health.

[131] Venton, C, *et al.* "The Economics of Early Response and Disaster Resilience: Lessons from Kenya and Ethiopia." Department for International Development. 2012.

40. The UK has also been particularly instrumental in advancing resilience-based approaches to food security and has made significant progress in de-linking funding for resilience programmes from the conventional humanitarian and development assistance portfolios. The UK has been actively involved in promoting innovative, market-based solutions to food insecurity, advancing the use of both cash and vouchers in emergencies and value chain approaches to increasing smallholder productivity.

41. The UK is a strong and long-standing partner of WFP, providing a total of GBP 500 million over the past 5 years. With contributions of GBP 126 million in 2012, the UK is WFP's the 4th largest donor. UK support to WFP is a model of the Principles and Good Practices of Humanitarian Donorship. The UK's multi-year and multi-lateral funding approach allows WFP to determine the location and timing of commodity procurement. It also allows WFP to prioritize the allocation of funding in order to meet the most critical food access needs around the world.

March 2013

Supplementary written evidence submitted by the World Food Programme

DFID Support to the World Food Programme

1. The United Kingdom is consistently one of WFP's top donors, providing nearly £500 million (US$798 million) to WFP over the last five years. In 2012, the UK was the 4th largest donor to WFP, providing over £126 million (US $200 million).

2. The Department for International Development (DFID) contributes to the work of the World Food Programme (WFP) through the following channels:

(a) Directed contributions to specific operations.

(b) Multilateral contributions.

(c) As member of WFP's Executive Board.

(d) Exchange of experience and knowledge at technical level.

Directed contributions

3. In 2012 some 84% of DFID contributions were directed to WFP's field operations (Table 1). These contributions supported delivery of food and nutrition assistance (primarily in relief situations) including use of vouchers/cash; the Purchase for Progress (P4P) programme (helping smallholder farmers access markets); and special operations such as the UN Humanitarian Air Service (UNHAS). DFID sometimes makes in-kind donations to specific operations such as reinforced four-wheel drive cars currently in Syria, or logistics support during the Haiti earthquake response.

4. DFID has recently been providing multiyear directed funding to specific operations. Multiyear funding gives WFP the opportunity to better plan our operations. It also has positive spin-off effects, such as Purchase for Progress (P4P) in Ethiopia where WFP was able to sign forward delivery contracts worth US$12.3 million with 16 cooperative unions—having a total membership of half a million people. The WFP contracts enabled farmers' unions to access loans from commercial banks in Ethiopia (this was previously restricted to exporters only), which in turn enabled the cooperatives to purchase food from their members, bringing smallholder farmers into the market mainstream.

Multilateral contributions

5. WFP is 100% voluntarily funded: it does not receive assessed (core) contributions. In order to enhance operational efficiency and value for money WFP has called on donors to provide more flexible, predictable funding so that WFP can direct the funds to where needs and funding shortfalls are greatest.

6. In 2011 DFID and WFP signed a 4-year £100 million agreement bringing UK into the small group of donors (including Australia, Canada, Netherlands and Norway) who provide multiyear, multilateral support to WFP. Of the £100 million at least £83 million is for operations—this is allocated by WFP's Strategic Resource Allocation Committee based on a quantitative and qualitative analysis of where the funds are most needed. Multilateral funding allows WFP to prioritize funds for maximum impact. For example, using multilateral funds WFP was able to preposition 90,000 tonnes of food in South Sudan ahead of the rainy season during which many parts of the country are cut-off. Not only did this translate into lives saved, it also meant cost-savings. It is much less expensive to deliver food by road than through air-drops—the only option after the onset of rains.

7. The remaining £17 million is for organisational strengthening—building WFP capacity for innovation and better corporate performance. The aim of this support is to improve WFP's performance in order to impact all of WFP's work, not just that supported by DFID. Areas supported include strengthening Emergency Preparedness and Response, implementation of WFP's new Monitoring and Evaluation Strategy, and strengthening efficiency and effectiveness in Resource Management.

Board membership

8. The UK is an active and effectively permanent member of WFP's governing body, the Executive Board. UK has chaired the grouping of traditional donor countries in the Board ("List D") during several periods over the last decade and held the board Presidency 2011–2012.

Exchange of experience

9. DFID and WFP often exchange information and experience at technical level at country and headquarters levels. DFID advisers have attended technical meetings convened by WFP on, for example, resilience, cash and vouchers and regional food stocks. We have good working relations with DFID humanitarian advisers in the field, for example in Ethiopia and Syria.

Conclusion

10. DFID is a substantial donor to WFP both in absolute monetary terms and in the manner in which contributions are made, with increasing emphasis on multiyear funding. We highly value the capacity building support and technical exchanges. Thus, the United Kingdom is not just a donor but an active and engaged partner.

Table 1

DIRECTED CONTRIBUTIONS

U.K. CONTRIBUTIONS BY RECIPIENT COUNTRY

Value in Pound Sterling *As of 12 March 2013*

Recipient	Development Operations	Emergency Operations	Immediate Response Account	Protracted Relief Operations	Special Operations	Special Accounts	Unallocated	Trust Funds	Grand Total
Year 2012 UK DFID									
Bangladesh	440,000								**440,000**
Burkina Faso				1,850,000					**1,850,000**
Congo D.R.		5,108,369			1,313,479				**6,421,848**
Ethiopia				20,000,000					**20,000,000**
Gambia		500,000							**500,000**
Haiti				1,000,000					**1,000,000**
Kenya				2,925,000					**2,925,000**
Liberia		1,000,000							**1,000,000**
Malawi				9,500,000					**9,500,000**
Mali		339,750							**339,750**
Mauritania					750,000				**750,000**
Middle East &East Europe		5,000,000							**5,000,000**
Niger		5,000,000			250,000				**5,250,000**
Pakistan				3,000,000					**3,000,000**
Palestinian territ.		3,300,000							**3,300,000**
Senegal				500,000					**500,000**
Sierra Leone	2,000,000								**2,000,000**
Somalia		2,500,000			2,500,000				**5,000,000**
South Sudan, Rep		11,250,000							**11,250,000**
Syrian Arab Rep		10,105,901			299,100				**10,405,001**
Tanzania				6,300,000					**6,300,000**
Uganda	2,000,000								**2,000,000**
West Africa Bureau		1,660,250							**1,660,250**
Zimbabwe				5,457,000					**5,457,000**
WFP (HQ-Rome)								580,000	**580,000**
Sub-Total DFID	**4,440,000**	**45,764,270**	**-**	**50,532,000**	**5,112,579**	**-**	**-**	**580,000**	**106,428,849**
Multilateral							17,338,611	2,661,389	20,000,000
2012 Total	4,440,000	45,764,270	-	50,532,000	5,112,579	-	17,338,611	3,241,389	126,428,849

March 2013

Written evidence submitted by Sir John Beddington CMG FRS, Government Chief Scientific Adviser

INTRODUCTION

The Government Office for Science Foresight Report "The Future of Food and Farming: Challenges and Choices for Global Sustainability" published in January 2011, made a compelling case for urgent action to redesign the global food system to meet the challenge of feeding the world equitably and sustainably over the next 40 years. In the wake of the 2007–08 food price spikes, the Foresight Project commissioned over 100 peer-reviewed evidence papers, involving around 400 leading experts and stakeholders from 35 countries. This research highlighted the overwhelming evidence that whilst the global food system currently delivers for many, it is currently failing on two fronts: it is consuming the world's natural resources at an unsustainable rate and failing the world's poorest, with almost one billion still suffering from hunger (Foresight, 2011).

Politically, global food security and sustainable agriculture has risen up the high-level political agenda. International conferences and summits, including the L'Aquila Summit, G20 Summits, World Food Summit and Rio 20+, have all generated high level statements on the need to tackle food security now. Many of these international events have resulted in joint commitments by various national Governments as countries agree

on the need for improved agricultural policies, and call for better international coordination to promote food security and sustainable agricultural production. For example, the G8 and African leaders have launched a New Alliance for Food Security and Nutrition to increase responsible domestic and foreign private investments in African agriculture, take innovations that can enhance agricultural productivity to scale, and reduce the risk borne by vulnerable economies and communities.

However, with commitments made at previous summits yet to be realised including the promise of l'Aquila Summit in 2009, real change or action on the ground has been limited and not on the scale needed to meet the existing and ever more imminent challenges in the food system. World's leaders need to be even more ambitious, and to transform agriculture and build thriving economies in developing countries.

Creating a secure and sustainable food system is not simply a question of producing more food, but drawing links between different policy areas and creating agreement on multidisciplinary issues, including the role of agriculture in climate change, the dependency of food production on ecosystem services, the role of agriculture in delivering a green economy, as well as a reduction in poverty and hunger. Any one of these pressures ("drivers of change") would present substantial challenges to food security; but together they constitute a major threat that requires a strategic reappraisal of how the world is fed. Addressing these in a pragmatic way that promotes resilience to shocks and future uncertainties will be vital if major stresses to the food system are to be anticipated and managed. The five key challenges identified by Foresight for policy makers, researchers and industry to respond to are:

- Balancing **future demand and supply** sustainably.
- Ensuring that there is adequate **stability** in food prices.
- Achieving **global access** to food and **ending hunger**.
- Managing the contribution of the food system to the **mitigation of climate change.**
- Maintaining **biodiversity and ecosystem services** while feeding the world.

These five key challenges provide a framework against which to consider where progress has been made and what can be done to turn increasing political attention into truly "decisive" action to secure a sustainable and secure global food system.

Balancing future demand and supply sustainably

Meeting the challenges posed by land and water scarcity, climate change, and declining crop yields will need substantial progress in agricultural innovation, which in turn will require more effective agricultural research investments (CCAFS, 2010). Global warming could occur faster than expected and add to water shortages, hitting irrigated agriculture with lower yields and increasing risks in rainfed agriculture (World Bank 2008).

Three quarters of the world's one billion extremely poor people live in rural areas and are dependent on agriculture and its related activities for their livelihoods. They face a series of interconnected natural resource management challenges, and are in the front line of climate change impacts. There is growing concern over inappropriate approaches to food production that drive excessive use of fertilizers and pesticides, pollution of waterways and aquifers, build-up of salt in the soil, water scarcity in major river basins, declining levels of groundwater and loss of crop biodiversity. Greater recognition is required of the need to invest in a long term sustainable—environment and natural resources management, but too often the focus is on the shorter term shocks and volatility issues.

Projected increases in the demand for food, coupled with increased threats and pressures to the underpinning natural environment means a new approach to food production is required. A key solution for addressing these competing challenges will be the *sustainable intensification of agriculture*, raising yields without using more land, while adapting to climate change, reducing emissions, and maintaining biodiversity and ecosystem services. A global shared understanding is needed of the importance of sustainable intensification and how to balance crop/livestock, fisheries and agro-forestry systems, so that surplus inputs are avoided and soil fertility and ecosystem services are not compromised, while production and income are increased (Foresight 2011).

As much as 30% of all food grown worldwide is estimated to be lost or wasted. In middle- and low-income countries, where infrastructure for storage and supply is often inadequate, losses are greatest in post-harvest storage and the food supply chain. In high-income countries, the greatest losses are incurred by the food services industry and the consumer. A more efficient food chain through waste reduction measures would make a substantial contribution to producing more food with less resources, in particular water and energy, and lowering greenhouse gas emissions. A strategic target to reduce waste in the global food system would be more easily achieved through high-level international political support and an international body acting as champion to tackle the highly variable levels of waste that occur in the food supply chain in different parts of the world.

There will be benefits, 1% gain in GDP originating in agriculture generates a 6% increase in overall expenditure of poorest 10% of populations, while the equivalent figure for GDP growth in non-agricultural sectors is zero (World Bank, 2008). Growth in agriculture through supportive policies, robust investment and infrastructure development usually generates the greatest improvements for the poorest people (Millennium

Ecosystem Assessment, 2005), at least twice as much poverty reduction than any other sector (Farming First), making food more accessible to the hungry.

Ensuring that there is adequate stability in food prices

In 2007–08, food price rises shocked many policymakers from the belief that stable or declining food prices and assured supplies could be taken for granted. Before the price spike, poverty meant that 800 million people were hungry. Following the price spike, this number increased to a little over 1 billion people (a rise that significantly set back progress towards the UN Millennium Development Goal to halve the proportion of people suffering hunger between 1990 and 2015).

The future of global crop harvests is uncertain, for example in 2010, a period of drought coupled with extensive wild fires in Russia damaged 20% of Russia's arable land (10 million hectares) with wheat production 27% lower than normal, and exports of the cereal harvests were banned. In 2012, the worst ever United States drought in over 50 years, blighted 78% of the 96 million acres of corn (the biggest area in 75 years), and half of all U.S. counties were declared disaster areas. In response, the international prices of maize and soybeans rose past 2007–08 peaks, when at the same time, food riots erupted in African and Middle Eastern countries. These events have drawn increased attention to the fact that a significant proportion of humanity remains chronically undernourished, even during periods of relatively normal prices and low volatility of food prices.

Policies to limit the harmful effects of fluctuations in food prices may therefore require both improved mechanisms for social protection and farm policies at national level and a degree of international institutional reform (ODI, 2010). This will require more product-related and institutional innovation, and for a stronger public sector role—both national governments and multinational agencies—in helping to launch new programmes, develop infrastructure and establish appropriate delivery mechanisms (Foresight, 2011b).

The Foresight report argued protection of the most vulnerable groups from the worst effects of food price volatility has to be a priority, especially those in low-income countries where market and insurance institutions are weak. This can be done indirectly through intervention to try to influence market prices, but is likely to be more effective through the provision of safety nets for poor consumers or producers that are designed to stabilise real incomes, and improve food safety and quality. Global strategies may be necessary to address agricultural price volatility (Foresight 2011b), develop food stock management, effective market intelligence and early warning, monitoring and distribution systems.

The G20 activity on food price volatility has begun to respond to these calls for action. In June 2011 the meeting of G20 Agriculture ministers agreed to an Action Plan on Food Price Volatility and Agriculture, which was subsequently welcomed by Leaders during G20 summit in Cannes in November 2011. While several elements of the action plan build on ongoing initiatives, some specific new activities to target food price volatility where launched, including Agricultural Market Information System (AMIS) initiative, Global Agricultural Geo-monitoring Initiative (GEOGLAM) and the Platform for Agricultural Risk Management (PARM). Perhaps the most helpful of the commitments agreed by the G20 leaders was the agreement to remove food export restrictions or extraordinary taxes for food purchased for non-commercial humanitarian purposes by the World Food Program and agree not to impose them in the future.

The 2012 G20 Summit, in Los Cabos, Mexico on June 18–19, prioritized improving food security, decreasing food price volatility, and increasing sustainable agricultural productivity. In the 2012 interagency report for the Mexico G20 presidency, the UN agencies reiterated the need for continued support to increase agricultural productivity growth in a sustainable manner. While these commitments and initiatives demonstrate helpful progress, G20 nations now need to focus on delivery and maintain a long-term commitment to make significant changes in the mechanisms and institutions that support agricultural development. There is also a clear role for governments to help the agricultural sector educate and improve awareness of the options available for better risk management, and to explore options for the development of, and access to, futures and options markets.

Achieving global access to food and ending hunger

Hunger remains widespread globally, with approximately 1 billion people lacking access to sufficient of the major macronutrients (carbohydrates, fats and protein); and another billion suffering from "hidden hunger", in which important micronutrients (such as vitamins and minerals) are missing from their diet, with consequent risks of physical and mental impairment. For example, a diet high in rice with few vegetables renders people susceptible to vitamin A deficiency, prevalent in 100 to 140 million children worldwide. An estimated 250,000 to 500,000 vitamin A-deficient children become blind every year, half of them dying within 12 months of losing their sight (WHO, 2006). In contrast, a billion people are substantially over-consuming, spawning a new public health epidemic involving chronic conditions such as type 2 diabetes, and cardiovascular disease.

Foresight argued that efforts to end hunger internationally are already stalling, and the scale of the threats are such that no single class of intervention—increasing supply, moderating demand, improving the efficiency of the food system—alone is likely to be sufficient. The links between agriculture and nutrition are complex. A well-developed agriculture sector may enhance food and nutrition security directly through consumption or indirectly through incomes. In turn, better nutrition and health of farmers increases their agricultural and

economic productivity. Agriculture can also carry risks to nutrition and health outcomes, through agriculture-related diseases. Policy-makers will need to pursue a portfolio of measures involving all aspects of the food system, to maximise the potential benefits of agriculture for nutrition, whilst reducing the risks.

Increasing the nutritional quality of crops is known as biofortification and is an important strategy for improving the health of poor people, particularly in low-income countries. Where there is genetic variation for nutritional quality, biofortification can proceed through traditional or marker-assisted breeding. Quality Protein Maize (QPM) has 90% the nutritional value of skimmed milk, and yields 10% more grain with nearly twice as much usable protein than traditional varieties of maize, grown in the tropics. Babies and adults consuming QPM are healthier and at lower risk of malnutrition disorders. Pigs fed QPM rapidly gain weight and are ready for market sooner or can provide an additional quality protein source for small farm families (CIMMYT, 2000). Efforts are also under way to breed maize and sweet potatoes rich in beta-carotene, a precursor to vitamin A, millet and beans with high iron levels, and rice and wheat high in zinc.

Where no genetic variation for a desirable trait is available, there is much interest in using biotechnology to produce more nutritious crops. As the prime beneficiaries are people in low-income countries these efforts are often financed by charitable foundations and involve public-private partnerships. The GM nutritionally-enhanced crop variety "Golden Rice"[132] has been genetically altered to produce beta-carotene, a precursor to vitamin A. The first transgenic lines were created in 1999 but work to optimise the level of beta-carotene expressed and address regulatory concerns meant that Golden Rice will only reach market in 2013 (Potrykus, 2010). Other programmes include modifying rice to enrich its iron content.

Eighty percent of the plant food consumed in the global human diet is provided by just twelve species of plants—the cereals barley, maize, millet, rice, rye, sorghum, sugar cane, and wheat, and tubers—cassava, potato, sweet potato and yam (Grivetti and Ogle, 2000). However, there are at least 7,000 edible and partly domesticated plants (Williams and Haq, 2002), and an estimated 30,000–75,000 edible wild species of plants on around the world (Myers, 1997; Hopper, 2010). More attention is needed to consider these underutilised crops and the opportunities they offer for alternative cropping systems. A prospective grower embarking on an alternative crop enterprise will need to consider access to markets, implications for crop rotations, especially weed, disease and pest problems; suitability of the soil and climate; and level of risk. With novel crops, there are often fewer pesticide products and there can be fewer opportunities to apply them at the most effective time (Foresight, 2011).

Reducing the number of hungry people rarely receives political priority, since the poorest section of society exercises little leverage, nationally or globally. Agriculture gets even less attention than hunger reduction. Agriculture in the developing world can become highly productive, even for smallholders. There is a need for a bold and global consensus for tackling hunger and ensuring investment in pro-poor, anti-hunger agricultural growth. Strong levels of political courage and leadership in countries from low- to high-income status are essential to carry this agenda through. A stronger constituency for hunger reduction needs to be built (Foresight, 2011).

Policymakers need to strengthen the culture of monitoring, impact and learning in agriculture—to allow farmers and consumers to give feedback on what is working and not working in hunger reduction efforts (Foresight, 2011). Cost-effective food aid is required which purchases food in or near recipient countries (Worldwatch Institute, 2011). Markets/other mechanisms should be used to regulate and generate rewards for agro/environmental services including: incentives to promote integrated pest management, environmentally resilient germplasm, payments to farmers and local communities for ecosystem services, facilitating and providing incentives for alternative markets such as green products, certification for sustainable forest and fisheries practices and organic agriculture and strengthening of local markets (IAASTD, 2009).

Managing the contribution of the food system to the mitigation of climate change

Concentrations of Carbon Dioxide and other Greenhouse Gases (GHG) have risen substantially over recent decades. As a result of lags in the global climate system, the world is already committed to Climate Change, whatever mitigation measures are taken in the next few decades. Failures to curb GHG emissions will lead, with high probability, to rates of warming by the end of the century that will be highly detrimental to many aspects of human existence, including the provision of food.

Agricultural production is likely to decline in most of the developing world as a result of climate change through reduced water availability, increased temperatures, uncertain or shorter growing seasons, less arable land and new pest and disease patterns. In addition to assisting rural households to adapt to climate change in an environment characterized by deteriorating natural resources, there is also a need to moderate the impact of disasters from more frequent extreme weather events. Every year, weather events (drought, floods, fires) significantly impact agricultural production and commodity markets. Climate change is making these weather events more frequent and severe. Better preparedness, early warning and appropriate response mechanisms are all part of a broader approach to disaster risk management. The insurance industry estimates total economic losses in 2011 caused by natural hazards range from $350 to $380 billion US—the most expensive year in history.

[132] www.goldenrice.org

Agriculture also plays a vital role in mitigating climate change. Agriculture is a major source of CO_2 emissions and contributes a disproportionate amount of other GHGs with high impact on warming (approximately 47% and 58% of total CH_4 and N_2O emissions, respectively (IFPRI). 34% of global land area is used for food production (INRA, CIRAD, 2011) and this ties up a vast amount of carbon: changes in agricultural practices that affect this store could have a very significant effect on global warming (IFAD, 2011). The major challenge is to incentivize and spread best practice. For example, a variety of methods are available to increase the nitrogen efficiency of crop and livestock production, or to reduce methane emissions from livestock or wetland rice. Much more carbon could be sequestered in farmland, both in soils and agroforestry (combining trees and shrubs with crops and/or livestock). Novel approaches are needed to reward farmers who produce these global goods.

There are a number of global initiatives and partnership starting to draw these links together (International Commission on Sustainable Agriculture and Climate Change, FAO/WB partnership on Climate Smart Agriculture). Yet there is still no agreement on a sustainable agriculture work programme under UNFCCC. It is clear that the role of agriculture in climate change is yet to be fully embraced. Policies to mitigate climate change can incentive the delivery of multiple public goods (Foresight, 2011). These will help to develop agricultural technologies and methods that are more robust and resilient to the range of future climatic uncertainties.

Maintaining biodiversity and ecosystem services while feeding the world

Some of the most threatened and diverse habitats exist in very low-income countries, which also face the greatest challenges in achieving the MDGs. Often, actions to slow ecosystem degradation do not address indirect drivers: population change (growth and migration), change in economic activity (economic growth, disparities in wealth, and trade patterns), socio-political factors (presence of conflict to public participation in decision-making), cultural factors, and technological change. Conversion of forest to agriculture can significantly change the frequency and magnitude of floods, although the nature of the impacts depends on the characteristics of the local ecosystem and the type of land cover change. Changes in biodiversity can influence the capacity of ecosystems to adjust to changing environments (medium certainty) influencing risk of crop failure in a variable environment and altering the potential impacts of pests and pathogens (medium to high certainty) (Millennium Ecosystem Assessment, 2005).

Improved understanding is needed in agro-ecosystems properties, such as complex cropping rotations, integrated crop and livestock production, functioning of mosaics of crop production areas and natural habitats, enhancing biodiversity conservation and use at both field and landscape scales, and enhanced reliance on ecological processes to manage pests, weeds, and diseases (National Academy of Sciences, 2010). Interventions are needed to ensure that biodiversity is considered in planning at the national and landscape levels to make farming more wildlife friendly, fishing less damaging, or to set land, marine and freshwater protected areas aside as reserves. Also, interventions need to recognise the importance of "wild food" in low-income countries to help protect the livelihoods of very poorest people. Further work into the economic assessment and evaluation of ecosystem services and biodiversity will need to build upon initiatives such as The Economics of Ecosystems and Biodiversity and World Bank programme on Global Partnership for Ecosystems Services and Ecosystems Services Evaluation and Wealth Accounting (Foresight, 2011).

More recognition is needed at global and international levels that food security and environmental protection are interdependent. International policy needs to ensure that countries obtain benefits from providing global goods, especially when costs are borne by low-income countries; policies are avoided that have negative environmental impacts in other countries; and the protection of biodiversity is coordinated across administrative or national borders. Whatever strategies are adopted, human impacts need to be understood and quantified as there are strong ethical arguments against imposing the costs of protecting biodiversity on those least able to pay them. There are both economic and non-economic arguments for why ecosystem services and biodiversity should be integral parts of decision-making in the global food system (Foresight, 2011).

Where action is needed and by whom?

Today's global food system is complex and dynamic, perhaps more so than at any time in human history. Continuing open and transparent dialogue, and increased collaboration between governments, the private sector and civil society, with commitments to robust standards of action and performance, will be essential to achieving future sustainability in the global food supply chain (Foresight, 2011).

Research, knowledge transfer and extension—In the face of long-term climate and environmental challenges, today's knowledge and technologies will no longer be reliable and suitable. A toolkit of integrated multiple-benefit approaches is needed (often overlapping) including: balanced-input agriculture, sustainable land management, landscape approaches, integrated pest management, integrated plant nutrient management, watershed management, rangeland management and, more broadly, integrated food energy systems. Investment in research (both public and private sector) is critical to increasing agricultural productivity sustainably. Promising technologies require promotion, piloting and scaling up; and knowledge integration needs promoting across communities of practice, including through South-South exchanges and farmer-to-farmer learning. There is also a need for more multidisciplinary research and greater integrated analysis of the relationship between food, agriculture, natural resources and climate change, as well as greater co-ordination globally between

existing research initiatives. Farming is knowledge-intensive, requiring information about crop characteristics, weather, microclimate, soil types, fertility, pests and disease threats, field rotation schemes, livestock/crop interactions, market demand, and many other factors (Worldwatch Institute, 2011). Critically the end game must be to increase producers' knowledge about best practice and bring innovation to more poor farmers in developing countries, faster.

Governance of innovation for agriculture needs to maximise opportunities for increasing production, while at the same time protecting societies, economies and the environment from negative side effects. Regulatory systems need to improve their assessment of benefits (Royal Society, 2009). Intellectual property systems need to be reviewed to ensure that patenting or varietal protection of new seed varieties does not work against poverty alleviation, farmer led innovation or publicly funded research efforts (Royal Society, 2009). EU partner countries should work together over the next five to ten years to develop a system of regulation for new agricultural processes and products, based on shared principles (Royal Society, 2009). Carbon taxes should be applied to both energy and land-use change to incentivize intensification of crop production on a more limited land areas, protection of forests and grasslands (World Bank, 2010).

Governance of the food system—Weak governance, inadequate policies, low levels of investment in agriculture, weak rural infrastructure and changing consumption patterns lie at the heart of environmental degradation by the global food system. Poor rural people, including smallholders, are often disempowered and thus unable to sustainably manage natural resources; a lack of clear land access and tenure rights removes incentives to maintain natural assets; distorting trade policies and fossil-fuel and other subsidies are key drivers; and the global population is growing rapidly. Success has often been accompanied by strong local ownership and participation, often with decentralised government structures (World Bank, 2010). The global food system needs reform—not only to increase internal coherence, but also to be more coherent with other sector or thematic objectives and governance structures—including vitally the role of the private sector which controls most of our global food resource. The solution is not just to produce more food, or change diets, or eliminate waste. The potential threats are so great that they cannot be met by making changes piecemeal to parts of the food system. It is essential that policy-makers address all areas at the same time (eg water, energy, land use, ecosystem services). Joined up government and cooperative research programs at all levels are necessary for facilitating interaction between policies and sectors (IFAD, 2011). Research needs to focus on the key questions policy makers face now—what are the big decisions, issues and opportunities in this agenda where our knowledge and understanding needs to be at its best. Research must be aimed at the key questions policy and decision makers are grappling with today. Another high level call for action will simply not have an impact or create the change that is needed on the global food system.

Global Metrics/Indicators—Despite a raft of indicators and data on agriculture and food, there is still a need for better metrics and indicators to evaluate the global food system and monitor and evaluate policies, including the role of wider factors (eg ecosystem services, climate change) on the food system. For example, the lack of baselines and benchmarking of environmental impacts has contributed to poor understanding of the poverty/environment nexus, including associated risks and opportunities. The health of natural assets such as biodiversity or soil fertility can be difficult or costly to measure. However, the use of baseline studies, indicators, resource accounting studies and impact measurement of natural assets, together with innovative partnerships with data and information providers (eg satellite companies), could help support governments and communities alike in investing in environment and natural resources management and building resilience to risks and shocks.

Private Sector/Industry/Business—Agribusinesses and food industry are concerned about long-term sustainability of their sources of supply, as well as about responding to consumers' and governments' demand for social and environmental corporate responsibility (Worldwatch Institute, 2011). The Foresight report outlined a number of key actions for the private sector around increasing collaboration with the public, NGO and research sectors. In particular, the private sector must work closely with policy makers, NGOs and other groups to assemble food and resource data and to simplify and make transparent standards for sustainable and equitable food production. The contribution of funders to research from the public, private and third-sector organisations needs better coordination. Investment in infrastructure and capacity is needed at a scale which will be realised only by innovative new partnerships between governments, multilateral bodies and the private sector. Where incentives do not currently exist for investment in research that provides public goods, new models of delivery are needed to mobilise the considerable strengths of private sector research and scientific entrepreneurship (Warham et al. 2012). The private sector must increase food literacy amongst consumers, enabling individuals to make informed decisions on the health, environmental and pro-poor consequences of the food they purchase, and work with community organisations and the private sector, locally to internationally, to simplify and make transparent standards for sustainable and equitable food production. Finally it is critical for the private sector to collaborate in research and development in food sector climate change mitigation and adaptation, ecosystem services and biodiversity support, contributing to public goods and shared interest private returns.

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Written evidence submitted by the Department for International Development

Summary

Significant global concern about food security over the last decade has not translated into significant progress. An estimated 870 million people are still unable to get enough food to meet daily energy needs, the MDG 1 hunger target will only be achieved in 58/118 countries, and around one billion people suffer from micronutrient deficiency. Meanwhile global population growth, rising demand for meat and dairy products and climate change will increase the challenges ahead.

Progress on food security and a more sustainable global food system depends on coordinated action along the whole food value chain and responsible private sector investment in agriculture. Developing more effective and efficient local, regional and global food markets is critical, as is raising sustainable agricultural productivity and a more joined-up approach to tackling undernutrition.

Food security and nutrition are priorities for the UK Government. Between 2011 and 2015, the Department for International Development will reach 20 million children under the age of five with nutrition programmes; help more than six million of the world's poorest people to escape extreme poverty; and ensure another four million people have enough food throughout the year. The approach focuses in three areas:

(a) *Increased food availability:* key interventions and investments focus on: agricultural research and innovation; improving smallholder famers' access to inputs; improving regional transport corridors and promoting more predictable and supportive trade policies; promoting sustainable and resilient food production systems that impact less on diminishing resources; and stimulating agricultural production through responsible private sector investment.

(b) *Improved access to food:* raising poor people's income by creating rural jobs and improved market access for smallholder producers; raising productivity to encourage food prices to fall relative to incomes, and expanding social protection programmes to protect vulnerable households from food price inflation and shocks. The UK Government is also working internationally, particularly within the G20, to liberalise trade and reduce price volatility in global food markets.

(c) *Improved nutrition and food utilisation:* focusing on the first 1000 days from the start of pregnancy to a child's second birthday as during this period the long term consequences of undernutrition can still be reversed. DFID supports "nutrition–specific" programmes that act on the immediate causes of undernutrition (eg vitamin supplementation, exclusive breastfeeding) as well as "nutrition-sensitive" interventions, which address the underlying problems of lack of access to food, clean water and sanitation, as well as poverty and social inequality.

DFID's approach across all three areas is underpinned by the "Golden Thread" of open economies and open societies, which support the increased transparency and accountability of food systems. In all its work, DFID aims to support women's important role in agricultural production and improve women's access to nutritious food. Environmental sustainability and climate resilience are also important cross-cutting themes in all UK aid programmes.

UK aid supports bilateral agriculture, food security and nutrition programmes in more than 20 developing countries; promotes partnerships with the private sector and with civil society organisations; provides core funding to global food agencies and research institutions to increase the UK Government's reach and impact; and influences global food policy and institutions to create an enabling environment and effective governance for agriculture and food security.

Tackling global hunger and undernutrition will continue to be a priority for the UK Government in 2013 and beyond. The Government will build on the 2012 Olympic Hunger Event—at which new commitments on reducing stunting in young children were made—with a further event on food and nutrition before the G8 Summit. The Government will also drive forward progress on the G8 New Alliance on Food Security and Nutrition, which was launched at the Camp David Summit in 2012.

The success or otherwise of the global food system in guaranteeing food security and eliminating under-nutrition with particular reference to women, children and other vulnerable groups

1. According to the latest estimates of the Food and Agriculture Organisation of the UN, between 870 million and 1 billion people are undernourished and unable to get enough food to meet daily energy needs.[1] Only 58 out of 118 countries will achieve the MDG1 hunger target and 20 countries have made no progress at all. An estimated one billion people do not get an enough vitamins and minerals in their diet, which has an impact on long-term health, physical and cognitive development. 165 million children under the age of five are chronically undernourished (stunted) because of long-term exposure to a poor diet and repeated infections;[2] another 52 million children (8%) under the age of five are acutely undernourished. The proportion of children under the age of five who are underweight (MDG1) declined from 29% in 1990 to 18% in 2010 but progress is insufficient to meet the global target by 2015.[3]

2. The global food system presently produces enough food for everyone. World agriculture produces 17% more calories per person today than it did 30 years ago, despite a 70% population increase.[4] Hunger today is

as much a problem of distribution and access as it is of food availability. In many cases, poor people do not have sufficient income to purchase enough food.[5] Tackling undernutrition is more complex still. People can become undernourished because they do not get enough of the right food to eat and/or they are sick. Illness depresses the appetite and affects the absorption of nutrients that the body needs to recover and grow. The status of women, childcare practices, access to water, sanitation and basic health services also play a part.[6]

3. Persistent hunger and undernutrition is a major challenge to human and economic development and is passed from mother to child. Children who are undernourished when very young are at a much higher risk of infections and suffer higher mortality rates. Undernutrition in girls has also been shown to have a long-term effect on cognitive ability, family size and independent earning capacity.[7] At the macro level, it is estimated that loss of productivity due to impacts of poor nutrition can equate to GDP losses of 2–3%.[8]

The implications of demographic trends, rising income and climate change on the global food system and on key indicators of food security and good nutrition

4. Population growth and changes in consumption are increasing pressure on the resources available for sustainable food production. Population growth and increased per capita demand is projected to increase total food demand by 60–70% by 2050.[9] Population growth is likely to be highest in low income countries, where agricultural productivity growth is often below population growth.[10] Rising incomes over the coming decades, particularly in middle income countries, is likely to affect diet preferences, in particular demand for meat. Some studies predict a significant increase in per capita annual meat consumption by 2050, impacting on resource use, raising global demand for animal feed, and driving up staple food prices.[11] Climate modelling makes it difficult to make predictions on future food production given some regions are likely to benefit while others are likely to be adversely affected and all projections are subject to large confidence intervals. Higher temperatures and changes in rainfall have been predicted to reduce global harvests by 7% by 2050, and in some part of the world by as much as 20% by 2030.[12] Some studies suggest that, without action to reduce these impacts, climate change could increase significantly the number of malnourished children by 2050.[13]

5. These trends could exacerbate resource competition leading to increased food price volatility. Food prices are likely to rise significantly over the next 40 years if demand outpaces growth in productivity, with a knock-on impact on food security. Global food supplies are already under pressure from rising energy prices and input costs. Half a billion people live in countries chronically short of water and by 2050 this could rise to more than four billion, with significant implications for agriculture.[14] In some parts of the developing world, population pressure and low productivity in agriculture is pushing farming into fragile ecological zones, contributing to the loss of forests and grazing lands and undermining long-term food security.[15]

The impact of global and local food shock

6. Evidence from the 2008–09 and 2010–11 global food price spikes suggests that such spikes tend to have a net negative impact on poverty, food security and nutrition. Rapid food price inflation hurts any group whose earnings do not keep up with rising prices. Higher staple food prices force households to reduce consumption and shift to less nutritious food or reduce spending on non-food items such as education and health.[16] For particular groups affected, such as families with young children, there can be long term consequences on nutrition, health, schooling and earnings of the children. Other long-term consequences stem from the need to sell assets, undermining recovery.[17] Food price increases also push up headline inflation and create fiscal problems, particularly for Low Income Countries that depend heavily on food imports.

7. The FAO estimated that the 2007–08 spike in food prices drove the number of undernourished people worldwide from 915 million to more than one billion, the highest number in more than 40 years.[18] Such projections need to be treated with caution as the calculations tend to rest on many assumptions and weak data. It is also important to note that large relative price increases benefit net sellers of the food but hurt net buyers. Over time, higher prices may also lead to a supply response with positive spill-over effects for poor households, for example through increased demand for seasonal labour. Evidence from Southern and Eastern Africa suggests a majority of rural farming households are net buyers of key staples and are therefore likely to be hurt by higher prices. Better models and data are required to assess the net poverty impacts of price spikes.[19]

How different countries and/or regions cope with food crises and the role of democracy in increasing food security

8. Developing countries' capacity to cope with food crises, whether caused by domestic crises or global price spikes, depends on a wide range of factors, including vulnerability to droughts and other climatic shocks, the general level of poverty and inequality, the country's dependency on food imports, its fiscal position, existence of scalable social protection systems and many others.[20,21]

9. While export restrictions exacerbated the global price spike in 2007–08, individual countries sought to protect domestic consumers through various trade restrictions. Indonesia, for example, avoided domestic rice price inflation in 2007–08 through a mixture of export restrictions, price controls and relaxing import tariffs. However, such market interventions were much more difficult to implement and defend in poorer countries, particularly in Sub-Saharan Africa, due to limited fiscal space and porous borders. Large safety nets

programmes, in Bangladesh, India, Brazil and Indonesia for example, also played an important role in safeguarding vulnerable people's food security in the 2007–08 food crisis.

10. Although more recent research has tended to focus on the link between food crises and political upheaval,[22] evidence on food crises that have occurred over the last decades generally supports the argument advanced by Amartya Sen in the early 80s[23] and the "Golden Thread" of open economies and open societies, that famines do not occur in functioning democracies (because famines are a failure of entitlement, not food availability, and elected leaders are responsive to their citizens' demands). Democratic accountability, well-functioning markets and effective public safety nets that protect poor and vulnerable people's entitlement to food provide the foundations for food security for all. As noted in the recent FAO report on global food security, government provision of key public goods and services within a system based on transparency, participation, accountability, rule of law and human rights is a requirement for rapid progress on hunger.[24] Conversely, there is recent evidence suggesting a close relationship between food crises and political unrest, including in the "Arab Spring".[25]

The best strategies for reducing risk from short term shocks and long term structural factors and for building resilience among the most vulnerable

11. DFID defines resilience as "the ability of countries, communities and households to manage change, by maintaining or transforming living standards in the face of shocks or stresses, while continuing to develop and without compromising their long-term prospects."[26] DFID is committed to building disaster resilience into all country programmes by 2015 and is developing a more holistic approach to risk assessment and early warning to be better prepared to respond to humanitarian needs, including food security crises.[27] DFID is also expanding the country coverage of social protection programmes from 7 countries in 2009 to 15 by 2014.

12. There is some evidence that investing in disaster resilience in vulnerable areas is better value for money than humanitarian response. A UK Government funded study found that in Kenya, over a 20-year period, every $1 spent on disaster resilience resulted in $2.9 saved.[28] Evidence of what works to reduce risk and build resilience specifically to food security shocks is limited. A small study of a DFID-funded project in Malawi found community members to be confident that they will be able to withstand future droughts without becoming food insecure, thanks to crop diversification, soil and water conservation, and drought resistant livestock.[29]

13. There is strong evidence that weather services and early warning systems help to mitigate the impacts of natural disasters. Benefits exceed the costs by a factor of 10 or more.[30] Early warning systems for rapid onset natural disasters such as floods and cyclones are classic "no regrets" options. A recent study estimated that a weather prediction system for Cyclone Sidr would have reduced agricultural impacts (through early harvesting) and losses of agricultural equipment and livestock.[31] However, early warning systems must lead to early action when triggers are reached. There is a need to learn more about what helps to trigger early action.

14. The Chars Livelihoods Programme in Bangladesh is using community public works to raise more than 100,000 homesteads on the riverine chars above the 1998 record flood levels. It also provides women with productive assets to reduce income poverty and strengthen their resilience (55,000 by 2010). Plinths have a cost-benefit ratio of 4.3 to 1 and the assets 7.9 to 1.[32] An independent controlled, longitudinal study in four chars villages[33] confirmed that the improvements in the livelihoods of flood prone households continued over time.

15. In Ethiopia, DFID supports the Ethiopian Government's Productive Safety Net Programme (PSNP), which provides predictable cash or food payments to around eight million people. The programme aims to remove these people from the relief caseload and provide them with transfers with a view to "graduating" them to a point of food security. The programme also incorporates an innovative Risk Financing Mechanism that allows the PSNP to extend the duration of assistance or add new beneficiaries in response to a shock.

16. UK aid is strengthening the resilience of poor people in Asia and Africa to withstand and recover from future shocks. The Sahel and Horn in particular need major, long-term investment to build resilience to future food insecurity. This will include safety net programmes, initiatives to improve agricultural livelihoods, regional trade, and building stronger health and education systems. A key part of DFID's approach to resilience is to ensure that our support through multilateral organisations is better co-ordinated and well-targeted.

The role of the international system, including food and agriculture organisations and the G8 and G20, and ways in which collaboration could be improved

17. Global efforts to promote food security are delivered by a diverse set of institutions, processes and initiatives. Their efforts have led to a proliferation of initiatives with competing priorities and, at times, conflicting interests. Each agency now has a reform programme to improve focus and performance and increase efficiency. At a country level, the FAO and WFP are increasing their joint programming. Key institutions and processes include:

— The *Committee on World Food Security (CFS)*, an international and intergovernmental platform for global collaboration on food security and nutrition aims to promote better cooperation between member states, civil society, international organisations and the private sector to achieve food security and nutrition for all.

— The three Rome-based UN agencies, the *Food and Agriculture Organization* (FAO), the *International Fund for Agricultural Development* (IFAD) and the *World Food Programme* (WFP) with distinct but complementary mandates. The UK is working closely together with other Member States to promote greater effectiveness and efficiency, particularly in the context of the UK Government's Multilateral Aid Review.

— The *UN High Level Task Force* (HLTF) set up by the UN Secretary General (UNSG) in 2008 in response to global food crisis. The HLTF includes UN and Bretton Woods institutions and has been playing a constructive role at country level in promoting partnerships and support for country-led processes. UK aid has provided financial and technical support.

— *L'Aquila Food Security Initiative (AFSI)* was launched at the G8 Summit in L'Aquila, Italy, in 2009 by countries and international institutions committed to improving agriculture and food security through a comprehensive and coordinated approach. Collectively, donors committed to invest $22.4 billion in agriculture and food security over a three year period. The UK Government has met its £1.1 billion financial commitment in full.

— *G8:* Since 2009, the G8 has played an important role overseeing and reporting progress of AFSI. In 2012, the G8 launched the New Alliance for Food Security and Initiative that aims to lift 50 million out of poverty in Africa by promoting economic growth centred on agriculture.

— *G20:* The G20 has played a prominent role in global food security in response to the 2008–09 and 2010–11 food price spikes. In 2011, it launched a number of new initiatives aimed at reducing price volatility, in particular the Agricultural Markets Information System (AMIS) and the Rapid Response Forum (RRF).

18. There has been much focus on Rome agency collaboration to achieve more effective, coordinated international responses to food insecurity. Each agency now has a reform programme to improve focus and performance and increase efficiency. At country level, FAO and WFP are increasing their joint programming. A more coherent and coordinated position on the need for and focus of reform in each agency is required between member countries to drive change. There is also scope for better coordination between the G8 and G20's work on food security. However, although there is obvious overlap in membership, both groups' approach to food security is generally complementary, with the G8 focusing more on concrete action to tackle food insecurity in developing countries and the G20 focusing on global food markets.

The role of the following in increasing food security and the part that DFID should play in:

Competition for land use—including for biofuels, cash crops, livestock or agriculture and the impact of diet choices on food production capacity

19. Rising global demand for food, feed and energy is likely to contribute to increased competition for land and between different land uses in many parts of the world. This can impact on food security in two ways: firstly, through higher global food prices as a result of increased global demand for food. Secondly, large-scale land acquisitions could displace people who rely on their own production to achieve food security and reduce local food availability. A lack of reliable data and the secrecy of many land deals make it difficult to estimate the scale and significance of such deals with any accuracy. The UK Government believes that private sector investment in poor countries, and the growth of small and large commercial agriculture, are key to global food security. It is also vital that the rights and interests of the people living on the land are taken into account.

20. The UK Government believes that the production of biomass for bioenergy or other non-food cash crops should not adversely affect local people's access to land and other natural resources and should not undermine food security. The UK must comply with the EU Renewable Energy Directive and Fuel Quality Directive, which contains a target for the UK to source 10% of energy used in transport from renewable sources by 2020. The UK Government has welcomed the successful negotiation of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests, concluded in May 2012. DFID will push for the implementation of guidelines to help share best practice, and shape land laws, policies and programmes.

21. Environmental degradation can undermine long term food security. In some regions, population pressure is pushing farming into fragile ecological zones and contributing to the loss of forests, savannas and grazing lands.[34] In the case of forests, land acquisitions for the purpose of plantations (timber or other tree crops) risk displacing smallholder food production, unless such acquisitions are based on informed consent and farmers are adequately compensated.

22. Through its bilateral programme, the UK Government is promoting the "Golden Thread" by working to improve the transparency of land administration systems and strengthen tenure security in a number of countries, including for example Rwanda and Mozambique. In Mozambique, DFID has also supported the government to develop their own biofuels regulatory policy. DFID also supports research and policy work to improve understanding of the relationship between food security and forests and how to secure the rights of forest-dependent people in the face of increasing competition for land. The Forestry Knowledge and tools Programme (KNOWFOR), for example, will support FAO to bring together the latest research to inform and influence global policy.

Smallholder agriculture and large scale farming

23. There is no necessary, long-term relationship between farm size and food security as households can meet food needs either through market purchases or their own production. In many parts of the world, smallholder agriculture produces a significant proportion of marketed food for rural and urban consumption.[35] A more important distinction for food security is the distinction between subsistence agriculture, on the one hand, and small or large commercial agriculture, on the other. Research in Eastern and Southern Africa suggests that less than a third of smallholder farmers account for most of the marketed surplus of key staples and that the remaining two-thirds are net-buyers of these staples.[36]

24. Strategies to promote food security need to be differentiated to respond to the evolving needs and potential of these different groups of smallholders. Commercial agriculture plays a vital role in food production, lowering food prices and generating income and employment for landless labourers and smallholders (whose farms fall below a minimum threshold of economic viability). Depending on existing farm size distribution and land availability, small and large farms can play complementary roles in a commercial agriculture sector. In the short to medium term, small farms are likely to retain a competitive advantage over large farms in the production of staple foods and traditional cash crops, particularly in poor economies.[37] The priority for both growth and food security is to invest in public goods, address market and coordination failures and create a stable and predictable policy environment. However, with economic development and for higher value crops with significant processing requirements, the advantage is likely to shift to larger farms with lower per unit transaction costs beyond the farm gate. Here public policy can promote food security by promoting business models that create jobs or sourcing opportunities for smallholder farms. In high potential but under-developed regions, a critical mass of investment by large agribusinesses may also help to reduce transaction risks and costs for smallholder agriculture and promote wider investment and growth.

25. DFID supports a wide range of agricultural and food security programmes in more than 20 countries. DFID bilateral support involves three broad approaches:

- Investing in public goods such as infrastructure and agricultural research and promoting an enabling environment for small and large agricultural businesses. For example, in Rwanda, DFID is supporting land tenure reforms which will provide four million men and women with title to the land they farm by 2015.
- Supporting safety nets, income diversification and more resilient production for smallholder subsistence farmers, with limited or uncertain commercial potential. For example, DFID provides more than £9 million to the Consortium of FARM-Africa and Self Help Africa, which is expected to significantly increase production and returns of 930,000 smallholders.
- Supporting commercial-oriented agriculture to improve food security and promote poverty reduction, focusing on both smallholder farmers and larger agribusinesses with the potential to source from or employ smallholder farmers. For example, DFID is supporting the Beira Agricultural Growth Corridor in Mozambique which is enabling organised groups of smallholders to access credit and essential agricultural inputs and sell their produce on better terms.

The private sector

26. Agricultural production is predominantly a private sector activity and private investment in agriculture, by small and large farms and domestic and foreign investors, is critical to raising agricultural productivity. This in turn makes more food available at lower prices and increases the urban and rural poor's access to food.

27. Investment in agriculture in developing countries is dominated by domestic farm investments and on-farm investment is estimated to exceed public investment by a factor of more than three to one.[38] Foreign Direct Investment in agricultural is therefore relatively small, accounting for less than 1% of total investment and for only 5% of the total FDI stock in Sub-Saharan Africa.[39] Estimates of the investment gap in agriculture required to achieve food security or a certain rate of growth vary significantly. Whatever the figure, it is clear that public funds, whether ODA or domestic public investment, need to be complemented by significant private sector investment if these target are to be met.

28. Developing country governments and international donors can play an important catalytic role, using funds to leverage private investment and supporting and incentivising investment that contributes to poverty reduction and food security. This requires an enabling environment for private sector investment based on the rule of law, sound property rights and a predictable policy environment. Public investment in public goods such as roads is also essential to reduce business costs and promote market development. Governments and donors can play a vital role in funding market coordination or facilitation, particularly in poor rural areas and in food staple markets, where high transaction costs and risks are likely to discourage private sector-led coordination and investment. Public funding can also play an important role de-risking private investment in markets or regions where social returns are likely to be high but economic returns may take time to materialise or are uncertain.

29. DFID supports a number of flagship programmes to promote agricultural commercialisation and the sustainable inclusion of smallholders in agricultural value chains. These include the African Enterprise

Challenge Fund (AECF), a USD 150 million fund which provides competitive matching grants to companies with innovative business models. AECF is increasing agricultural trade in Africa by backing innovative commercial agribusiness initiatives. In its four years of operations, the Fund has provided loans and grants to 88 agribusiness companies in 17 countries in Africa. The companies supported by the Fund have provided jobs or contributed to an increase in the incomes of around three million poor rural Africans. The Food Retail Challenge Fund (FRICH) pilots partnerships between UK retailers and African farmers that promote African food exports to the UK and the Business Innovation Facility (BIF) provides technical assistance to agribusiness companies in-country who are committed to combine commercial returns with long-term development impact. In 2012, the UK Government also supported the launch of the New Alliance for Food Security and Nutrition, a new G8 and African Union initiative (see details below).

New technologies, including irrigation, and the dissemination and distribution of these, with special reference to small farmers and women

30. A sustainable global food supply will depend on addressing future threats to existing productivity and on the sustainable intensification of agriculture, that is, increasing productivity at a rate significantly greater than has been achieved in the past two decades using progressively fewer resources. Technology has the capability to develop new crop varieties which are more productive and resilient to biotic and abiotic stress, farming systems which use resources more efficiently and which are more resilient in the face of climate change, and new evidence to support better agriculture policies and programming.

31. There is a comprehensive body of evidence demonstrating global impact of international agricultural research over four decades. For every $1 invested in international agriculture research at least an additional $9 worth of additional food is produced in developing countries [source]. More than 60% of modern plant varieties grown in developing countries have ancestry originating in the research centres which make up the Consultative Group on International Agricultural Research (CGIAR)[40] and 30% of yield growth between 1965 and 1998 in developing countries can be attributed to plant genetic improvement. According to recent analysis of the impact of CGIAR research published since 2000, CGIAR rice breeding is credited with reducing poverty in India and China by two million and one million people per year respectively whilst maize breeding in Africa has lifted 740,000 people per year above the poverty line.

32. In many developing countries, markets for agricultural inputs, services and outputs are either underdeveloped or non-existent, limiting private sector investment and slowing technological innovation. Publicly funded research and extension services cannot adequately compensate for the investment gap, yet private sector investment in developing country is low: of the $39.6 billion of investment in agricultural research in 2005, only 2% was private sector investment in low and middle income countries.[41] The benefits of agricultural research have also not been shared evenly with women, in particular disadvantaged women. Women make up the majority of the agricultural workforce in many developing countries yet yields on women's plots are typically 20% to 40% less than men's.[42] Rural adolescent girls especially have little or no direct control over assets, even if employed.

33. DFID is scaling up its work on agricultural innovation, particularly understanding what works in delivering new technologies and products and getting them into use. This includes support to programme activities which address relevant market failures and fully support the innovation cycle and which directly address a widely confirmed research finding—the slow pace of technological innovation in the agriculture sector in sub-Saharan Africa. There are four main elements of the DFID Agriculture Research Programme:

(a) Long term investments in advanced science: Joint projects with the UK Biotechnology and Biological Science Research Council (BBSRC) and southern research partners. These projects provide the basis for the development of new technology and diagnostics through the use of advanced bioscience (around 15% of funding);

(b) International agriculture public goods research: Developing the new technology (plant and livestock varieties and farming systems) and knowledge necessary for more productive, sustainable, resilient and profitable agriculture in the future. Support for the CGIAR, other international research centres and regional research in organisations in Africa and Asia (around 50% of funding);

(c) Supporting faster agricultural innovation and getting technology into the hands of farmers, in particular women: testing new institutional models; strengthening the evidence base and increasing the availability of new and innovative products relevant to smallholders;

(d) Supporting policy with better evidence: researching agriculture–health links (eg zoonotic disease, nutrition and aflatoxin); supporting agricultural policy-making in Africa (around 10% of funding).

34. Examples of agricultural research programmes funded by DFID include: funding to the G20 AgResults programme, an initiative launched in June 2012 to generate and test the use of results-based incentives designed to stimulate private sector investment and innovation in the development and delivery of agricultural technologies. DFID has funded GALVMed, a not-for-profit organisation which seeks to address widespread market failure in the development of livestock medicines and vaccines for use in developing countries. In 2009, Galvmed began commercial distribution of a vaccine against East Coast Fever, a tick-transmitted disease that

kills one cow every 30 seconds. The vaccine was based on technology which had been developed 20 years previously but which had never been licensed for commercial application. GALVMed was able to use public funds to get the vaccine licensed for use. It could save the 11 African countries affected by the disease at least £175 million a year. In 2013, DFID also plans to support the development, application and evaluation of mobile phone based agriculture extension systems through partnerships with CABI and with GSMA. Rural women, who make up the majority of the agricultural workforce in South Asia, represent a large untapped market for mobile growth. Content will be tailored to meet the demands of the poor farmers in South Asia and Africa with a strong emphasis on women farmers.

Global policy measures, including monitoring, food stocks, financial shock facilities, food, nutrition and agriculture initiatives

35. Global policy measures can make an important contribution to food security by improving the functioning of global food markets, facilitating global trade and investment in agriculture and, ultimately, reducing food price volatility. Access to accurate and timely data on hunger and undernutrition is also essential to improved global action. In 2011, the G20 launched a new initiative to improve market transparency, through the availability of better market information (the Agricultural Markets Information System or AMIS), and encourage coordinated policy action in response to market uncertainty (the Rapid Response Forum). DEFRA leads for the UK Government on these initiatives.

36. DFID supports the Integrated Phase Food Security Classification system, a set of protocols for classifying the severity and causes of food insecurity based on available data and a process for building technical consensus among key stakeholders. The FAO/Gallup Household Survey of Hunger Experience is another, complementary approach which may provide a better global picture of who is hungry, where and why.

37. The UK Government believes that free trade and effective and efficient markets provide a greater level of food security than large-scale, public food stocks designed to manage price volatility at national or international level. Experience to date suggests such stocks are expensive to run, with implications for fiscal positions, and are likely to crowd out private sector stocking initiatives and would therefore not necessarily stabilise prices. DFID supports, in principle, proposals for regional emergency humanitarian food stocks in high risk regions such as the Sahel, to improve the speed and effectiveness of the response to humanitarian disasters.

38. The UK Government has met its financial commitments under the L'Aquila Food Security Initiative (AFSI) in full and will continue to provide broadly equivalent resources to those committed under AFSI for tackling food and nutritional security in the foreseeable future.

39. The Global Agriculture and Food Security Programme (GAFSP) is a multi-donor trust fund set up to help deliver on the funding and aid effectiveness commitments made at L'Aquila. It provides funds for technically robust, country-led agriculture and food security projects in low income countries. It has separate windows for public sector and private sector investments. In May 2012, the UK Government announced a £75 million contribution to GAFSP.

40. The "New Alliance for Food Security and Nutrition" emphasises the important role played by the private sector in creating rural jobs and market opportunities that can benefit smallholder farmers, particularly women. In addition to its GAFSP contribution, DFID will provide £395 million over the next three years, including through existing or planned programmes in Ethiopia, Tanzania, Ghana and Mozambique.

41. The UK Government recognises the Scaling up Nutrition movement (SUN) as the leading global mechanism for bringing all actors together to tackle under-nutrition, focused on the critical "1,000 day window". Twenty-seven countries have signed up to SUN, 20 of which are in Africa. DFID is actively supporting SUN in Ethiopia, Malawi Mozambique, Nigeria, Sierra Leone, Tanzania, Uganda, Zambia (where DFID is the donor convenor) and Zimbabwe, and beyond Africa in Bangladesh and Nepal. DFID has also provided £1.9 million to strengthen SUN coordination, accountability and results.

42. UK aid is also scaling up its own bilateral nutrition programmes in over 10 countries. For example, in Bangladesh, DFID is integrating the delivery of vitamins, minerals and other nutrition support into three existing programmes which tackle extreme poverty. These interventions will reach 243,000 adolescent girls, 103,500 pregnant women and 225,000 children under five years of age. In Zimbabwe, UK support to the Health Transition Fund will halve the prevalence of malnourished, underweight children under five years from 9.9% in 2009 to 5% in 2015.

Food markets, trading, storage and distribution

43. Developing more open and efficient regional markets in agricultural inputs and outputs has the potential to leverage larger-scale private investment and create new opportunities for millions of farmers. It is also essential to achieve food security by improving market linkages between food deficit and surplus areas across Africa. Cross border trade helps to stabilise food prices and encourages farmers to invest in increasing their production. A well-functioning market will maintain prices between the import and export parity and help mitigate the price fluctuations caused by poor harvests, bumper harvests and other local variables. This enables farmers, traders and other market players to operate with less price risk and encourages their investment in the market. The World Bank has highlighted the failure to exploit regional trade in food staples to advance food

security and economic growth and attribute this to regulatory barriers to trade and a lack of investment in staple food markets.[43]

44. Better on farm storage will also help stabilise prices and increase food security. In poor rural areas, farm storage systems are characterised by significant quantitative and qualitative losses, which encourages farmers to sell their harvest early and discourages the retention of stocks in rural areas between seasons.[44] Poor information exchange between farmers, traders, markets and governments means that high levels of uncertainty and risk is the norm in the food markets of the region. The market systems for inputs and services suffer from many of the same failures as the food product markets. Inconsistent agricultural and trade policies and inappropriate regulatory frameworks affect every part of the food staples market system and are a key constraint on their function.[45] Food staples are important to the political economy in many countries and their governments frequently intervene in these markets.

45. The UK African Free Trade initiative (AFTi) was launched in 2011 to "oil the wheels of trade in Africa". AFTi brings together regional trade initiatives from across DFID, BIS and the FCO to improve trading conditions in Africa. AFTi is working with the regional economic communities in East and Southern Africa to secure the free trade area that governments from Cairo to the Cape agreed to establish by 2014. In the short term, the AFTi is taking concrete steps to streamline cross border bureaucracy, modernise customs and revenue procedures and stamp out restrictive trade practices. DFID has set up www.tradebarriers.org which has registered 350 complaints about red tape and resolved 72% of them.

46. In the medium term, DFID is raising the public and private finance needed to improve the transport infrastructure on which businesses, small and large depend on to trade goods and services across the continent. DFID is providing seed financing that reduces commercial risk and encourages both private and development financing for ports, roads, bridges and railways.

The role of commodity funds and major global commodity companies

47. The UK Government recognises the damaging impact of high food prices on poor consumers in developing countries. Based on continued assessment of the evidence, the Government believes that changes in supply and demand, rather than speculation, are the main factors behind the recent spikes in global grain prices.

48. There is no compelling evidence to suggest that financial market speculation contributed significantly to price volatility, either in 2008 or now. The weight of evidence from investigations into commodity index investors is inconsistent with them being a significant causal factor in agricultural price bubbles.[46] Furthermore, the operation of commodity derivative markets enables producers and consumers to hedge against the risk of future price changes and facilitates more effective price discovery.[47]

49. Tackling food price spikes is best done by making global markets work more effectively and preventing export restrictions that only make the problem worse. Carefully targeted social safety nets are also important to help poor consumers in developing countries cope with price inflation. The UK Government is working internationally, particularly with other members of the G20, to liberalise trade and make commodity markets function more efficiently. The Government is promoting greater sharing of information on existing stocks, and discouraging disruptive actions such as export bans, which limit supplies and drive up prices.

50. The private sector is vital to ensuring food security both now and in the future. We are not aware of evidence that the major global commodities companies represent a threat to food security.

December 2012

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Supplementary written evidence submitted by the Department for International Development

A number of questions were raised during the oral evidence session of the International Development Committee on 18 April that the DFID Parliamentary Under Secretary of State was unable to answer immediately and for which agreement to answer subsequently was given.

Those questions and the answers provided from DFID officials specifically were:

Q155: *In DFID's written evidence it states that there are bilateral nutrition programmes in over 10 countries. Can you tell us how many nutrition programmes precisely there are?*

Answer: DFID has bilateral nutrition programmes in 16 countries.

Q156: *It would also be useful to know if DFID plans to increase the number of bilateral nutrition programmes*

Answer: Future DFID plans on nutrition will be announced at the Nutrition for Growth: *Beating hunger through business and science*, Global Event on 8 June 2013.

Q157: *Ertharin Cousin of the World Food Programme said that 33 developing countries have committed themselves to nutrition programmes. Her starting point was that any programme DFID is operating that had made such a commitment, that DFID should surely have a bilateral programme to support that. I am not asking you to answer that question now, but I think it would be quite helpful if you could give us a response to it*

Answer: This is a reference the Scaling Up Nutrition (SUN) global movement. 34 developing countries have now committed to develop nutrition programmes as part of the SUN.

DFID is an active donor supporter of the SUN movement. It has provided financial support to the SUN secretariat; supports the SUN civil society coalitions in SUN countries. The UK is also co-chair of the SUN donor network and is the donor convenor (coordinating donor support) in Ethiopia, Nigeria, Yemen and Zambia.

DFID does not have a presence in all the SUN countries, therefore it would not be appropriate to have bilateral programmes in all SUN countries.

Q178: *I would be very interested if at some stage the Department could report back on how it is working with countries on this issue, (implement the UN's voluntary guidelines on land tenure) both on the voluntary guidelines and with regard to perhaps extending the Rwandan project*

Answer: The UK government is pushing for the national implementation of the Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests, to help share best practice, and shape land laws, policies and programmes. This agenda is also being addressed at the G8. The UK government supports developing countries' efforts to improve land and property rights in 8 countries across Africa and Asia. Many of these programmes already address the principles included in the Guidelines. For example, in Mozambique, jointly with other donors, the UK is supporting the recognition of customary rights to land through participatory processes. In Nepal, the UK is supporting forestry and natural resource policies and governance.

Building on the experience of the Land Tenure Reform programme in Rwanda, which will secure rights to land for over 4 million people by 2015, a new DFID programme is under design in Ethiopia. This programme will look at the broader benefit and impact of land registration. Commencement of the programme will be subject to the outcome of the design phase and ministerial approval. The UK government, jointly with other partners, is considering support to the government's efforts to implement land certification to drive productive land use.

Q181: *Could I ask, shall we say, since the start of this year, how many of the other G8 countries our Secretary of State has had a bilateral meeting with to explain the development goals we have for the G8? Can you give us a guarantee that before the conference she will have had a one to one with her opposite number in each of the other seven countries to seek commitments to the goals we are developing for our summit?*

Answer: The Secretary of State and DFID ministers have met their G8 counterparts at a number of high level global meetings and bilateral visits and are in regular contact on a number of development issues. Interactions have included top level messaging on "getting our own house in order" under the Prime Minister's tax, trade and transparency agenda for the G8. As noted during the IDC session, G8 sherpas undertake preparatory work for a G8 Summit. As we near the summit, it will become clearer in which areas Ministerial conversations will be required to achieve the Prime Minister's goals.

Q189: *I am keen to understand the link between research and policy. Could you give us perhaps a couple of examples where our investment in research has yielded policies that are working out in the field?*

Answer: Since 2005 DFID has funded the *Future Agricultures Consortium* (FAC) in Africa. FAC undertakes research and provides advice and information to improve agricultural policy and practice in Africa. Examples of influence from this research have included:

FAC research into the demand for credit in the Kenyan Agriculture sector helped to uncover the scale of the gap between demand and supply (over ksh 100billion/year). After working with Kenyan government officials, FAC research was used to support the design of a risk-sharing scheme to incentivise private sector finance in the agriculture sector. This was announced by the Kenyan Minister of Finance in the annual Budget Statement for 2011–12.

The findings of FAC research on Graduation of Households from the Productive Safety Net Program (PSNP) was presented to district and regional officials in Ethiopia in 2011 and 2012. These findings were then used by the Tigray Regional Bureau to improve their strategies for supporting the graduation of people out of safety net schemes.

FAC are currently being engaged by DFID to support the planning for and delivery on commitments to the New Alliance for Agriculture and Food Security and Nutrition. As part of this process, FAC research on the political economy of agriculture is being used by African countries to assist them in the development of their strategies to implement their commitments to the Comprehensive Africa Agriculture Development Programme.

CGIAR Research—Micronutrient malnutrition, also known as "hidden hunger", afflicts billions of people worldwide, leading to blindness, stunting, and impaired cognitive development in children, increased susceptibility to infectious diseases, and even premature death.

DFID is a majority funder of *HarvestPlus*, who breed staple crops consumed by the poor—and often malnourished—in Asia and Africa with higher levels of vitamin A, iron and zinc.

HarvestPlus has influenced government policies. In Uganda, the Ministry of Health included biofortified crops in its monitoring and evaluation plan for micronutrients. Their work also contributed to the local Scaling Up Nutrition (SUN) framework and the Government's new Nutrition Plan. More than 60% of farmers in Uganda adopted orange sweet potato which provides more dietary vitamin A. As a result, total vitamin A intakes among children and women increased significantly in both countries. Notably, for children aged six to 35 months, orange sweet potato contributed to their total vitamin A intake to 53%. Vitamin A cassava, iron beans and iron pearl millet have also been released in Nigeria, Rwanda and India respectively.

Q201: *Where would you do that? (ie catalysing investment from the private sector with smallholder producers). Would it be a team at DFID headquarters who talk to the corporate boards at Nestlé, shall we say? Or would it be done at a country level?*

Answer: In relation to how DFID facilitates contract farming agreements by providing finance inputs and guaranteed markets for smallholder produce there are several mechanisms that DFID supports that allows this:

DFID gives Programme Partnership Arrangement funding to *Fairtrade International*. Part of their model is to ensure farmers know the minimum price they will receive for their production. If the market price is higher, the farmers will receive the market price. Fairtrade is a globally successful voluntary standard.

The African Enterprise Challenge Fund is a $200 million investment fund which provides grants and 0% loans to fund innovative agribusiness and renewable energy ideas which are commercially viable and have high development returns in the creation of jobs, increased incomes and improved inputs for small holder farmers. The companies with AECF supported out-grower schemes are working with small holder farmers to integrate them into their supply chains through helping to improve crop quality and buy harvested produce. Overall the company out grower schemes supported by the AECF are achieving impact quickly. In 2011, these companies benefitted 103,846 households with an average rise in income per household of $163. They employed 1,944 full time employees which represents a net additional creation of 641 jobs from 2010.

Through the Food Retail Industry Challenge Fund (FRICH) DFID is providing £7.4 million to private enterprise to help increase routes to market for African food producers and benefit poor farm workers and smallholders.

The nature of FRICH-supported companies and small holder farmers varies and, in large part, depends on the commodity in question.

- In coffee, tea and cocoa (and to some extent nuts) large companies are interested in security of supply. This tends to lead to the establishment long-term relationships with farmers based on fair market prices (rather than fixed prices or quotas). An example, of FRICH's support includes support to Bettys and Taylors of Harrogate in Rwanda where we helped with the introduction of a business model that guarantees quality of supply and sustains it by sharing higher returns equitable amongst the tea producers, factory operators and Bettys and Taylors.
- In other, more niche, products competitive pressures influence the nature of the "deal" done with small holder farmers. For example, FRICH has supported Ndali (UK) and Ndali Estate Uganda to develop a range of high quality Ugandan sourced vanilla products. Ndali has strong links to 1,200 small farmers in Western Uganda, members of Mubuku Vanilla Farmers Association. With a fixed price arrangement in place, FRICH funds have helped Ndali expand their product range and grow their business increasing volumes for small holder producers.
- In fresh produce, some volume guarantee arrangements are put in place. Prices are fixed against the market. For example, in the context of such arrangements, FRICH has worked with Waitrose to ensure that suppliers can meet Waitrose required standards.

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