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NFU summary of Government's Foresight Report

The Future of Food and Farming: Challenges and choices for global sustainability

Government Office for Science Foresight study, published 24 January 2011.

(This is a summary of the summary, from a NFU perspective. The report is over 200 pages long, not including over 100 additional reviews and papers. It is worth a read and can be accessed for free at www.bis.gov.uk/Foresight)

1. The challenge:

The global food system will experience an unprecedented confluence of pressures over the next 40 years: Global population size increasing to over nine billion by 2050; increased wealth leading to demand for a more varied, high-quality diet requiring additional resources to produce; greater competition for land, water and energy; increased impact of climate change; continuing globalisation with accompanying economic and political pressures. The need to reduce greenhouse gas emissions and adapt to a changing climate will become imperative.

The food system is failing in two major ways:

- Hunger is widespread. A billion a hungry, a billion lack essential micronutrients, a billion are overweight or obese.
- Many food production systems are unsustainable.

5 key challenges that need urgent action:

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

2. Key policy actions:

There is no single solution. Actions must be taken simultaneously if they are to work. Food is a unique commodity and the food system is highly complex, with interlocking and interacting drivers from farm to fork. The report gives a stark warning – the food system must be given higher political priority, a radical re-design is needed and the consequences of inaction are

severe. Decision-makers must take a much broader and more joined-up perspective, viewing all policies through the 'global food system' lens. Bold actions and very difficult decisions will be needed.

- More food must be produced sustainably using all existing knowledge, technology and best practice, and by investment in new science and innovation and infrastructure to benefit all producers.
- Contain demand for the most resource-intensive foods.
- Minimise waste in all areas of the food system.
- Improve political and economic governance of the food system.
- Reduce the environmental footprint of the food system.
- Do not close off any policy options or technologies, and base decisions on evidence.
- Maximise the benefits of globalisation and ensure fair distribution.

Priorities for action for policy makers:

1. Spread best practice.
2. Invest in new knowledge.
3. Make sustainable food production central in development.
4. Work on the assumption that there is little new land for agriculture.
5. Ensure long-term sustainability of fish stocks.
6. Promote sustainable intensification.
7. Include the environment in food system economics.
8. Reduce waste – both in high- and low-income countries.
9. Improve the evidence base upon which decisions are made and develop metrics to assess progress.
10. Anticipate major issues with water availability for food production.
11. Work to change consumption patterns.
12. Empower citizens.

3. Drivers of change:

- i. Global population increases
- ii. Changes in size and nature of per capita demand
- iii. Future governance nationally and internationally (globalisation, emerging agricultural superpowers, private sector consolidation, market interventions, volatility)
- iv. Climate change
- v. Competition for resources (land, energy, water)
- vi. Values and ethical stances of consumers (e.g. production systems, new technologies)

4. Concepts and notable statements:

❖ Sustainability defined

The term implies the use of resources at rates that do not exceed the capacity of the earth to replace them; that food production and economic growth must create sufficient wealth to maintain a viable and healthy workforce and skills must be transmitted to future generations of producers; and there must be resilience to shocks and stresses. Sustainability cannot be pursued in the absence of food security and policy-makers must appreciate the inevitable trade-offs.

❖ **'Sustainable intensification' is a necessity.**

Sustainable intensification (term coined by Royal Society's 2009 report 'Reaping the Benefits') means simultaneously raising yields, increasing the efficiency with which inputs are used and reducing the negative environmental effects of food production. It requires economic and social changes to recognise the multiple outputs required of land managers, farmers and food producers.

❖ **New science and technologies**

Investment in R&D is critical, with new knowledge needed just to stand still. There must be a reversal of the low priority accorded to research on agriculture in most countries. Better coordination of public and private sector funding is needed. The time lags between research and benefit are significant so investment in new knowledge needs to be made now and be sustained over decades.

New technologies such as GM, cloning and nanotechnology should not be excluded *a priori* (without experience or evidence), on ethical or moral grounds, but all views must be respected. Decisions about the acceptability of new technologies need to be made in the context of competing risks (rather than by simplistic versions of the precautionary principle); the potential costs of *not* utilising new technology must be taken into account. Communication to policy makers, users and the public is essential, not least to engender trust in new science and its application.

❖ **Extension services**

Extension is a key ingredient in increasing yields sustainably. There are no simple blue-print solutions that have universal application. The revitalisation of extension services to increase the skills and knowledge base of food producers is critical to achieving sustainable increases in productivity in low-, medium- and high-income countries. Real gains can be made by combining biotechnological, agronomic and agro-ecological approaches.

❖ **Waste**

Post-harvest waste must be reduced (focus on low-income countries); consumer and food service waste must be reduced (focus on high-income countries).

❖ **Self-sufficiency and trade**

Food security is best served by fair and fully functioning markets and not by policies to promote self-sufficiency. However, placing trust in the international system does not mean relinquishing a country's sovereignty, rights and responsibilities to provide food for its population. Trade restrictions at times of crisis are damaging and must be prevented.

❖ **Meat**

This is a complex issue. There is a role for livestock products in a balanced diet. There should be investment in, and incentives for, production systems that maximise efficiency of inputs and reduce greenhouse gas emissions.

❖ **GHG reduction**

Climate change mitigation policies must take full account of their potential impact on the global food system, including yields, inputs, welfare etc. Other sectors may have to set more ambitious emissions reduction targets so that food production is not constrained. Improved resource use efficiency and science and technology have significant potential to reduce the pressure on the food system to expand and therefore limit GHG increases. Metrics should be developed to enable government-backed food sector sustainability standards to be set.

5. Initial NFU reaction:

Media Release

Monday January 24 2011

British farming will play its part in global food security

Government agriculture policy should be forward thinking and coordinated to enable the UK to contribute to world food security, the NFU said today.

It follows the publication of the Foresight Report on Food and Farming which was commissioned by the Government's Chief Scientific adviser Professor Sir John Beddington. It provides compelling evidence for global governments to act sooner rather than later in order to feed an estimated world population of 9 billion by 2050.

NFU chief science adviser Dr Helen Ferrier said: "The information from this report is valuable and contains important messages for government, industry and civil society about British food and farming, as well as the massive challenges in developing countries. The British agriculture industry is intimately linked to the global food and energy supply system and is subject to the damaging volatility in weather and prices that characterise the 21st century. The UK has a responsibility to increase its productivity and to make best use of our resources, infrastructure and geography. Yield and quality losses due to pests, diseases and weather amount to a waste of resources that the world cannot afford. There are high expectations on our farmers so we need forward thinking policies, effective supply chains and investment in R&D to be able to produce more while impacting less on the environment.

"Both UK and European institutions must act according to the clear need for sustainable intensification of farming, reducing waste in all parts of the chain and implementing policies that are based on robust evidence. New technologies and farm management practices, as well as the promotion of existing knowledge and best practice, are critical. There is no single solution and all technologies must be considered when we are facing such a major global challenge.

"British agriculture has a critical role to play in securing food supplies for the long term and we must look at how the UK can be part of the solution rather than having an island mentality. But we can only do that if the Government takes its own commitment to increasing food production seriously, recognises the value of domestic production and puts in place a policy framework that will enable Britain's producers to optimise productivity while protecting the environment in a changing world."

An **action plan** has been published by Foresight, with key stakeholder organisations saying how they will use the report. NFU President Peter Kendall was a member of the Foresight High Level Stakeholders Group and we said:

"The future of British agriculture and horticulture is intimately linked with food and farming globally, and the challenges of climate change, volatility, resource depletion and population growth. The NFU sees considerable opportunities for British farmers in the coming decades, alongside the clear need to be more productive at the same time as providing environmental benefits. The importance of scientific research and development, new technologies and practices, knowledge exchange, and effective supply chains must not be under-estimated.

The fact that the Foresight report was developed through independent and rigorous analysis and backed by high-level global stakeholders is valuable. We hope it will help us in articulating our messages about the critical role of British agriculture in securing food supplies for the long term, and the forward-looking policies that are essential in achieving this. We expect the

report to provide a sound evidence base for our policy development in these areas, informing our speeches, articles, publications and discussions with key decision makers and opinion formers. We look forward to working with the Foresight team to enable the report to have maximum impact nationally, in Europe and around the world.”

A final word...

There is a huge amount of information and analysis behind the report and some is bound to have been lost in drafting. Much of the report focuses on the developing world and there seems to be a desire to be politically correct in some places. There are certainly some assertions, interpretation and emphasis that we would question. The NFU will continue to work through all its channels to ensure British farmers' and growers' interests, and their ability to play a key role in food and energy security, are fully recognised and championed by government, supply chains and society.

