UK Food Security Assessment: Summary

Each indicator is fully described and assessed in the main document (click on indicator names). Text boxes provide additional context on specific issues.

Key
- = *Favourable*
- = *Somewhat unfavourable / uncertain*
- = *Very unfavourable*

Theme description			Rationale and associated risks	Assessment of current position	Current position compared to mid-1990s	Assessment of likely position in 5-10 years	Comments on assessment
1. Global availability	**1.0**	**Global food output per capita ***	*Basic indicator of global availability per person. Includes box on UK contribution*		Improvement		Food supply has outgrown population, but challenges ahead, including equitable distribution: Over 1.6 bn people globally are overweight, but 1 billion are under-nourished. Substantial waste.
"The principal food security challenge for the UK is a global one" (Food Matters report). Global supply underpins UK availability and prices. Supply will need to meet growing global demand and deal with emerging climate challenges. Well-functioning markets are needed to spread these risks and send the right production and investment signals.	1.1	**Cereal yield growth rates by region**	*Rising yields have driven the 20th century expansion of food supply. Can they continue?*		Similar		Steady yield growth, population growth slowing; scope for Africa to improve, but need to meet climate challenge
	1.2	**Real commodity prices**	*Provides short and long-term indication of availability / scarcity*		Similar		Prices well down from 2008 spike, but continued volatility on the supply-side likely.
	1.3	**Stock to consumption ratios**	*Leading indicator of vulnerability of markets to supply shocks*		Deterioration		Low stocks contributed to 2008 price spike. Have recovered but still rather low for feed grains.
	1.4	**Share of global production internationally traded**	*Global food security relies on extensive trade*		Similar		Good share traded except for rice - and slight upward trend, though not all trade will be truly "free"
	1.5	**Concentration in world commodity markets**	*Trade system needs to be diverse and competitive*		Improvement		Declining trend in concentration, and leading global suppliers considered stable.
	1.6	**Agricultural research spending**	*Reflects outcome of applied technology and indicator of future potential*		n/a		Data poor; total spend not falling, but questions over composition
	1.7	**Impact of animal disease on meat production**	*Animal disease reduces available supply, but how significant is it globally and across the EU?*		Deterioration		Evidence of disease losses shows that only minor proportions of EU and global supply are typically affected
	1.8	**Growth trends in demand**	*A closer look at the demand side of the headline indicator*				
2. Global resource sustainability	**2.0**	**Global land use change**	*Extensification puts pressure on eco-system services that can affect future capabilities*		? / deterioration		Unclear how much forest loss attributable to food production; small rise in farmland use since 1990s
Climate change is likely to create new stresses on natural resources. Food must be produced in a way that is environmentally sustainable or we will set up problems for the longer term.		**Contextual indicator on global carbon emissions**	*Agriculture already having to adapt to climate change, but GHGs exacerbate long-term challenges*				No assessment - contextual indicator only. See Box 3 on links between climate change and food security.
	2.1	**Fertiliser use / per capita food production (intensity)**	*Intensive production can impact on soil and water quality and bio-diversity*		Deterioration		Falling in early 1990s, but rising trend since. Scope for more efficient fertiliser usage in developing countries
	2.2	**Water productivity of crop production**	*Are we getting more "crop per drop"? It will need to rise in future*		Deterioration		Overall water productivity slightly deteriorating, and big challenges ahead
	2.3	**Water withdrawal by agriculture**	*Agriculture a big user of freshwater. Poor governance and a drier climate would affect production.*		Deterioration		Poor in certain regions, without affecting overall global availability - for now
	2.4	**Global fish stocks**	*An important source of dietary protein for many - are stocks sustainably harvested?*		Deterioration		Well-established data on this. Aquaculture becoming more important, but needs to be sustainable.
	2.5	**Agricultural genetic diversity**	*Are we excessively reliant on a narrow genetic plant or animal base?*				
	2.6	**Pesticide usage**	*Pesticides can affect food production in the long-term by impacting upon bio-diversity*				
3. UK availability and access	**3.0**	**Diversity of UK supply**	*Sourcing food from a diversity of countries, including domestically, spreads risks*		Similar		UK has impressive diversity - 26 countries account for 90% of supply
Sourcing nutritious food from a range of stable countries including domestically enhances security by spreading risks, widening options and keeping prices competitive. Gateways into the UK are a key element of the UK's food infrastructure,	3.1	**EU's share of imports into the UK**	*EU single market provides a particularly strong supply base*		Improvement		69% of import trade comes from EU25 (in value terms), up from 62% in 1993
	3.2	**Diversity of fruit and veg supply**	*UK relies heavily on imports of fruit - important for healthy diet*		Improvement		24 countries supply 90% of UK fresh fruit; veg supply also become more diverse
	3.3	**EU-wide production capability**	*How easily could EU supply respond to shortages in world agricultural markets?*		Improvement		EU's agricultural productive potential (esp yields) has increased and is favourable
	3.4	**UK production capability ***	*Complements EU indicator above: basic elements of capability provide option value*		Similar		Similar trends to the EU; some minor loss of land, but good yield potential
	3.5	**Potential of UK agriculture in extremis ***	*Relevant for extreme scenarios of isolation - involves enforced change of diet*		Similar		Initial calculations are favourable (assumes less meat) but could be refined
	3.6	**Number and diversity of entry ports into the UK**	*Ports are a critical link - vast majority of imports come by ship*		Similar		Appears to be good regional diversity, including airports and channel tunnel
	3.7	**Flexibility of ports in handling sea-borne imports**	*How easily can ports switch in the event of a disruption?*		Similar		Some constraints - overall capacity likely to improve in next 10 years
	3.8	**Port concentration for non-indigenous foods**	*Are important non-EU food imports reliant on one or two ports?*		Similar		Some significant commodities reliant on one port but substitution possiblities exist
4.UK food chain resilience	**4.0**	**Energy dependency of UK food chain**	*All parts of food chain are reliant on energy - a potential weakness.*		Improvement		Food chain a heavy energy user but intensity is falling and high prices and policy are incentivising further efficiency improvements. But other risks remain (below) as does the challenge to go low carbon.
UK food supply depends upon sophisticated and complex chain and infrastructure, and is particularly dependent upon energy supplies in their various forms. Industry needs to manage a range of risks and disruptions to supply chains. Diversity is a key element of resilience, but so also is scale.	4.1	**Energy capacity reliability ***	*Key DECC indicator of reliability of energy supply. Text Box compares energy security and food security.*		Similar		Fine for now, but future less certain for electricity capacity
	4.2	**Diversity of oil and gas imports**	*Energy imports carry more strategic risk than food imports - uses DECC indicator*		Similar		Some increase in diversity for gas - growing import dependence in future
	4.3	**Business continuity planning**	*How prepared is industry for a range of expected and unexpected shocks?*		Improvement		Firms becoming more aware of risks and have learned a lot, but scope to improve
	4.4	**Retailer warehouse stocks**	*A potential trade-off between supply-chain efficiency and resilience to certain upstream shocks*		Deterioration		Stock levels no longer on downward trend, but competition may keep them low
	4.5	**UK cereals stocks***	*Domestic stocks can provide temporary buffer against supply or trade shocks*		Similar		Generally stable in recent years at around 50 days of consumption
	4.6	**Food industry diversity**	*Diversity within the domestic chain promotes resilience as well as competition*		Similar		Good balance of diversity and economies of scale in different parts of the chain
	4.7	**Profitability of large food manufacturers in the UK**	*Commercially healthy sector should be able to absorb shocks to the system (where trade not possible)*		Improvement		Healthy profitability and return on capital for the leading manufacturers in the UK
	4.8	**Strategic road network**	*Road is the dominant mode for foods transported between farms, factories, ports, depots and stores.*		Similar		Congestion doesn't materially affect food supplies; diversity, capacity and contingency planning good
5. Household food security	**5.0**	**Low income households' share of spending on food**	*A healthy diet should be affordable to all. We may develop an explicit "food poverty" indicator although we recognise that unhealthy choices are not simply a matter of affordability.*		Improvement		Worsened in 2008-9 because of inflation, but food's share of spend has been declining since the 1960s.
Everyone should have the opportunity to access and afford a healthy diet. The share of spend on food is a key indicator of food security in developing countries.	5.1	**Relative prices of fruit and vegetables ***	*Fruit & veg are key to good diet - are they becoming cheaper relative to other foods?*		Similar (mixed)		Fruit relatively cheaper since 2000 despite 2007/8 price hikes; vegetables the opposite
	5.2	**Food prices in real terms**	*Is food becoming more affordable in terms of other goods?*		Similar		Steady decline since 1980s; but real food prices now back to 1997 levels
	5.3	**Household access to food stores**	*Are there significant problems of physical food access?*		Improvement		DfT indicator shows very high and rising accessibility for non-car households
	5.4	**Self-reported food insecurity**	*What does low-income household survey data tell us about affordability and access?*				
6. Safety and confidence	**6.0**	**Cases of food borne pathogens ***	*Monitoring short-term health effects from failures in food safety.*		n/a		Campylobacter and salmonella down since 2000 but listeria up. Reducing food-borne illness is a top priority for Food Standards Agency, so we expect future improvements.
Public confidence in the UK food system rests primarily on food safety (Food Matters). Assurance schemes seek to build this confidence. Consumer perceptions also matter.	6.1	**Food safety inspections and incidents**	*Food safety depends heavily upon good hygiene practice in the industry*		n/a		Rise in reported incidents but this reflects better procedures and good surveillance
	6.2	**Amount of food covered by assurance schemes ***	*Assurance schemes give consumers added confidence in the safety and provenance of food*		Improvement		High and rising share of British production in assurance; red tractor coverage growing
	6.3	**Public confidence in food safety measures**	*Food safety is key to public confidence in the food system (Food Matters report)*		Improvement		Lagging indicator - confidence improving since era of BSE / FMD, but future uncertain
	6.4	**public confidence in food availability**	*Under development - commissioning research to explore this.*		?		A lagging indicator of events / other indicators

** denotes indicators relevant to the contribution of UK producers to food security (see Box 1 in detailed assessment)*

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