




UK Food Security Assessment: Summary

Indicators in grey text are under consideration or development, depending upon suitable data availability.

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 *	<i>Basic indicator of global availability per person. Includes box on UK contribution</i>		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.
<p><i>"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.</i></p>	1.1	Cereal yield growth rates by region	<i>Rising yields have driven the 20th century expansion of food supply. Can they continue?</i>		Similar		Steady yield growth, population growth slowing; scope for Africa to improve, but need to meet climate challenge
	1.2	Real commodity prices	<i>Provides short and long-term indication of availability / scarcity</i>		Similar		Prices well down from 2008 spike, but continued volatility on the supply-side likely.
	1.3	Stock to consumption ratios	<i>Leading indicator of vulnerability of markets to supply shocks</i>		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	<i>Global food security relies on extensive trade</i>		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	<i>Trade system needs to be diverse and competitive</i>		Improvement		Declining trend in concentration, and leading global suppliers considered stable.
	1.6	Agricultural research spending	<i>Reflects outcome of applied technology and indicator of future potential</i>		n/a		Data poor; total spend not falling, but questions over composition
	1.7	Impact of animal disease on meat production	<i>Animal disease reduces available supply, but how significant is it globally and across the EU?</i>		Deterioration		Evidence of disease losses shows that only minor proportions of EU and global supply are typically affected
	1.8	Growth trends in demand	<i>A closer look at the demand side of the headline indicator</i>				
2. Global resource sustainability	2.0	Global land use change	<i>Extensification puts pressure on eco-system services that can affect future capabilities</i>		? / deterioration		Unclear how much forest loss attributable to food production; small rise in farmland use since 1990s
<p><i>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.</i></p>	2.1	Contextual indicator on global carbon emissions	<i>Agriculture already having to adapt to climate change, but GHGs exacerbate long-term challenges</i>		Deterioration		No assessment - contextual indicator only. See Box 3 on links between climate change and food security.
	2.2	Fertiliser use / per capita food production (intensity)	<i>Intensive production can impact on soil and water quality and bio-diversity</i>		Deterioration		Falling in early 1990s, but rising trend since. Scope for more efficient fertiliser usage in developing countries
	2.3	Water productivity of crop production	<i>Are we getting more "crop per drop"? It will need to rise in future</i>		Deterioration		Overall water productivity slightly deteriorating, and big challenges ahead
	2.4	Water withdrawal by agriculture	<i>Agriculture a big user of freshwater. Poor governance and a drier climate would affect production.</i>		Deterioration		Poor in certain regions, without affecting overall global availability - for now
	2.5	Global fish stocks	<i>An important source of dietary protein for many - are stocks sustainably harvested?</i>		Deterioration		Well-established data on this. Aquaculture becoming more important, but needs to be sustainable.
	2.6	Agricultural genetic diversity	<i>Are we excessively reliant on a narrow genetic plant or animal base?</i>				
		Pesticide usage	<i>Pesticides can affect food production in the long-term by impacting upon bio-diversity</i>				
3. UK availability and access	3.0	Diversity of UK supply	<i>Sourcing food from a diversity of countries, including domestically, spreads risks</i>		Similar		UK has impressive diversity - 26 countries account for 90% of supply
<p><i>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,</i></p>	3.1	EU's share of imports into the UK	<i>EU single market provides a particularly strong supply base</i>		Improvement		69% of import trade comes from EU25 (in value terms), up from 62% in 1993
	3.2	Diversity of fruit and veg supply	<i>UK relies heavily on imports of fruit - important for healthy diet</i>		Improvement		24 countries supply 90% of UK fresh fruit; veg supply also become more diverse
	3.3	EU-wide production capability	<i>How easily could EU supply respond to shortages in world agricultural markets?</i>		Improvement		EU's agricultural productive potential (esp yields) has increased and is favourable
	3.4	UK production capability *	<i>Complements EU indicator above: basic elements of capability provide option value</i>		Similar		Similar trends to the EU; some minor loss of land, but good yield potential
	3.5	Potential of UK agriculture in extremis *	<i>Relevant for extreme scenarios of isolation - involves enforced change of diet</i>		Similar		Initial calculations are favourable (assumes less meat) but could be refined
	3.6	Number and diversity of entry ports into the UK	<i>Ports are a critical link - vast majority of imports come by ship</i>		Similar		Appears to be good regional diversity, including airports and channel tunnel
	3.7	Flexibility of ports in handling sea-borne imports	<i>How easily can ports switch in the event of a disruption?</i>		Similar		Some constraints - overall capacity likely to improve in next 10 years
	3.8	Port concentration for non-indigenous foods	<i>Are important non-EU food imports reliant on one or two ports?</i>		Similar		Some significant commodities reliant on one port but substitution possibilities exist
4. UK food chain resilience	4.0	Energy dependency of UK food chain	<i>All parts of food chain are reliant on energy - a potential weakness.</i>		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.
<p><i>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.</i></p>	4.1	Energy capacity reliability *	<i>Key DECC indicator of reliability of energy supply. Text Box compares energy security and food security.</i>		Similar		Fine for now, but future less certain for electricity capacity
	4.2	Diversity of oil and gas imports	<i>Energy imports carry more strategic risk than food imports - uses DECC indicator</i>		Similar		Some increase in diversity for gas - growing import dependence in future
	4.3	Business continuity planning	<i>How prepared is industry for a range of expected and unexpected shocks?</i>		Improvement		Firms becoming more aware of risks and have learned a lot, but scope to improve
	4.4	Retailer warehouse stocks	<i>A potential trade-off between supply-chain efficiency and resilience to certain upstream shocks</i>		Deterioration		Stock levels no longer on downward trend, but competition may keep them low
	4.5	UK cereals stocks*	<i>Domestic stocks can provide temporary buffer against supply or trade shocks</i>		Similar		Generally stable in recent years at around 50 days of consumption
	4.6	Food industry diversity	<i>Diversity within the domestic chain promotes resilience as well as competition</i>		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	<i>Commercially healthy sector should be able to absorb shocks to the system (where trade not possible)</i>		Improvement		Healthy profitability and return on capital for the leading manufacturers in the UK
	4.8	Strategic road network	<i>Road is the dominant mode for foods transported between farms, factories, ports, depots and stores.</i>		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	<i>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.</i>		Improvement		Worsened in 2008-9 because of inflation, but food's share of spend has been declining since the 1960s.
<p><i>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.</i></p>	5.1	Relative prices of fruit and vegetables *	<i>Fruit & veg are key to good diet - are they becoming cheaper relative to other foods?</i>		Similar (mixed)		Fruit relatively cheaper since 2000 despite 2007/8 price hikes; vegetables the opposite
	5.2	Food prices in real terms	<i>Is food becoming more affordable in terms of other goods?</i>		Similar		Steady decline since 1980s; but real food prices now back to 1997 levels
	5.3	Household access to food stores	<i>Are there significant problems of physical food access?</i>		Improvement		DIT indicator shows very high and rising accessibility for non-car households
	5.4	Self-reported food insecurity	<i>What does low-income household survey data tell us about affordability and access?</i>				
6. Safety and confidence	6.0	Cases of food borne pathogens *	<i>Monitoring short-term health effects from failures in food safety.</i>		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.
<p><i>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.</i></p>	6.1	Food safety inspections and incidents	<i>Food safety depends heavily upon good hygiene practice in the industry</i>		n/a		Rise in reported incidents but this reflects better procedures and good surveillance
	6.2	Amount of food covered by assurance schemes *	<i>Assurance schemes give consumers added confidence in the safety and provenance of food</i>		Improvement		High and rising share of British production in assurance; red tractor coverage growing
	6.3	Public confidence in food safety measures	<i>Food safety is key to public confidence in the food system (Food Matters report)</i>		Improvement		Lagging indicator - confidence improving since era of BSE / FMD, but future uncertain
	6.4	public confidence in food availability	<i>Under development - commissioning research to explore this.</i>		?		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)