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 Detailed Analysis (click on theme description headings). **Text boxes** provide additional context and analysis on specific issues.

The UK Food Security Assessment: Detailed Analysis is available at: http://www.defra.gov.uk/foodfarm/food/pdf/food-assess100105.pdf

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Key
- 🟡 = *Somewhat unfavourable / uncertain*
- 🔴 = *Very unfavourable*
- 🟢 = *Favourable*

1. Global availability

"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.***

	Indicator	Rationale and associated risks	Assessment of current position	Current position compared to mid-1990s	Assessment of likely position in 2015-20	Comments on assessment
1.0	**Global food output per capita ***	*Basic indicator of global availability per person. Includes box on UK contribution*	🟢	Improved	🟡	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.
						Population growth is the main driver of 70% demand increase 2006-50, but better nutrition and dietary change are also important. Text box explains the assumptions behind FAO's 2050 projections.
	Contextual indicator: components of food demand to 2050	*The headline indicator on global availability will be closely associated with and driven by underlying demand.*				
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*	🟡	Deteriorated	🟡	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*	🟢	Improved	🟢	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?*	🟢	Deteriorated	🟢	Evidence of disease losses shows that only minor proportions of EU and global supply are typically affected

2. Global resource sustainability

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.

	Indicator	Rationale and associated risks	Assessment of current position	Current position compared to mid-1990s	Assessment of likely position in 2015-20	Comments on assessment
2.0	**Global land use change**	*Extensification puts pressure on eco-system services that can affect future capabilities*	🟡	? / Deteriorated	🔴	Unclear how much forest loss attributable to food production; small rise in farmland use since 1990s
	Contextual indicator: global carbon emissions	*Agriculture already having to adapt to climate change, but GHGs exacerbate long-term challenges*				No assessment - contextual indicator only. See Box 5 on links between climate change and food security.
2.1	**Fertiliser usage**	*Fertiliser intensive production can impact on soil and water quality and bio-diversity*	🟡	Deteriorated	🟡	Usage falling relative to food prduction in early 1990s, but rising trend since. Scope for more efficient usage in developing countries
2.2	**Phosphate rock reserves**	*Phosphate critical to plant life, and phosphate rock is only significant source. Is it running out?*	🟢	Improved	🟢	Reserves rising faster than extraction since 1995, but they are finite and regionally concentrated; recycling limited.
2.3	**Water productivity of crop production**	*Are we getting more "crop per drop"? It will need to rise in future*	🟡	Deteriorated	🔴	Overall water productivity slightly deteriorating, and big challenges ahead
2.4	**Water withdrawal by agriculture**	*Agriculture a big user of freshwater. Poor governance and a drier climate would affect production.*	🟡	Deteriorated	🟡	Poor in certain regions, without affecting overall global availability - for now
2.5	**Global fish stocks**	*An important source of dietary protein for many - are stocks sustainably harvested?*	🔴	Deteriorated	🔴	Well-established data on this. Aquaculture becoming more important, but needs to be sustainable.
	Pesticide usage	*Pesticides can affect food production in the long-term by impacting upon bio-diversity*	⚪		⚪	
	Agricultural genetic diversity	*Are we excessively reliant on a narrow genetic plant or animal base?*	⚪		⚪	Text Box summarises the issues and evidence from FAO.

3. UK availability and access

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,

	Indicator	Rationale and associated risks	Assessment of current position	Current position compared to mid-1990s	Assessment of likely position in 2015-20	Comments on assessment
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
3.1	**EU's share of imports into the UK**	*EU single market provides a particularly strong supply base*	🟢	Improved	🟢	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*	🟢	Improved	🟢	25 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?*	🟢	Improved	🟢	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	**Diversity and flexibility of entry ports into the UK**	*Ports are critical link - most imports come by ship. How adaptable are they in the event of disruption?*	🟡	Similar	🟡	Good diversity of entry points and ports, but extent of compatability between ports is unclear.
3.7	**Port concentration for non-indigenous foods**	*Are important non-EU food imports reliant on one or two ports?*	🟡	Similar	🟡	Some significant commodities reliant on a single port but substitution possiblities exist

4. UK food chain resilience

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.

	Indicator	Rationale and associated risks	Assessment of current position	Current position compared to mid-1990s	Assessment of likely position in 2015-20	Comments on assessment
4.0	**Energy dependency of UK food chain ***	*All parts of food chain are reliant on energy - a potential weakness.*	🟡	Improved	🟢	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.
4.1	**Energy capacity reliability**	*Key DECC indicator of reliability of energy supply. Text Box compares energy security and food security.*	🟢	Similar	🟢	Favourable capacity for both gas and electricity supply, drawing on DECC's analysis. New investment needed after 2015.
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?*	🟡	Improved	🟡	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*	🟡	Deteriorated	🟡	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)*	🟢	Improved	🟢	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

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.

	Indicator	Rationale and associated risks	Assessment of current position	Current position compared to mid-1990s	Assessment of likely position in 2015-20	Comments on assessment
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.*	🟡	Improved	🟢	Worsened in 2008-9 because of inflation, but expected to fall again once incomes recover. Food's share of spend has been in decline since the 1960s. Text boxes look at consumers' response to high food prices and how we might track the affordability of a healthy diet.
5.1	**Relative prices of fruit and vegetables ***	*Fruit & veg are key to good diet - are they becoming cheaper relative to other foods?*	🟢	Similar	🟢	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?*	🟢	Improved	🟢	DfT indicator shows very high and rising accessibility for non-car households
	Self-reported food insecurity	*What does low-income household survey data tell us about affordability and access?*	⚪		⚪	

6. Safety and confidence

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.***

	Indicator	Rationale and associated risks	Assessment of current position	Current position compared to mid-1990s	Assessment of likely position in 2015-20	Comments on assessment
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 Improveds.
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*	🟢	Improved	🟢	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)*	🟢	Improved	🟡	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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