

A. Food, water and energy are fundamental to human development.

1	Food	Food provides calories and energy for people to be healthy and able to work. This is essential for economic and human development.
2	Water	Used for survival, washing, food production, industry. Clean, safe water enables development and allows people to break free from the cycle of poverty.
3	Energy	Traditionally we get energy from oil, coal and wood. Many different sources are generated by changing technology. Used for electricity production, heating, transport and for water supply (e.g. wells). Supports industrialisation and development.

B. The changing demand and provision of resources in the UK create opportunities and challenges.

1	HIC's surplus	HIC's have a greater consumption of Food, water and energy. They don't always have a ready supply within their country but are able to purchase this using their wealth.
2	LIC's deficit	LIC's have a lower consumption of Food, Water and Energy as they are unable to compete with the wealth. In some LIC's food is exported to HIC's as they can afford to pay higher prices.
3	Energy mix	Due to the high consumption of fossil fuels HIC's have a greater carbon footprint. However as fossil fuels decrease the energy mix of these countries will change as they are forced to use alternative sources.
4	Carbon foot print	As a result of higher consumption of food, water and energy HIC's have a higher carbon footprint.

C. Demand for food resources is rising globally but supply can be insecure, which may lead to conflict.

1	Food inequality	The global supply of food is uneven. Countries like China and India have high agricultural outputs. The USA, Brazil and UK also achieve high outputs due to intensive farming methods and high capital investment. Countries in sub-Saharan Africa produce less food because they have unreliable rainfall, drought, low investment and lack of education and training.
2	Food insecurity	Many LIC's suffer from food insecurity which can lead to problems such as, famine, undernutrition, soil erosion and social unrest.
3	Famine	Famine is a widespread food shortage of food often causing malnutrition, starvation and death. Famine in Somalia 2010-2012 258,000 people died. 18% of child population died due to lack of food. Rising food prices can make this matter even worse.
4	Undernourished	This is the lack of a balanced diet. It is a major public health problem in sub-Saharan Africa. Diets in these regions are frequently lacking in protein, carbohydrates, vitamins and minerals.
5	Soil erosion	This involves the removal of fertile top soil layers by wind and water as a result of overgrazing, deforestation and over cultivation.
6	Social unrest	The 21 st century has seen lots of social unrest- especially in North Africa and the Middle East. 'Food riot' correspond with high prices in food.

D. Different strategies can be used to increase food supply.

1	Thanet Earth	There are 7 greenhouses, each the size of 10 football pitches which are used to grow salad, pepper, tomatoes and cucumbers throughout the year. It uses hydroponics (when plants are grown in nutrient solutions) It aims to be sustainable- each greenhouse has its own power station to provide heat and lighting and collects rainwater from the roofs to provide water.
2	Jamaplur	Rice-fish culture is where small local fish are introduced to the paddy fields. The small fish are safely hidden from predators (birds) among the rice plants. The fish provide a natural fertilizer with their droppings, eat insects and pests and help to circulate oxygen in the water around the rice plants.

1) Agribusiness	Application of business skills to agriculture.
2) Carbon footprint	A measurement of all the greenhouse gases we individually produce, through burning fossil fuels for electricity, transport etc, expressed as tonnes (or kg) of carbon-dioxide equivalent.
3) Energy mix	The range of energy sources of a region or country, both renewable and non-renewable.
4) Food miles	The distance covered supplying food to consumers.
5) Fossil fuel	A natural fuel such as coal or gas, formed in the geological past from the remains of living organisms.
6) Local food sourcing	A method of food production and distribution that is local, rather than national and/or international. Food is grown (or raised) and harvested close to consumers' homes, then distributed over much shorter distances.
7) Organic produce	Food which is produced using environmentally and animal friendly farming methods on organic farms. Artificial fertilisers are banned and farmers develop fertile soil by rotating crops and using compost, manure and clover. It must be free of synthetic additives like pesticides and dyes.
8) Resource Management	The control and monitoring of resources so that they do not become depleted or exhausted.
9) The new green revolution	A combination of modern technology, traditional knowledge and an emphasis on farming, social and agro-ecological systems as well as yields, especially in poorer countries. At the same time, it emphasizes alternative approaches and improved farm management and information systems in order to minimise environmental damage from external inputs and benefit poor farmers and marginal areas bypassed by the original green revolution.
10) Undernutrition	This occurs when people do not eat enough nutrients to cover their needs for energy and growth, or to maintain a healthy immune system.
11) Urban farming	The growing of fruits, herbs, and vegetables and raising animals in towns and cities, a process that is accompanied by many other activities such as processing and distributing food, collecting and reusing food waste.

12) Aeroponics	Growing plants in an air or mist environment without the use of soil.
13) Biotechnology	The manipulation (through genetic engineering) of living organisms to produce useful commercial products (such as pest resistant crops and new bacterial strains).
14) Famine	A widespread, serious, shortage of food. In the worst cases it can lead to starvation and even death.
15) Food insecurity	Being without reliable access to a sufficient quantity of affordable, nutritious food. More than 800 million people live every day with hunger or food insecurity.
16) Food security	When people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life.
17) Hydroponics	A method of growing plants using mineral nutrient solutions, in water, without soil.
18) Irrigation	Applying water to land in order to supply crops and other plants with necessary water.
19) Permaculture	A system of agricultural and social design principles based upon or directly using patterns and features observed in natural ecosystems.
20) Sustainable development	Development that meets the needs of the present without limiting the ability of future generations to meet their own needs.
21) Sustainable food supply	Food that is produced in ways that avoid damaging natural resources, provide social benefits such as good quality food and safe and healthy products, and contribute to local economies.