

Oxford Revise | Geography | Answers

Chapter 36

All exemplar answers given are worth full marks.

1.1 B

1.2 Figure 1 shows that there is clear inequality in global patterns of food consumption. It is highest in North America and parts of Western Europe, where calorie intake is between 3480–3770 per head. It is lowest in the poorest countries of the world: much of Africa, along with India, Pakistan, and Mongolia have an average intake of fewer than 2390 calories. Much of South-East Asia and parts of South America have nearly as low levels of calorie intake.

1.3 Global food demand is increasing due to the rising global population. It is projected that by 2050, the world’s population will reach 9.3 billion. Alongside this, rising standards of living means that demand increases as people can afford to buy more food. Diets are also changing away from vegetarian and towards meat eating, fuelled by increased wealth and improvements in transport and storage improving the availability of different foods.

1.4 Food security is having enough food that is affordable and nutritious to maintain a healthy and active life.

1.5 This question is level-marked:

Level	Marks	Description
3 (detailed)	5–6	<ul style="list-style-type: none"> • Thorough, detailed, organised, and relevant throughout with supporting evidence and examples • Communicates detailed, clear knowledge and understanding • Communicates using developed statements and ideas (e.g. uses connectives to fully explore ideas) • Good use of geographical terms and vocabulary
2 (clear)	3–4	<ul style="list-style-type: none"> • Sound throughout with some supporting evidence and examples • Communicates some knowledge and understanding • Communicates using linked statements and ideas (e.g. uses connectives, but needs further development) • Some use of geographical terms and vocabulary
1 (basic)	1–2	<ul style="list-style-type: none"> • Basic throughout with limited supporting evidence and/or examples • Communicates limited knowledge and understanding • Communicates using simple statements that are not developed • Little or no use of geographical terms and vocabulary
	0	No relevant content

Example answer: *Food insecurity has a range of social, economic, and environmental impacts. Firstly, it can cause famine, which is when there is a widespread lack of access to food. This often causes malnutrition, which ultimately can lead to starvation and death. A famine occurred in Somalia between 2010 and 2012, during which it was estimated that 18% children and 258 000 people died in total due to malnutrition.*

Food insecurity also leads to rising food prices, which impacts most heavily on LICs. This can be made worse by global events such as Covid-19 and the (2022–) war in Ukraine, which have an impact on food supply chains and cost of food and animal feed as well as transport. Food insecurity leads to pressure to grow food in less sustainable locations and growing too much food which in the long term leads to loss of fertility in the soil and soil erosion.

All of these pressures for access to food can lead to social unrest especially where access is most limited such as North Africa and the Middle East.

1.6 This question is level-marked:

Level	Marks	Description
2 (clear)	3–4	<ul style="list-style-type: none"> • Sound, organised and relevant throughout, using supporting evidence and examples • Communicates good knowledge and understanding • Communicates using developed statements and ideas (e.g. uses connectives) • Uses geographical terms and vocabulary
1 (basic)	1–2	<ul style="list-style-type: none"> • Basic throughout with limited supporting evidence and/or examples • Communicates limited knowledge and understanding • Explanations are partial • Little or no use of geographical terms and vocabulary
	0	No relevant content

Example answer: Biotechnology is a method of food production that can increase supply. It includes the use of genetically modified (GM) crops that are adapted to survive in harsh conditions to ensure they produce higher yields, often without access to fertilisers and pesticides. An example of higher yields produced by GM is in the Philippines where GM maize produces 24% more crop than previous non GM varieties. Crops can also be modified so that they are resistant to diseases that have caused a problem in the past. An example of this would be GM wheat that is now resistant to disease.

1.7 This question is level-marked:

Level	Marks	Description
2 (clear)	3–4	<ul style="list-style-type: none"> • Sound, organised and relevant throughout, using supporting evidence and examples • Communicates good knowledge and understanding • Communicates using developed statements and ideas (e.g. uses connectives) • Uses geographical terms and vocabulary
1 (basic)	1–2	<ul style="list-style-type: none"> • Basic throughout with limited supporting evidence and/or examples • Communicates limited knowledge and understanding • Explanations are partial • Little or no use of geographical terms and vocabulary
	0	No relevant content

Example answer: Food waste is a major contributor to food insecurity, so reducing waste will be beneficial. This can be done by encouraging people to only buy the food that is needed and by changing ‘use by’ and ‘best before’ labelling where possible so that food is kept for longer before being disposed of. Increasing

food refrigeration and storage and using sealed plastic bags for fresh produce is also beneficial because these extend the shelf life of food and reduce waste.

1.8 This question is level-marked:

Level	Marks	Description
2 (clear)	3–4	<ul style="list-style-type: none"> • Sound, organised and relevant throughout, using supporting evidence and examples • Communicates good knowledge and understanding • Communicates using developed statements and ideas (e.g. uses connectives) • Uses geographical terms and vocabulary
1 (basic)	1–2	<ul style="list-style-type: none"> • Basic throughout with limited supporting evidence and/or examples • Communicates limited knowledge and understanding • Explanations are partial • Little or no use of geographical terms and vocabulary
	0	No relevant content

Example answer: Urban farming is where small spaces within urban areas are used to grow crops or fruit and herbs on a small scale, which are then shared among local communities. The benefits of this are increased food supply locally, but also job creation and a stronger community spirit. In addition, as the food is being grown within communities, it reduces the need for transportation: food miles are reduced. An example where urban farming has been successful has been in Cape Town in South Africa.

1.9 This question is level-marked:

Level	Marks	Description
3 (detailed)	7–9	<ul style="list-style-type: none"> • Thorough, detailed, organised, and relevant throughout with supporting evidence and examples • Communicates detailed, clear knowledge and understanding • Communicates using developed statements and ideas (e.g. uses connectives to fully explore ideas) • Good use of geographical terms and vocabulary
2 (clear)	4–6	<ul style="list-style-type: none"> • Sound throughout with some supporting evidence and examples • Communicates some knowledge and understanding • Communicates using linked statements and ideas (e.g. uses connectives, but needs further development) • Some use of geographical terms and vocabulary
1 (basic)	1–3	<ul style="list-style-type: none"> • Basic throughout with limited supporting evidence and/or examples • Communicates limited knowledge and understanding • Communicates using simple statements that are not developed • Little or no use of geographical terms and vocabulary
	0	No relevant content

3-marks: SPaG (spelling, punctuation, grammar, and specialist terminology)

Marks	Description
3	<ul style="list-style-type: none"> • Accurate spelling and punctuation • Rules of grammar followed • Effective control of meaning • Uses wide range of specialist terms
2	<ul style="list-style-type: none"> • Generally accurate spelling and punctuation • Most rules of grammar followed • General control of meaning • Uses good range of specialist terms
1	<ul style="list-style-type: none"> • Reasonably accurate spelling and punctuation • Some rules of grammar followed – errors do not hinder meaning • Some control of meaning • Limited use of specialist terms
0	<ul style="list-style-type: none"> • Writes nothing • Does not relate to question • Basic grasp of spelling, punctuation, and grammar prevents clear meaning

Example answer: *One of the major challenges facing the world is the mismatch between the growing demand for food and the supply either not keeping pace with this demand or not being evenly spread. Attempts have been made to address this issue to ensure that food supply can be adequate and reliable, and that levels of food insecurity do not escalate.*

Demand for food is increasing due to the rising global population. It is projected that by 2050, the world's population will reach 9.3 billion. Alongside this, rising standards of living mean that demand increases as people can afford to buy more food. Diets are also changing away from vegetarian and towards meat eating fuelled by increased wealth, and improvements in transport and storage have improved the availability of different foods.

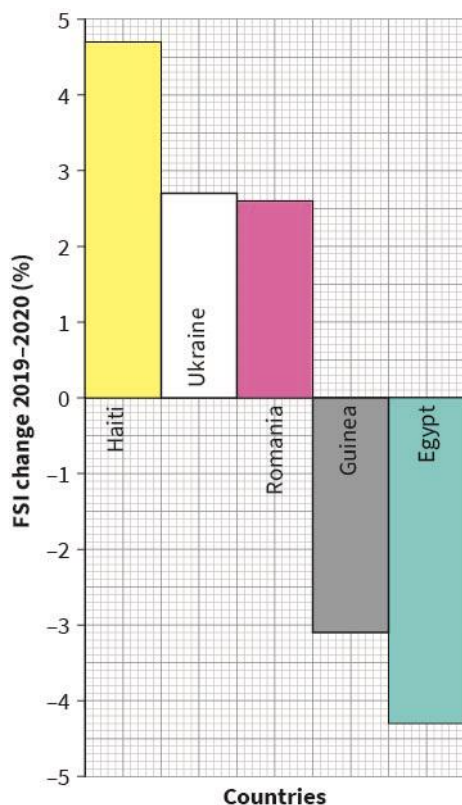
To ensure food production grows at the same pace as this demand, a number of strategies have been developed, both traditional and modern. Irrigation projects have increased to ensure there is enough water to grow crops commercially, such as the Indus Basin irrigation scheme. These are often part of a 'green revolution', where better irrigation alongside improved soil conservation and improved seed science are being used to improve overall yields.

Modern techniques such as the use of biotechnology also increase food production. Genetically modified (GM) crops are being developed in many parts of the world to increase yield and resistance to disease. A good example of this is in the Philippines where GM maize produces a 24% higher yield than traditional seeds. Aeroponics and hydroponics have been introduced to deliver nutrients straight to crops rather than through the soil, which speeds up cultivation and lengthens the growing seasons.

In conclusion, it is my opinion that modern and improved techniques will help global food production keep pace with increasing demand. However, it is difficult to be completely confident where there are so many changing factors that could threaten food supply in the future, such as climate change, and war and instability within countries.

2.1 7.8

2.2 The bar graph should be completed as below. Shading or labels should be added to clearly delineate the two bars and the countries they represent.



2.3 This question is level-marked:

Level	Marks	Description
3 (detailed)	5-6	<ul style="list-style-type: none"> • Thorough, detailed, organised, and relevant throughout with supporting evidence and examples • Communicates detailed, clear knowledge and understanding • Communicates using developed statements and ideas (e.g. uses connectives to fully explore ideas) • Good use of geographical terms and vocabulary
2 (clear)	3-4	<ul style="list-style-type: none"> • Sound throughout with some supporting evidence and examples • Communicates some knowledge and understanding • Communicates using linked statements and ideas (e.g. uses connectives, but needs further development) • Some use of geographical terms and vocabulary
1 (basic)	1-2	<ul style="list-style-type: none"> • Basic throughout with limited supporting evidence and/or examples • Communicates limited knowledge and understanding • Communicates using simple statements that are not developed • Little or no use of geographical terms and vocabulary
	0	No relevant content

Example answer: *Food supply is affected by a range of factors. Firstly, the climate will influence food supply where regions that experience extreme temperatures and a lack of rainfall will struggle to produce food. Climate change may impact these already struggling areas and could also increase the spread of diseases and pests that further threaten food supply.*

Secondly, it is often poorer LIC countries that cannot afford new technology to improve food production such as biotechnology, irrigation, and agrochemicals. Without this technology, field yields tend to remain low.

A third factor that influences food supply would be war and conflict, which can lead directly to the destruction of crops and livestock and can cause farmers to flee their land. A good example of this is the war in Ukraine, which has had a large impact on grain production. Food can also be used as a weapon, in which food supplies are cut off, affecting global supply chains. Again the war in Ukraine is a good example of this, as the blockade of the Black Sea blocked food exports.

- 2.4** Food insecurity is when a country cannot supply enough food, either home grown or imported, to feed its population.
- 2.5** A sustainable food supply is when there is enough food produced to meet the needs of the population while preserving the soil, water, and environmental resources for future generations.
- 2.6** This question is level-marked:

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Example answer: *Aeroponics and hydroponics are technical solutions to improving food production by growing them without soil and delivering nutrients to the crops directly rather than through the soil. Aeroponics involves growing the crops in an air or mist environment suspended in a greenhouse with their roots exposed. This is a good technique because less water is needed. Hydroponics is where plants are grown in mineral rich water rather than soil. Both techniques speed up growth and therefore yields but are expensive and energy intensive.*

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Example answer: *The new green revolution is the introduction of modern farming techniques in LICs. These improve yields in food production and therefore reduce food insecurity. The main aspects of this new green revolution are increased irrigation through schemes such as water storage tanks that enable drip irrigation schemes to increase food production, and the introduction of new high yield varieties of seeds that improve food production. The final aspect of this new green revolution is water and soil conservation. These schemes have been very helpful in the state of Indian state of Bihar where they have managed to double their rice output.*

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Example answer: *The Makeni County Food and Water Security Programme in eastern Kenya is an example of a sustainable project to increase food production in a sustainable way and has proved to be a large success. Run and administered by the charity 'Just a Drop' and the Sand Dam foundation, the plan focused on improving access to a clean and safe water supply by building sand dams in the village and installing a*

rainwater harvesting tank, both of which are cost effective and easy to manage and maintain. This water security then improved food security because there was a constant reliable supply of water to grow crops. Alongside the focus on water there was a training programme with support for local farmers and a tree planting scheme that aimed to reduce soil erosion so that more food could be produced in the long term.

There are a wide range of benefits from this project so I would say that it has been successful. Alongside making the water supply more reliable, it has increased crop yields and reduced food insecurity. More effective food and water production means that there is more time available for work and education, which will help improve levels of development in general.

2.9 This question is level-marked:

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Marks	Description
0	<ul style="list-style-type: none"> • Writes nothing • Does not relate to question • Basic grasp of spelling, punctuation, and grammar prevents clear meaning

Example answer: *There are many different sustainable methods that have been introduced to improve food supply and food production techniques. Encouraging people to eat meat and fish from sustainable sources reduces the impact on the ecosystems. Quotas on fishing are good because they protect and monitor the fish stock. Sustainable meat production is small in scale and often uses organic techniques without the use of chemicals. This prioritises animal welfare, which can make products more expensive but is increasingly popular with the public.*

Changing people's attitudes is also important so that they expect less exotic fruit and eat more food that is locally grown and 'in season'. This is good because it reduces food miles and our carbon footprint.

Encouraging people to waste less food and only buy what they need is also sustainable. This can be done through more careful labelling and sensible interpretation of 'sell by' or 'use by' dates. Reducing food waste is predicted to reduce food demand by 22% by 2050, so would be an important contribution to meeting demand.

A final sustainable method of food production is urban farming, which is the production of crops and grazing of livestock around urban settlements. This uses up wasted land and means that the food and meat that people eat is fresh and healthy, as well as creating jobs and a strong community spirit. However, it could be argued that the amount of food that is produced is on such a small scale that it will not make enough of a difference.

Overall, there are a range of sustainable food methods that could improve the health and reliability of food. However, many of these techniques such as eating organic and sustainable meat and fish are expensive and so not an option for some. Some people might say that the other options are too small-scale to make a large difference to the global demand for food, but if all of the options are implemented, they could be effective.