

Oxford Revise | Geography | Answers

Chapter 28 Will we be able to feed everyone by 2050?

All exemplar answers given are worth full marks.

1

(a)

(i) B

(ii) The level of food consumption varies across the world. Canada, the USA, and Europe consume the most, with an average daily intake of over 3480 calories per person. Most countries consume closer to the recommended daily consumption of 2000–2400 calories per person. However, in some areas of world such as parts of sub-Saharan Africa and India, the daily calorie intake per head is below this level.

(b) Having access to enough safe, affordable, and nutritious food to maintain a healthy and active life

(c) This question is level-marked:

Level	Marks	Description
3	6–8	<ul style="list-style-type: none"> • Thorough knowledge, understanding or analysis of the issue, process or concept. • Uses well-developed ideas and line of reasoning is clear and logically structured. • Information presented is relevant and substantiated.
2	3–5	<ul style="list-style-type: none"> • Reasonable knowledge, understanding or analysis of the issue, process or concept. • Uses developed ideas and line of reasoning with some structure. • Information presented is mostly relevant and supported by some evidence.
1	1–2	<ul style="list-style-type: none"> • Basic knowledge, understanding or analysis of the issue, process or concept. • Uses simple ideas with no developed points made. • Information is basic, unstructured, and supported by limited evidence.
	0	No response or no response worth of credit.

Example answer:

1 Soil erosion caused by cultivating unsuitable areas which are prone to heavy rain or lack shelter from the wind

2 Pests devastating food crops, and diseases affecting animals spreading north and south from the Tropics

3 The increasing frequency and severity of droughts caused by climate change affecting many areas and increasing food scarcity

(d) Urban garden initiatives involve the cultivation, processing, and distribution of food in and around settlements. Benefits include job creation in deprived areas, improvements to these urban environments, the attraction of wildlife, and the social benefits of bringing communities together.

(e) This question is level-marked:

Level	Marks	Description
3	6–8	<ul style="list-style-type: none"> • Thorough knowledge, understanding or analysis of the issue, process or concept. • Uses well-developed ideas and line of reasoning is clear and logically structured. • Information presented is relevant and substantiated.
2	3–5	<ul style="list-style-type: none"> • Reasonable knowledge, understanding or analysis of the issue, process or concept. • Uses developed ideas and line of reasoning with some structure. • Information presented is mostly relevant and supported by some evidence.
1	1–2	<ul style="list-style-type: none"> • Basic knowledge, understanding or analysis of the issue, process or concept. • Uses simple ideas with no developed points made. • Information is basic, unstructured, and supported by limited evidence.
	0	No response or no response worth of credit.

Example answer: *There have been several strategies aimed at achieving food security at a local scale in the UK. Allotments for non-commercial crop production in urban areas have been an established feature of UK towns and cities for over 200 years. They are protected from development and are hugely popular among all age groups wanting affordable, fresh, home-grown produce. Urban farming is the cultivation, processing, and distribution of food in and around settlements. The benefits of this include job creation, improved urban environments, attraction of wildlife, and communities coming together. An inspiring example of urban farming is the Incredible Edible Todmorden initiative in West Yorkshire. Many people do not earn enough money to support themselves and their families. Consequently, food banks are found throughout the UK, particularly in poorer districts of urban areas. They are run by charities who give food for people and families struggling with the cost of living. Social workers, health visitors and doctors issue food bank vouchers for those identified as most in need. Since 2014, food bank usage has doubled.*

2

- (a) 49.6
- (b) When a country can't supply enough food, either home grown or imported, to feed its population
- (c) 1 Technology; in ACs, mechanisation and agribusiness give high levels of productivity and so improve food security.
2. Politics; Political conflicts and civil wars can lead to the destruction of crops and livestock which reduces food security.
- (d) Aeroponics and hydroponics both increase food supply. Both systems are modern scientific techniques conducted in artificially lit and heated greenhouses, without the use of soil. Aeroponics uses nutrient-rich water sprays to grow the crops, whilst hydroponics grows them using mineral-rich water in gravel.
- (e) Neo-Malthusian theories are based on the views of Malthus in the 18th century. He argued that population grows geometrically (2, 4, 8, 16, 32, ...) and so doubles every 25 years. On the other hand, food supply only grows arithmetically (2, 4, 6, 8, 10, ...). This would mean that population size would outstrip food supply and there would be famine. He proposed that eventually there would be too many people to feed. Consequently, population numbers would drop because of famine, war, and disease, or through preventative checks, such as people marrying later and having fewer children. Technological improvements leading to the huge increase in the amount of food that is now produced has meant his

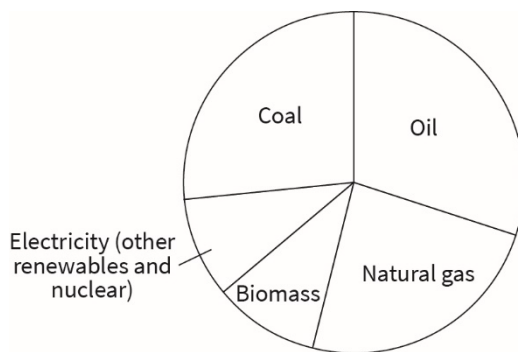
pessimistic view has not come true. There are some organisations, including the Club of Rome, and some scientists who still fear resources will run out by 2030.

- (f) Boserupians have an optimistic view about the relationship between global population and food resources. They argue that agricultural innovations will ensure that no matter how many people there are, we will find ways to meet their needs. The developments in agrotechnology, such as water harvesting and the use of genetically modified seeds, increase crop yields. Selective breeding and other livestock innovations have made animals more productive. There is also the development of aeroponics and hydroponics which has allowed the production of food without the use of soil. More areas have been brought into cultivation by the expansion of irrigation and other new techniques. There are also indications that the present rapid rise of the world’s population may not continue beyond the end of the 21st century. All these trends tend to support the view put forward by Boserup.

3

(a)

- (i) The pie chart should be completed as below.



- (ii) Oil is the most important source of energy, approaching one-third of the total. Coal (26%) and natural gas (24%) complete the 80% dominance of energy produced by fossil fuels. Biomass accounts for a further 10%, with electricity (other renewables and nuclear) accounting for the remaining 10%.
- (b) Global energy consumption has increased due to the increase in population. The world’s population is expected to rise to over 9 billion by 2050. As more countries develop economically, there is greater wealth and so people can afford more energy-consuming vehicles and appliances. Increased usage of computers and other technology also increases the demand for energy.