7.9 Food Security: Rising Demand and Factors Affecting Supply: 10-minute Pack

AQA 8035 · Calculators not allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Define the term 'food security' as used in discussions of national and global supply and demand.

(Total for Question 1 is 1 mark)

2 State ONE demographic reason why global demand for food has increased in recent decades, naming the demographic factor and the direction of change.

(Total for Question 2 is 1 mark)

3 Explain TWO ways that drought and unreliable rainfall can reduce food supply in a farming region.

(Total for Question 3 is 4 marks)

4 Suggest TWO ways limited access to agricultural technology, such as machinery, fertiliser and irrigation, can reduce food supply in lower-income farming systems.

(Total for Question 4 is 4 marks)

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Mark scheme · 7.9 Food Security: Rising Demand and Factors Affecting Supply: 10-minute Pack

Question 1

a state when all people, at all times, have physical and economic access to enough safe and nutritious food for an active and healthy life, oe — **B1**

Answer: Food security is when all people, at all times, have physical and economic access to enough safe and nutritious food for an active and healthy life.

Question 2

population growth, oe — **B1**

Answer: Population growth.

Question 3

drought reduces soil moisture which directly lowers crop growth and yields, oe — **B1**

linked detail for drought, e.g. crops may die or fail to produce a harvest, reducing total food available, oe — **B1**

unreliable rainfall causes planting and harvest timing to be uncertain, leading to higher crop losses and lower productivity, oe — **B1**

linked detail for unreliable rainfall, e.g. it prevents predictable irrigation scheduling and can reduce multiple cropping cycles per year, lowering annual food supply, oe — **B1**

Answer: Drought reduces soil moisture and crop growth so yields fall or crops fail; unreliable rainfall makes planting and harvest timing uncertain, increasing crop losses and preventing reliable irrigation and multiple cropping, so annual food supply is reduced.

Question 4

way 1 identified, e.g. lack of machinery, limited access to fertiliser or limited irrigation, oe — **B1**

linked detail for way 1, e.g. machinery: without mechanisation less land can be cultivated, planting and harvesting are slower and yields per farmer stay low; fertiliser: soil fertility is reduced and yields are lower; irrigation: crops are vulnerable to dry spells and cannot achieve higher-intensity or multiple cropping; so total food supply is reduced, oe — **B1**

way 2 identified, a different technology constraint from way 1 (one of the same three, or another valid one such as limited access to improved seed, pesticides or storage), oe — **B1**

linked detail for way 2, using the same kinds of effect on food supply as in the line above, oe — **B1**

Answer: Without machinery, less land is cultivated and harvesting is less efficient causing lower output and higher post-harvest loss; without fertiliser soil fertility and yields stay low; and without irrigation crops are vulnerable to dry spells and cannot be grown more intensively or in multiple cycles, all reducing food supply.

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