# GCSE GEOGRAPHY

## Paper 2 Challenges in the Human environment

**Time allowed: 1 hour 30 minutes**

**Materials**
For this paper you must have:

- a pencil
- a rubber
- a ruler.

You may use a calculator.

**Instructions**

- Use black ink or black ball-point pen.
- Fill in the boxes at the top of this page.

Answer all questions in Section A and Section B.
Answer Question 3 and one other question in Section C.

**Information**

- You must answer the questions in the spaces provided.
- Do all rough work in this book. Cross through any work you do not want to be marked.
- Information
- The marks for questions are shown in brackets.
- The total number of marks available for this paper is 86.
- Spelling, punctuation, grammar and specialist terminology will be assessed in Question 01.11.
- HIC is a higher income country.
- LIC is a lower income country.
- NEE is a newly emerging economy.

| For Examiner's Use | |
|---|---|
| Question | Mark |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |
| 6 | |
| TOTAL | |

# Section A Urban issues and challenges
## Answer **all** questions in this section.

**Question 1 Urban Issues and challenges**

1.1 Define the term "life expectancy" (1 mark)

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Study figure 1, a graph showing the average life expectancies of people currently aged 15 living in different sectors of Rio di Janeiro
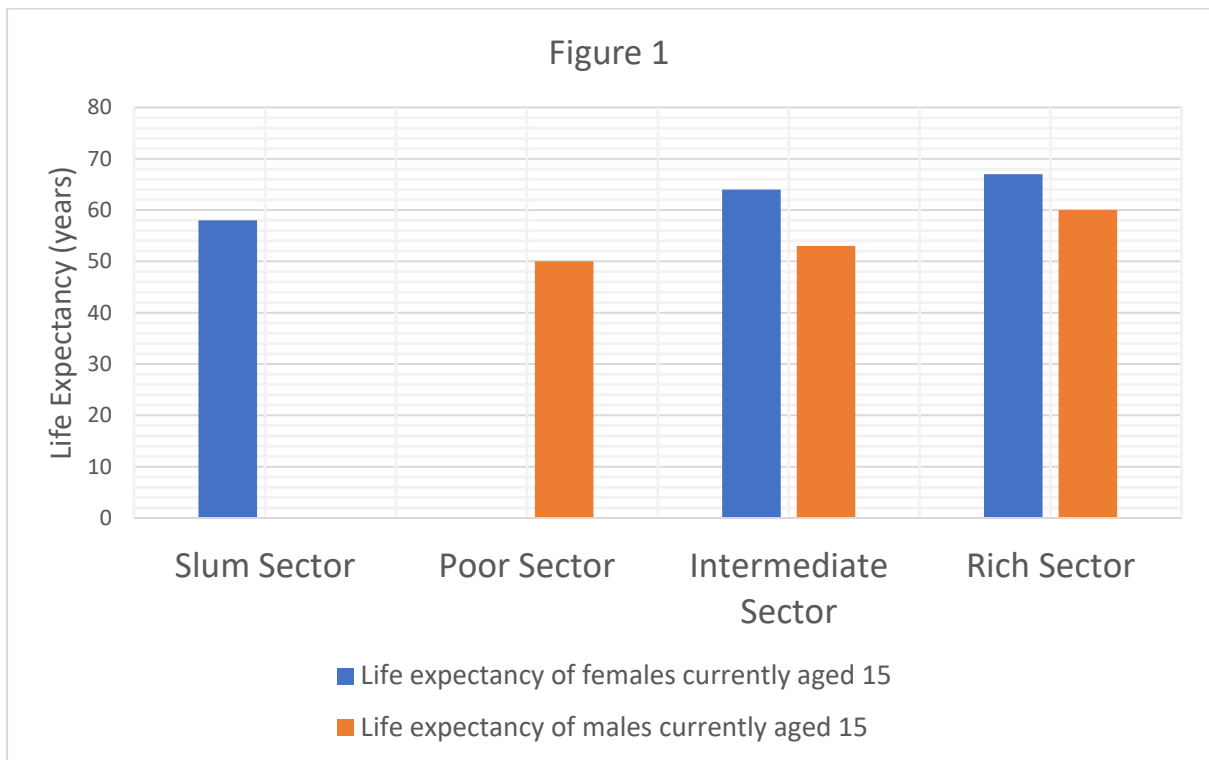


Figure 1

**Question 1 continues on the next page**

1.2 Complete figure 1 using the following data (2 marks)

|  | Life expectancy of females currently aged 15 | Life expectancy of males currently aged 15 |
|---|---|---|
| Slum Sector | 58 | 48 |
| Poor Sector | 62 | 50 |
| Intermediate Sector | 64 | 53 |
| Rich Sector | 67 | 60 |

1.3 Calculate the mean life expectancy of females currently ages 15 across all sectors of Rio di Janeiro.

Answer to the nearest whole year (1 mark)

…………………………………………years.

1.4 Give two main reasons that have led to rapid urban growth in LICs/NEEs? (2 marks)

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2.……………………………………………………………………………………………………………………………………………………

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**Question 1 continues on the next page**

Study **Figure 2,** a photo of an electricity connection in a favela in Rio de Janeiro.



1.5 Suggest how providing a safe and reliable electricity supply in LECs/NEEs creates challenges.

Use **Figure 2** and your own understanding (4 marks)

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**Question 1 continues on the next page**

Study **Figure 3,** a graph showing the percentage of people using different types on transport in Freiburg, Germany in 2000.

**Figure 3**

| | | | |
|---|---|---|---|
| | 🚲 | | 🚗 |
| | 🚲 | 🚌 | 🚗 |
| | 🚲 | 🚌 | 🚗 |
| **Pedestrians** | **Cycle Traffic** | **Public transport** | **Motor Vechicles** |
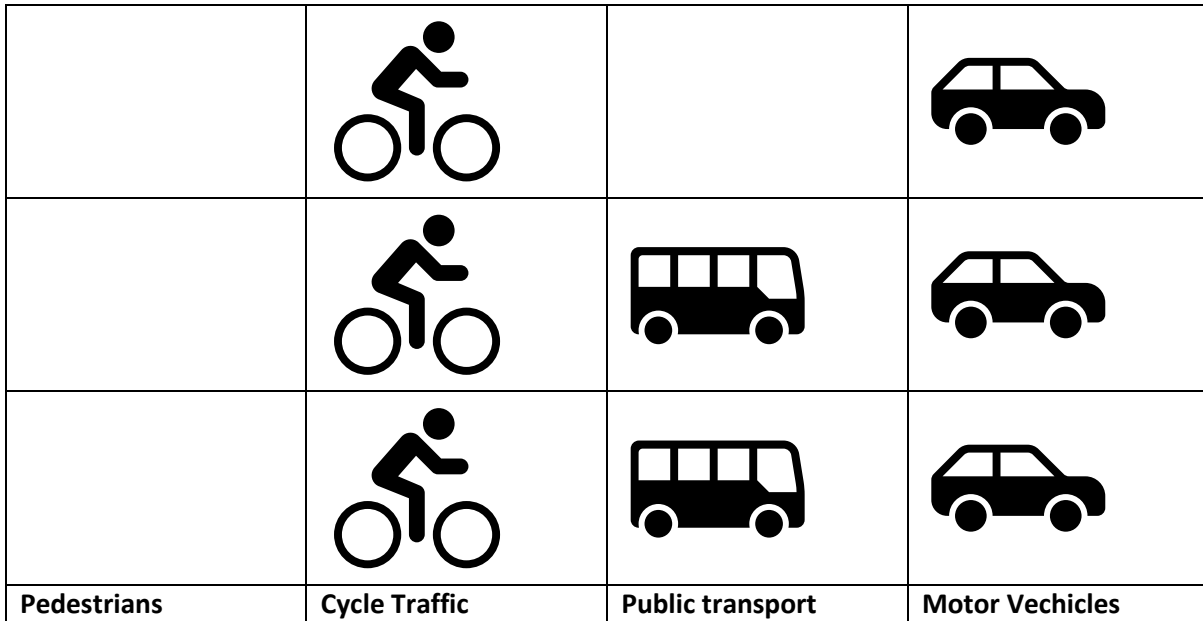
**Key**

**Each icon represents 10%**

= Pedestrians

1.6 Complete figure 3 using the following data (1 mark)

| Transport type | Percentage |
|---|---|
| Pedestrians | 20 |

1.7 In sustainable cities such as Frieburg in Germany many homes have solar panels. Outline **one** advantage of using solar panels. (2 marks)

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1.8 Assess the importance of waste recycling as part of urban sustainability (6 marks)

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**Question 1 continues on the next page**

Study **Figure 4**, a 1:25 000 Ordnance survey map of part of Manchester, a city in the UK.
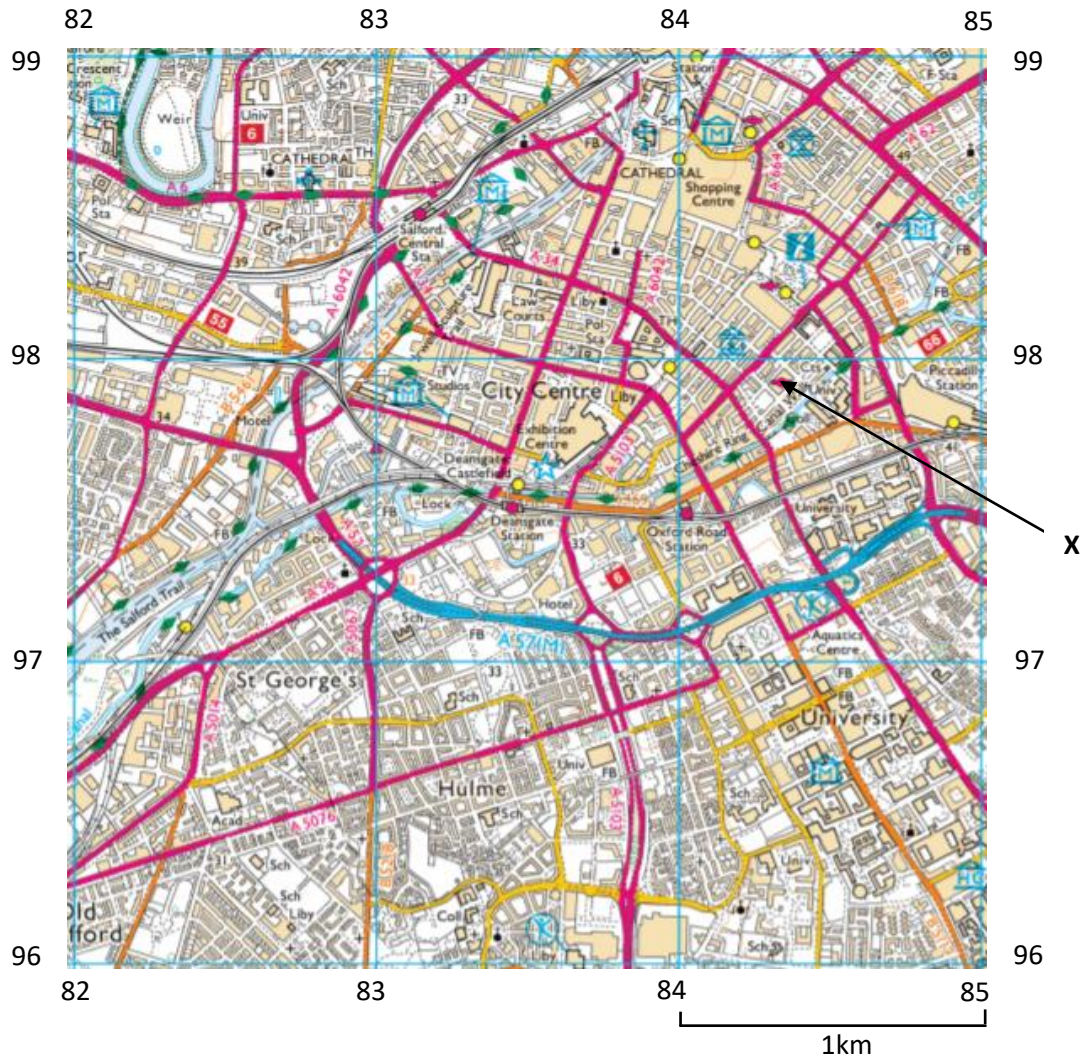


1.9 What is the 6-figure grid reference for the point marked X?

Shade **one** circle only (1 mark)

A      844979      ⭕

B      849984      ⭕

C      979844      ⭕

D      984849      ⭕

1.10 What is the straight-line distance, to the nearest 100 m from point **X** to Salford Central station at 832985? Shade **one** circle only (1 mark)

A      1.2 km      ⭕

B      1.4 km      ⭕

C      1.6 km      ⭕

D      1.8 km      ⭕

1.11 To what extent has urban change created social and environmental opportunities in a UK city you have studied? (9 marks) (+3 SPaG marks).

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**End of Section A**

**Turn over for Section B**

# Section B The changing economic world
## Answer **all** questions in this section.

**Question 2 The changing economic world**

Study **Figure 5**, a pie chart showing the percentage of imports into the UK from other G8 countries.



Figure 5

Germany 36%   China 23%   USA 22%   Italy   Japan 6%   Canada 3%
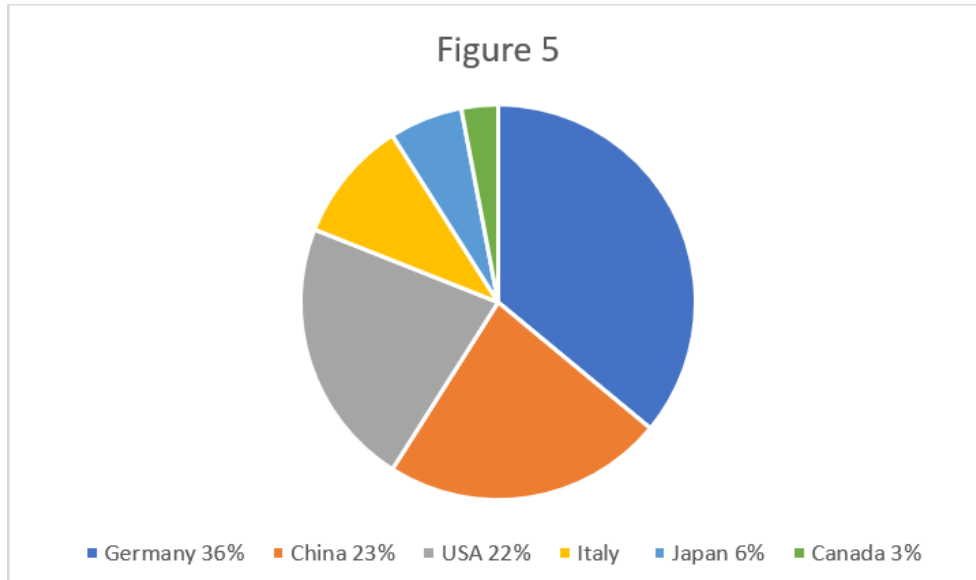
2.1 Using **Figure 5**, calculate the percentage of imports from Italy (1 mark)

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2.2 Using **Figure 5**, what is the difference between the percentage of imports from Germany and USA? (1 mark)

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2.3 Outline how the physical geography of some countries prevents them developing economically (3 marks)

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2.4 Explain how falling birth rates are linked to Stage 3 of the Demographic Transition Model (4 marks)

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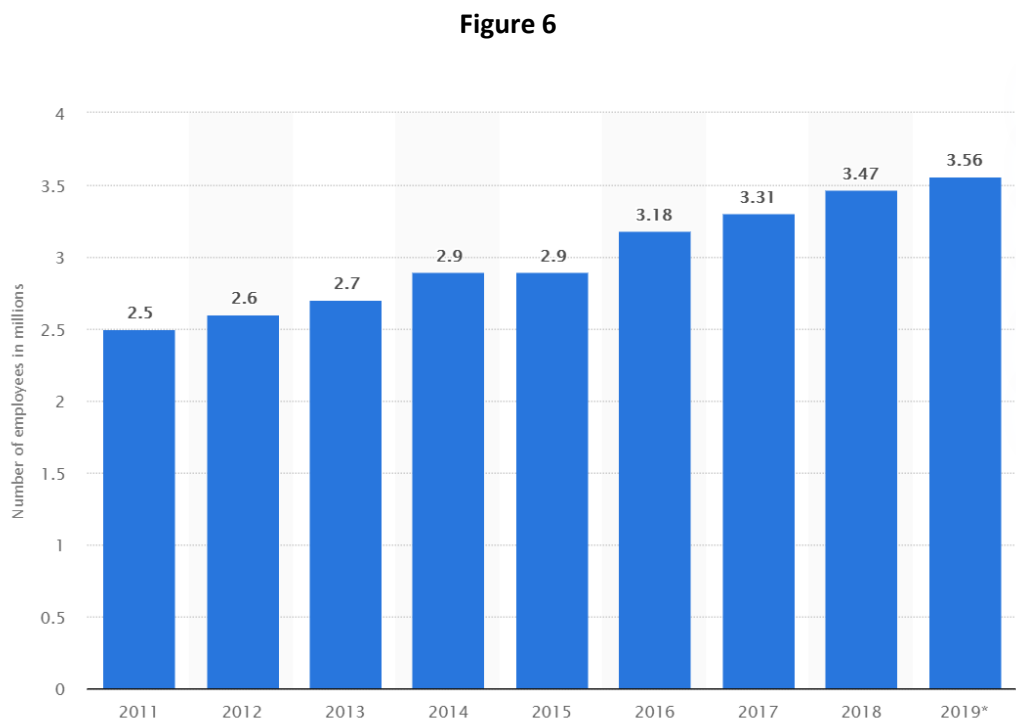
Study **Figure 6**, a graph of the number of people working in the tourism industry in Malaysia from 2011 to 2019.

**Figure 6**



2.5 Describe the trend shown in **Figure 6.** (1 mark)

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**Question 2 continues on the next page**

2.6 The data in Figure 6 was published in 2018. Suggest why the 2019 data has an asterisk against it. (1 mark)

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Study **Figure 7**, a diagram explaining the impact of tourism on a HIC/NEE country.

| More local businesses are supported by local spending | Tax paid to the government increases | Government has more income to spend |
|---|---|---|
| Employees earn more money which they spend locally | More demand for employees in customer facing roles such as hotels and tour guides | Industries supporting and supplying the tourism industry see business increase |

Foreign visitors visit the country

2.7 Assess the importance of tourism as a way of reducing the development gap. Use **Figure 7** and an example you have studied. (6 marks)

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Study **Figure 8a**, a map of the regions of the United Kingdom, and **Figure 8b**, a table showing average pay in those regions.

**Figure 8a**

**Figure 8b**



| North East | £ | 24,000 |
|---|---|---|
| North West | £ | 25,000 |
| Yorkshire and The Humber | £ | 24,000 |
| Wales | £ | 19,500 |
| West Midlands | £ | 25,000 |
| East Midlands | £ | 24,000 |
| South West | £ | 25,000 |
| South East | £ | 28,000 |
| London | £ | 30,000 |
| Eastern | £ | 26,000 |
| Scotland | £ | 21,000 |
| Northern Ireland | £ | 19,500 |

2.8 Calculate the median average pay shown in **Figure 8b**. (2 marks)

Show your working

Median -                     .

2.9 Suggest why there is a variation in average pay across the UK (2 marks)

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2.10 "One way to address variations in average pay is to improve transport infrastructure"

Evaluate the success or likely success of strategies to improve transport infrastructure in the UK (9 marks)

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**End of Section B**

**Turn over for Section C**

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**Section C The challenge of resource management**

Answer **Question 3** and
**either** Question 4 (Food) or Question 5 (Water) or Question 6 (Energy).

**Question 3 The challenge of resource management**

Study **Figure 9**, a Meteorological Office map showing rainfall amount annual average from 1981 to 2010.

**Figure 9**
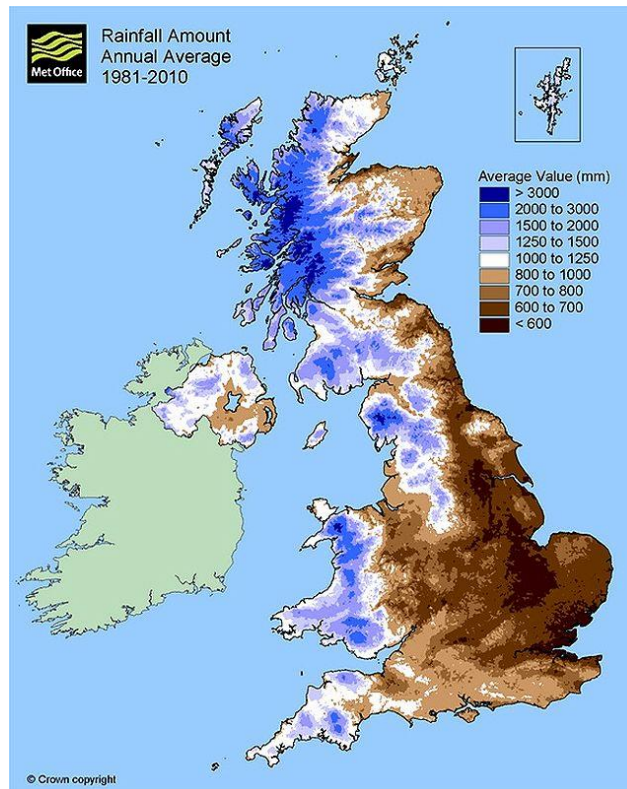


3.1 Describe the pattern of rainfall shown in **Figure 9.** (2 marks)

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3.2 Define the term 'water deficit'. (1 mark)

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3.3 Explain why there is a growing demand in the UK for renewable sources of energy (3 marks)

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Study **Figure 10**, a table showing the origin and food miles of various products bought regularly in British supermarkets

**Figure 10**

| Product | Country of origin | Food miles |
|---|---|---|
| Prawns | Indonesia | 7178 |
| Brussels sprouts | Australia | 10562 |
| Tomatoes | Saudi Arabia | 3086 |
| Red peppers | Netherlands | 62 |
| Spinach | Spain | 958 |
| Grapes | Chile | 7247 |
| Asparagus | Peru | 6312 |

3.4 Assess the impact of importing food from overseas. Use evidence from **Figure 10** and your own knowledge. (6 marks)

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Answer **either** Question 4 **or** Question 5 **or** Question 6.

**Question 4 Food**

Study **Figure 11**, a map of Africa showing daily per capita calorie supply, 2013.

**Figure 11**
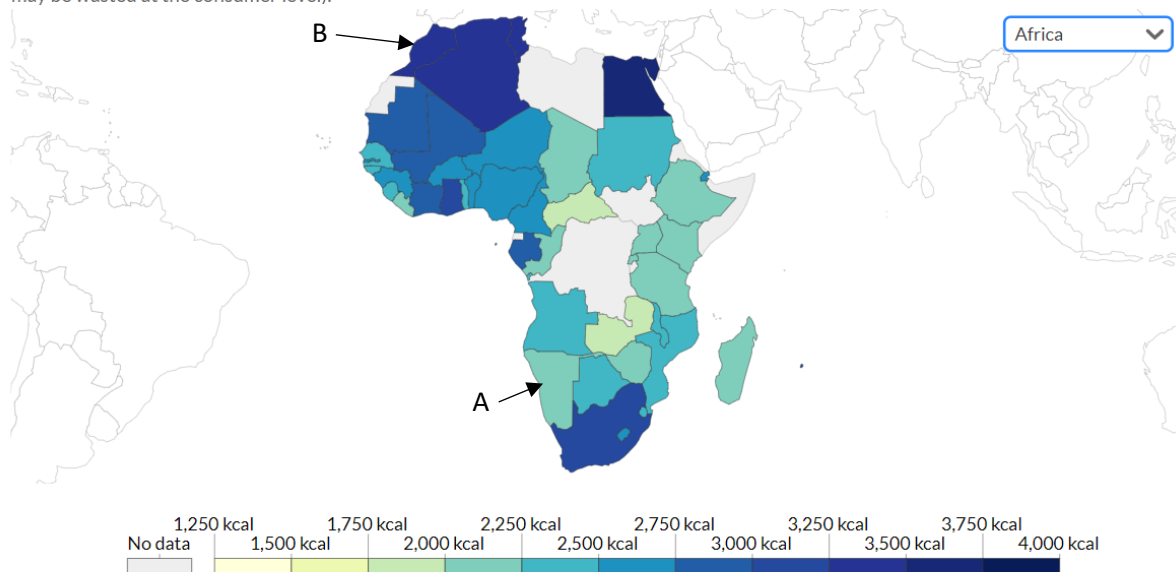


4.1 Country A is Namibia. What is the average daily per capita caloric supply in Namibia?

Shade **one** circle only (1 mark)

A       1750 kcal – 2000 kcal  ◯

B       2000 kcal – 2250 kcal  ◯

C       2500 kcal – 2750 kcal  ◯

D       2750 kcal – 3000 kcal  ◯

4.2 Country B is Morocco. What is the average daily per capita caloric supply in Morocco?

Shade **one** circle only (1 mark)

A       2000 kcal – 2250 kcal  ◯

B       2500 kcal – 2750 kcal  ◯

C       2750 kcal – 3000 kcal  ◯

D       3000 kcal – 3500 kcal  ◯

4.3 Describe the distribution of countries with a daily per capita caloric supply greater than 3000 kcals (2 marks)

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4.4 What is meant by 'organic farming'? (1 mark)

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Study **Figure 12a,** a rice paddy field in Tanzania, part of a large-scale agricultural development, and **Figure 12b**, a market in Kinshasa, Democratic Republic of Congo, where farmers are selling surplus crops as part of a sustainable food production programme.

**Figure 12a**                                        **Figure 12b**



4.5 Choose **either** Figure 12a **or** Figure 12b. For your chosen example discuss how it has been able to increase the supply of food. (6 marks)

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**If you have answered Question 4, do not answer Question 5 or 6**

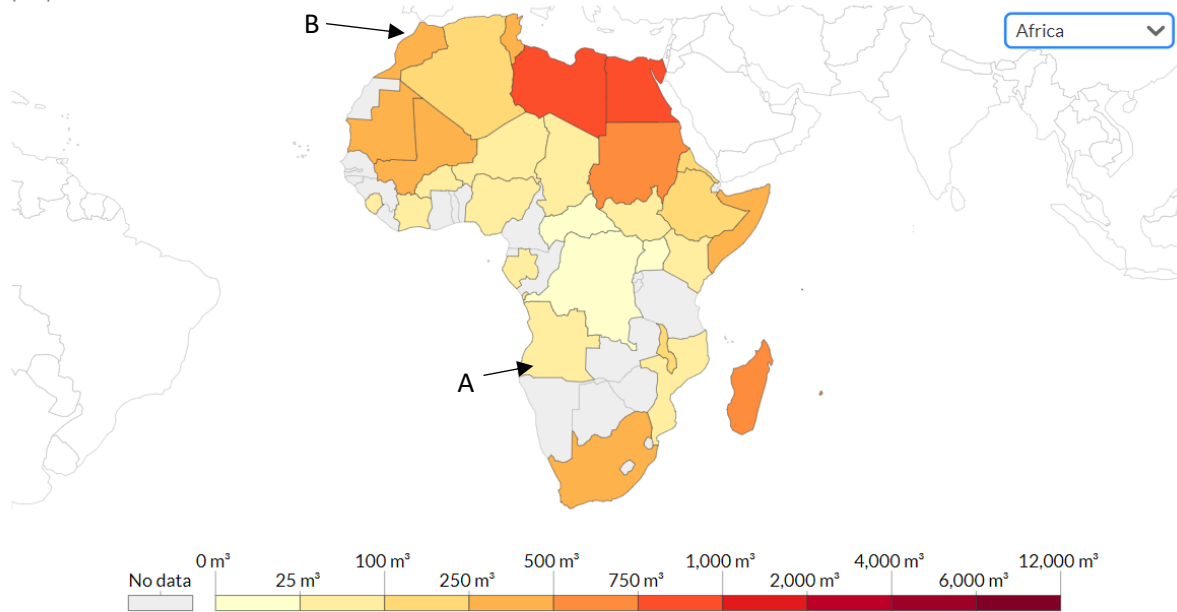<div style="border:1px solid">11</div>

**Question 5 Water**

Study **Figure 13**, a map of Africa showing total water withdrawals from agricultural, industrial and municipal purposes per capita (cubic metres per year) 2010.

**Figure 13**



Water withdrawals per capita, 2010
Total water withdrawals from agricultural, industrial and municipal purposes per capita, measured in cubic metres ($m^3$) per year.

Source: UN Food and Agricultural Organization (FAO) AQUASTAT    OurWorldInData.org/water-access-resources-sanitation/ • CC BY

5.1 Country A is Angola. What is the total water withdrawal for Angola?

Shade **one** circle only (1 mark)

A       $0 \, m^3 – 25 \, m^3$       ◯

B       $25 \, m^3 – 100 \, m^3$     ◯

C       $100 \, m^3 – 250 \, m^3$    ◯

D       $250 \, m^3 – 500 \, m^3$    ◯

5.2 Country B is Morocco. . What is the total water withdrawal for Morocco?

Shade **one** circle only (1 mark)

A       $0 \, m^3 – 25 \, m^3$       ◯

B       $25 \, m^3 – 100 \, m^3$     ◯

C       $100 \, m^3 – 250 \, m^3$    ◯

D       $250 \, m^3 – 500 \, m^3$    ◯

5.3 Describe the distribution of countries with a total water withdrawal greater than 500 m³ (2 marks)

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5.4 What is meant by 'water security'? (1 mark)

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Study **Figure 14a,** The South to North Water Transfer Project in China, a large-scale water transfer scheme, and **Figure 14b**, a sand dam in Kenya, an example of a local scheme to increase sustainable supplies of water.

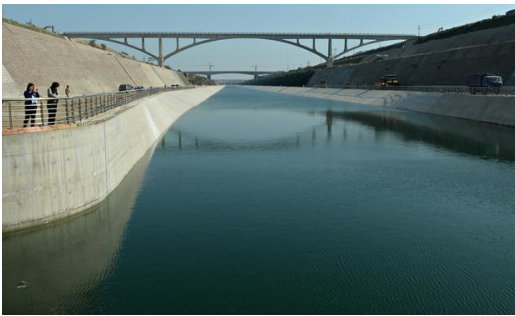**Figure 14a**                                  **Figure 14b**

          

5.5 Choose **either** Figure 14a **or** Figure 14b. For your chosen example discuss how it has been able to increase the supply of water. (6 marks)

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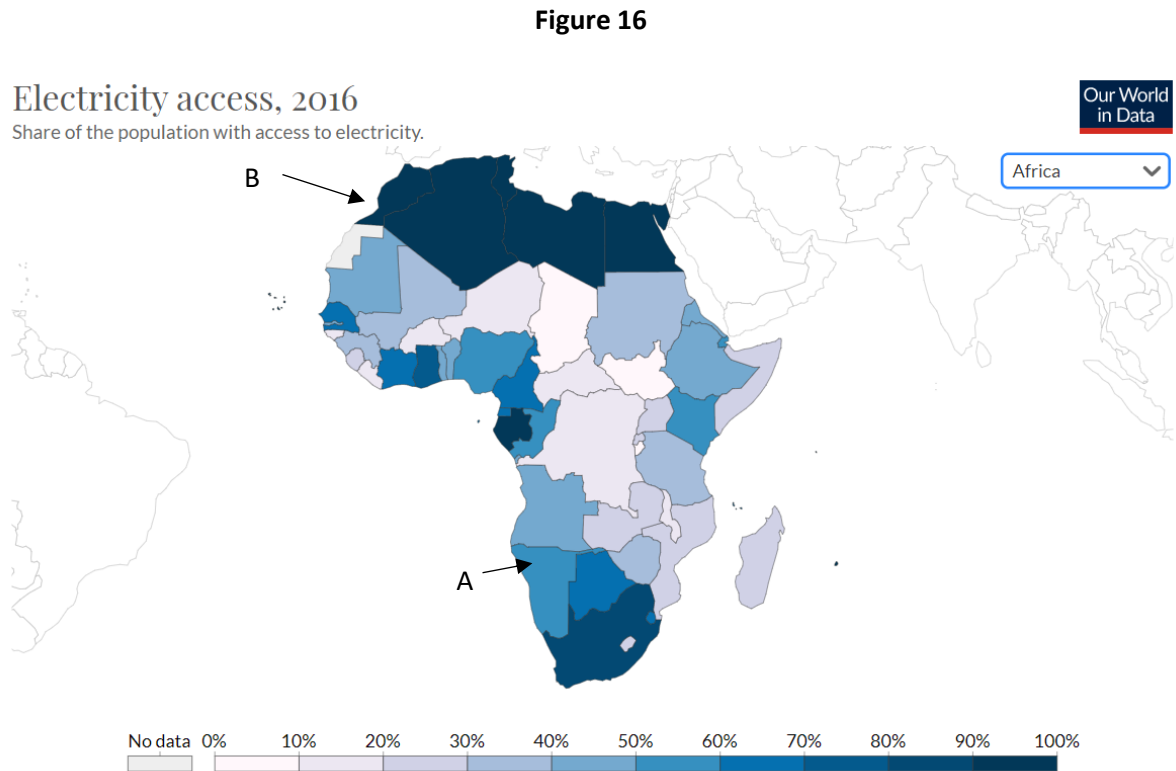
**If you have answered Question 5, do not answer Question 4 or 6**

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**Question 6 Energy**

Study **Figure 16**, a map of Africa showing percentage of population with access to electricity.

**Figure 16**



Electricity access, 2016
Share of the population with access to electricity.

Our World in Data

Africa

No data  0%   10%   20%   30%   40%   50%   60%   70%   80%   90%   100%

6.1 Country A is Namibia. What percentage of the population of Namibia have access to electricity?

Shade **one** circle only (1 mark)

A      40% - 49%    ◯

B      50% - 59%    ◯

C      60% - 69%    ◯

D      70% - 79%    ◯

6.2 Country B is Morocco.  What percentage of the population of Morocco have access to electricity?

Shade **one** circle only (1 mark)

A      60% - 69%    ◯

B      70% - 79%    ◯

C      80% – 89%    ◯

D      90% - 100%   ◯

6.3 Describe the distribution of countries access to electricity above 80% (2 marks)

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6.4 What is meant by 'energy deficit'? (1 mark)

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Study **Figure 17a,** a drilling rig off the coast of Scotland in the Gannet oilfield, an example of the extraction of a fossil fuel, and **Figure 17b**, a Solar Mini Grid Scheme in Tanzania, an example of a local renewable energy scheme in in LIC/NEE.

**Figure 17a**                                        **Figure 17b**



6.5 Choose **either** Figure 14a **or** Figure 14b. For your chosen example discuss how it has been able to increase the supply of energy. (6 marks)

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**If you have answered Question 6, do not answer Question 4 or 5**

**END OF QUESTIONS**

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