

Please check the examination details below before entering your candidate information

Candidate surname		Other names	
Pearson Edexcel International GCSE (9–1)		Centre Number	Candidate Number
		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Time 1 hour 45 minutes		Paper reference	4GE1/02
Geography PAPER 2: Human geography			
You must have: Resource Booklet (enclosed), calculator			Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- In Section A, answer **two** questions from Questions 1, 2 **and** 3.
In Section B, answer **one** question from Questions 4, 5 **and** 6.
In Section C, answer **one** question from Questions 7, 8 **and** 9.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- Calculators may be used.
- Where asked you must **show all your working out** with **your answer clearly identified** at the **end of your solution**.

Information

- The total mark for this paper is 97.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Check your answers if you have time at the end.
- Good luck with your examination.

Turn over ►



SECTION A

Answer TWO questions from this section.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If you answer Question 1 put a cross in the box ☒ .

1 Economic activity and energy

(a) (i) Define the term **energy security**.

(1)

(ii) Identify the **two** forms of non-renewable energy.

(2)

<input type="checkbox"/>	A Coal
<input type="checkbox"/>	B Hydroelectric
<input type="checkbox"/>	C Geothermal
<input type="checkbox"/>	D Oil
<input type="checkbox"/>	E Solar
<input type="checkbox"/>	F Wind

(b) Study Figure 1a in the Resource Booklet.

Suggest **one** way this house has been adapted to manage energy consumption.

(2)



(c) (i) State **one** characteristic of the tertiary economic sector.

(1)

(ii) Explain **two** factors that affect the location of tertiary sector activities.

(4)

1

2

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(d) Study Figure 1b below. It shows employment structures for selected countries in 1991 and 2018.

- (i) Label the box with an X to show which pie chart displays the largest percentage for secondary sector employment.

(1)

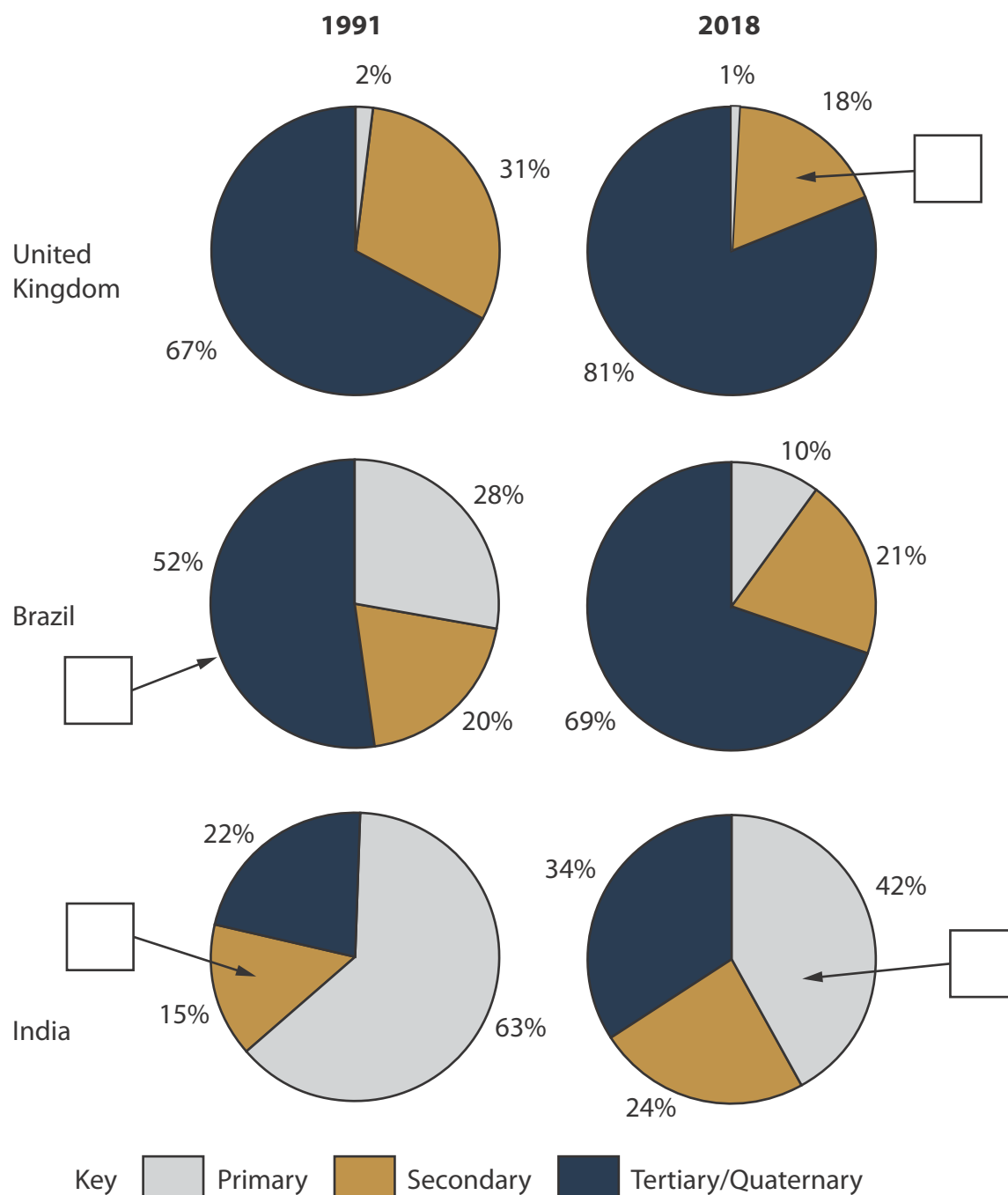


Figure 1b

Employment structures for selected countries in 1991 and 2018



(ii) Identify which **one** of the following is correct.

(1)

<input type="checkbox"/>	A Brazil's employment in the tertiary/quaternary sectors has increased by 12 percentage points.
<input type="checkbox"/>	B India's employment in tertiary/quaternary sectors has increased by 12 percentage points.
<input type="checkbox"/>	C The UK's employment in the primary sector has decreased by 12 percentage points.
<input type="checkbox"/>	D India's employment in the primary sector has decreased by 12 percentage points.

(iii) State **one** reason for decline in primary sector employment.

(1)

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.....

(e) For a named megacity explain **two** advantages of informal employment.

(4)

Named megacity

1

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(f) Study Figure 1c in the Resource Booklet.

Analyse the possible reasons why energy consumption has grown.

(8)



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(Total for Question 1 = 25 marks)



If you answer Question 2 put a cross in the box ☐.

2 Rural environments

(a) (i) Define the term **organic farming**.

(1)

(ii) Identify **two** forms of farm diversification.

(2)

<input type="checkbox"/>	A Buying more land.
<input type="checkbox"/>	B Buying more tractors.
<input type="checkbox"/>	C Creating a farm shop.
<input type="checkbox"/>	D Increasing irrigation.
<input type="checkbox"/>	E Using more fertiliser.
<input type="checkbox"/>	F Opening a bed and breakfast for tourists.

(b) Study Figure 2a in the Resource Booklet.

Suggest **one** way this dairy farm has diversified its income.

(2)



(c) (i) State **one** factor leading to rural isolation.

(1)

(ii) Explain **two** ways tourist pressure is affecting rural areas.

(4)

1

2



P 6 6 5 8 0 A 0 9 4 8

(d) Study Figure 2b below.

(i) Label the box with an X to indicate the year with the largest urban population.

(1)

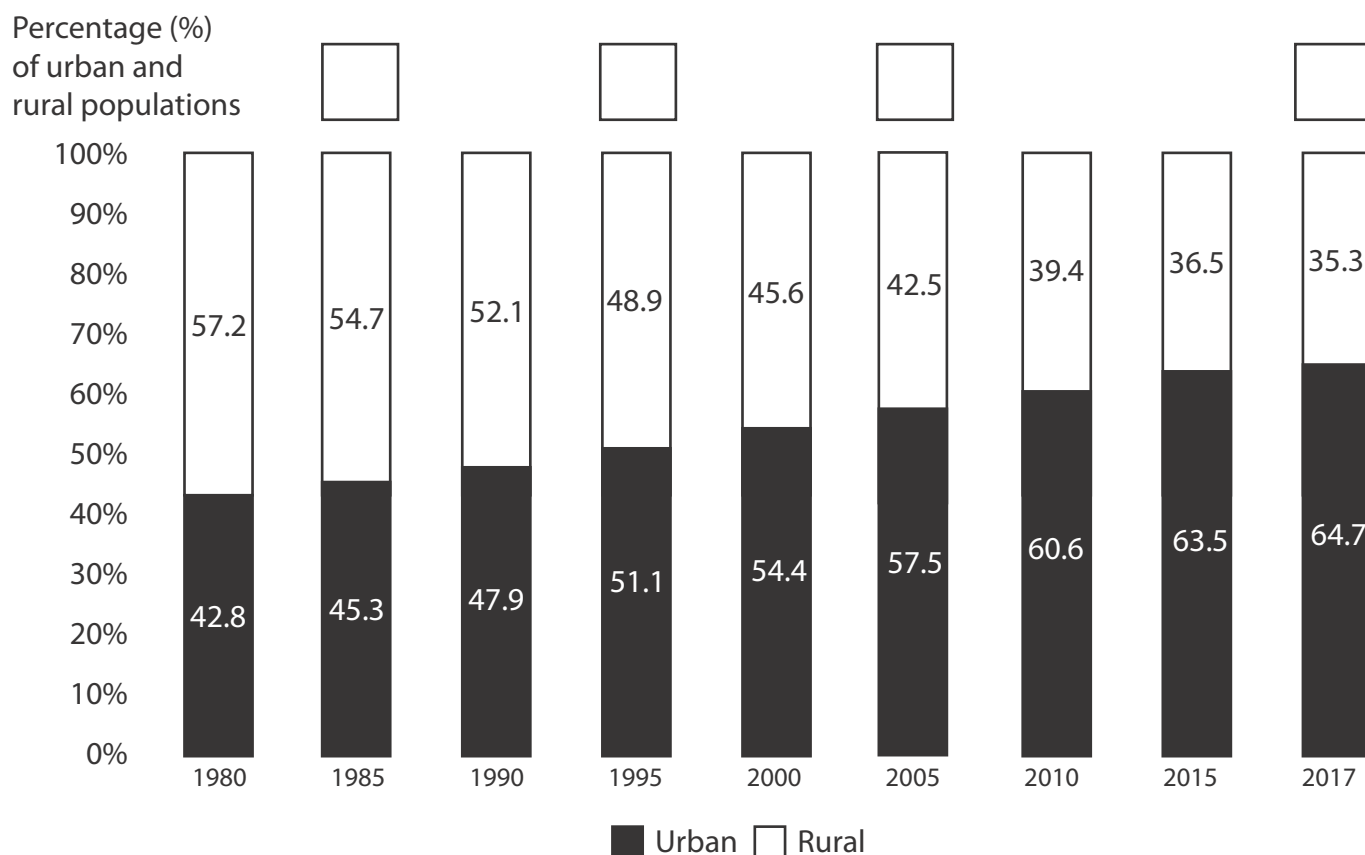


Figure 2b

Global urban and rural populations, 1980–2017

(ii) Identify the year in which the urban population first becomes larger than the rural population.

(1)

<input type="checkbox"/>	A 1985
<input type="checkbox"/>	B 1995
<input type="checkbox"/>	C 2005
<input type="checkbox"/>	D 2017

(iii) State **one** factor leading to rural-urban migration.

(1)

(e) For a named developing or emerging country explain **two** environmental challenges facing rural areas.

(4)

Named developing or emerging country

1

2

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P 6 6 5 8 0 A 0 1 1 4 8

(f) Study Figure 2c in the Resource Booklet.

Analyse the importance of natural ecosystems for providing goods and services.

(8)



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(Total for Question 2 = 25 marks)



P 6 6 5 8 0 A 0 1 3 4 8

If you answer Question 3 put a cross in the box ☐.

3 Urban environments

(a) (i) Define the term **counter-urbanisation**.

(1)

(ii) Identify **two** environmental problems associated with rapid urban growth.

(2)

<input type="checkbox"/>	A Air pollution
<input type="checkbox"/>	B Lack of housing
<input type="checkbox"/>	C Overcrowding
<input type="checkbox"/>	D Poor services
<input type="checkbox"/>	E Ethnic segregation
<input type="checkbox"/>	F Water contamination

(b) Study Figure 3a in the Resource Booklet.

(i) Suggest **one** reason why this area is likely to be part of a central urban area.

(2)



(ii) Identify the meaning of the term **rural-urban fringe**.

(1)

<input type="checkbox"/>	A The area where factory developments dominate the landscape.
<input type="checkbox"/>	B The area where farming activities dominate the landscape.
<input type="checkbox"/>	C The land around the city centre.
<input type="checkbox"/>	D The land at the edge of an urban area where the rural area begins.

(c) For urban environments in **developed** countries, explain how transport and housing strategies could improve quality of life.

(4)

Transport

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Housing

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(d) Study Figure 3b below.

(i) Label the box with an X to show which city was a megacity in 2018.

(1)

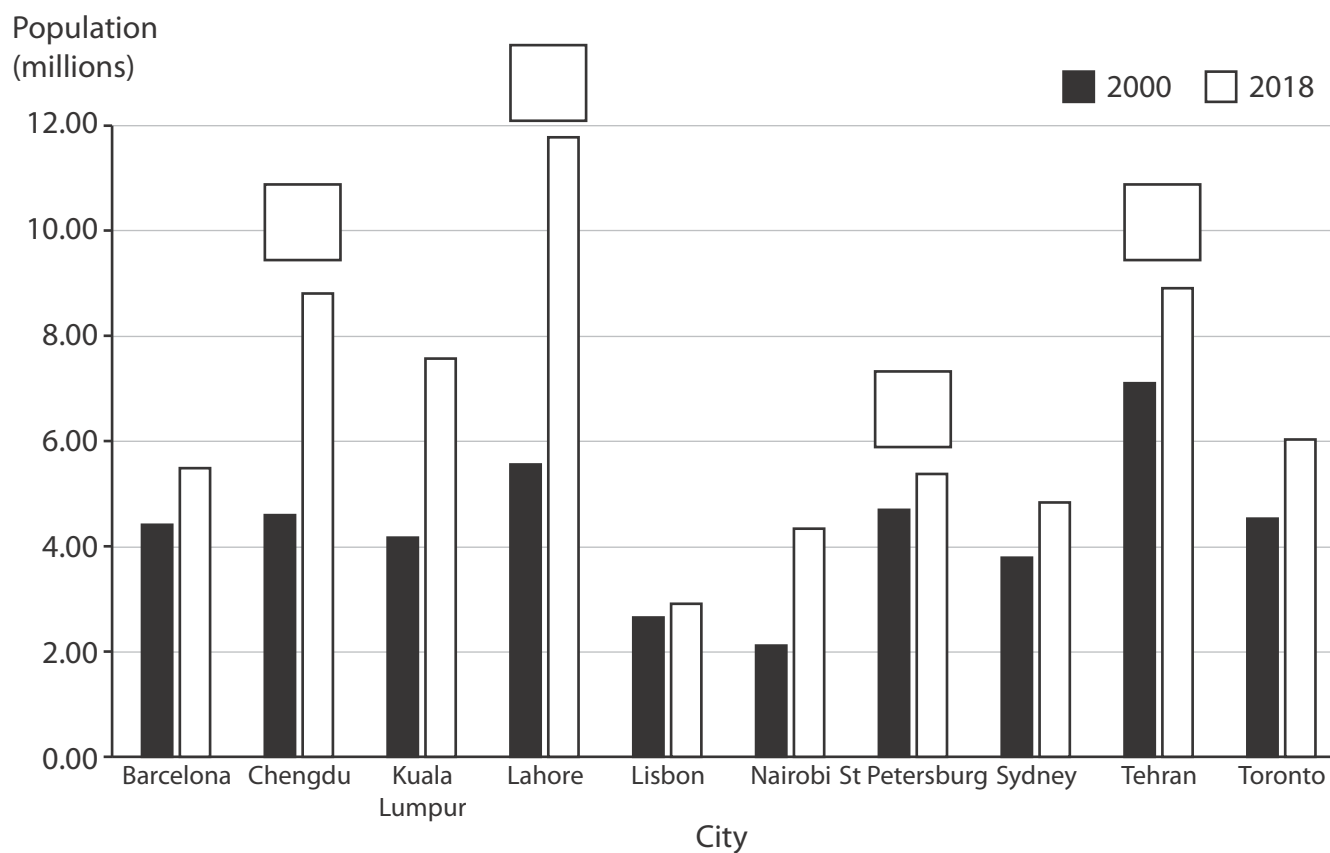


Figure 3b

Population sizes for selected cities in 2000 and 2018

(ii) Identify the city, from selected cities below, that has experienced the greatest growth between 2000 and 2018.

(1)

<input type="checkbox"/>	A Chengdu
<input type="checkbox"/>	B Lisbon
<input type="checkbox"/>	C St Petersburg
<input type="checkbox"/>	D Toronto

(iii) State **one** factor that affects the emergence of megacities.

(1)

(e) For an urban area in a named developing or emerging country explain how **two** different groups of people manage social challenges.

(4)

Named developing or emerging country

Group 1

Group 2

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Analyse the reasons why there are varied patterns of urban growth.

(8)

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(Total for Question 3 = 25 marks)

TOTAL FOR SECTION A = 50 MARKS



P 6 6 5 8 0 A 0 1 9 4 8

SECTION B**Geographical enquiry**

Answer ONE question from this section.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If you answer Question 4 put a cross in the box ☒ .

4 Investigating economic activity and energy

(a) Study Figure 4a in the Resource Booklet.

- (i) State **one** piece of secondary data that would be useful to investigate the impacts of this on the environment.

(1)

- (ii) Explain why photographs are a useful source of primary data.

(2)



(b) Study Figure 4c below. It shows data from an environmental quality survey carried out in five sites around a new renewable energy power plant.

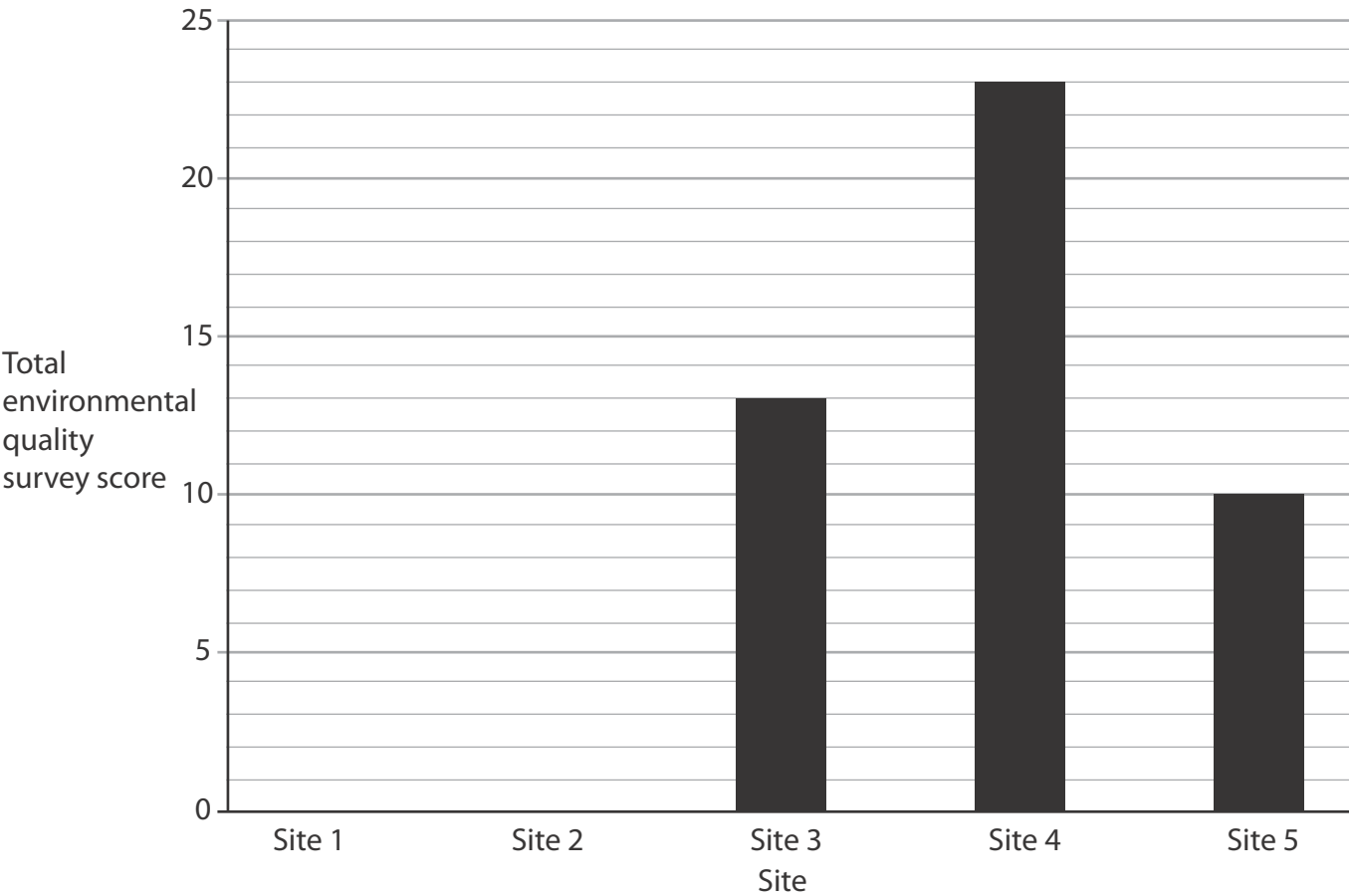


Figure 4c

A graph of environmental quality survey data

- (i) Plot the data for sites 1 and 2 (from Figure 4b in the Resource Booklet) to complete the graph above (Figure 4c).

Some data has been plotted for you.

(2)

- (ii) Identify the type of graph shown in Figure 4c.

(1)

<input type="checkbox"/>	A Bar
<input type="checkbox"/>	B Line
<input type="checkbox"/>	C Pie
<input type="checkbox"/>	D Scatter

- (iii) Identify the site in Figure 4c that has the highest environmental quality score.

(1)



(iv) Calculate the range in environmental quality scores.

Show all your workings.

(2)

(c) Explain **one** way you could manage a risk during fieldwork in an area close to a renewable energy power plant.

(3)

(Total for Question 4 = 12 marks)



If you answer Question 5 put a cross in the box ☐ .

5 Investigating rural environments

(a) Study Figure 5a in the Resource Booklet.

- (i) State **one** piece of secondary data that would be useful to investigate this rural environment.

(1)

- (ii) Explain why photographs are a useful source of primary data.

(2)



- (b) Study Figure 5c below. It shows data from an environmental quality survey carried out in five sites around a new factory development.

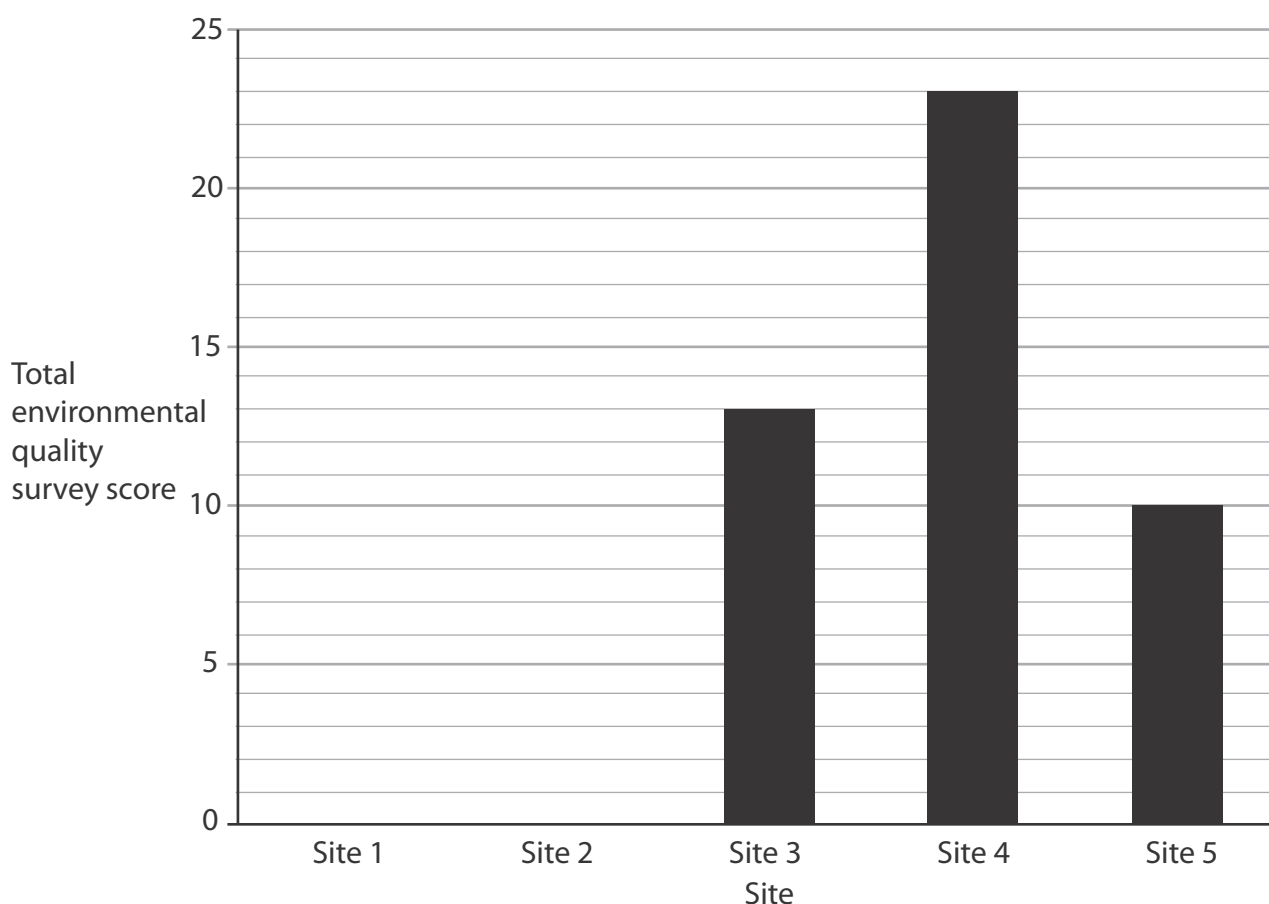


Figure 5c

A graph of environmental quality survey data

- (i) Plot the data for sites 1 and 2 (from Figure 5b in the Resource Booklet) to complete the graph above (Figure 5c).

Some data has been plotted for you.

(2)

- (ii) Identify the type of graph shown in Figure 5c.

(1)

<input type="checkbox"/>	A Bar
<input type="checkbox"/>	B Line
<input type="checkbox"/>	C Pie
<input type="checkbox"/>	D Scatter

- (iii) Identify the site in Figure 5c that has the highest environmental quality score.

(1)

(iv) Calculate the range in environmental quality scores.

Show all your workings.

(2)

(c) Explain **one** way you could manage a risk during fieldwork in a rural area with a new development.

(3)

(Total for Question 5 = 12 marks)



If you answer Question 6 put a cross in the box ☐.

6 Investigating urban environments

(a) Study Figure 6a in the Resource Booklet.

- (i) State **one** piece of secondary data that would be useful to investigate this urban environment.

(1)

- (ii) Explain why photographs are a useful source of primary data.

(2)



(b) Study Figure 6c below. It shows data from an environmental quality survey carried out in five sites around an urban area being regenerated.

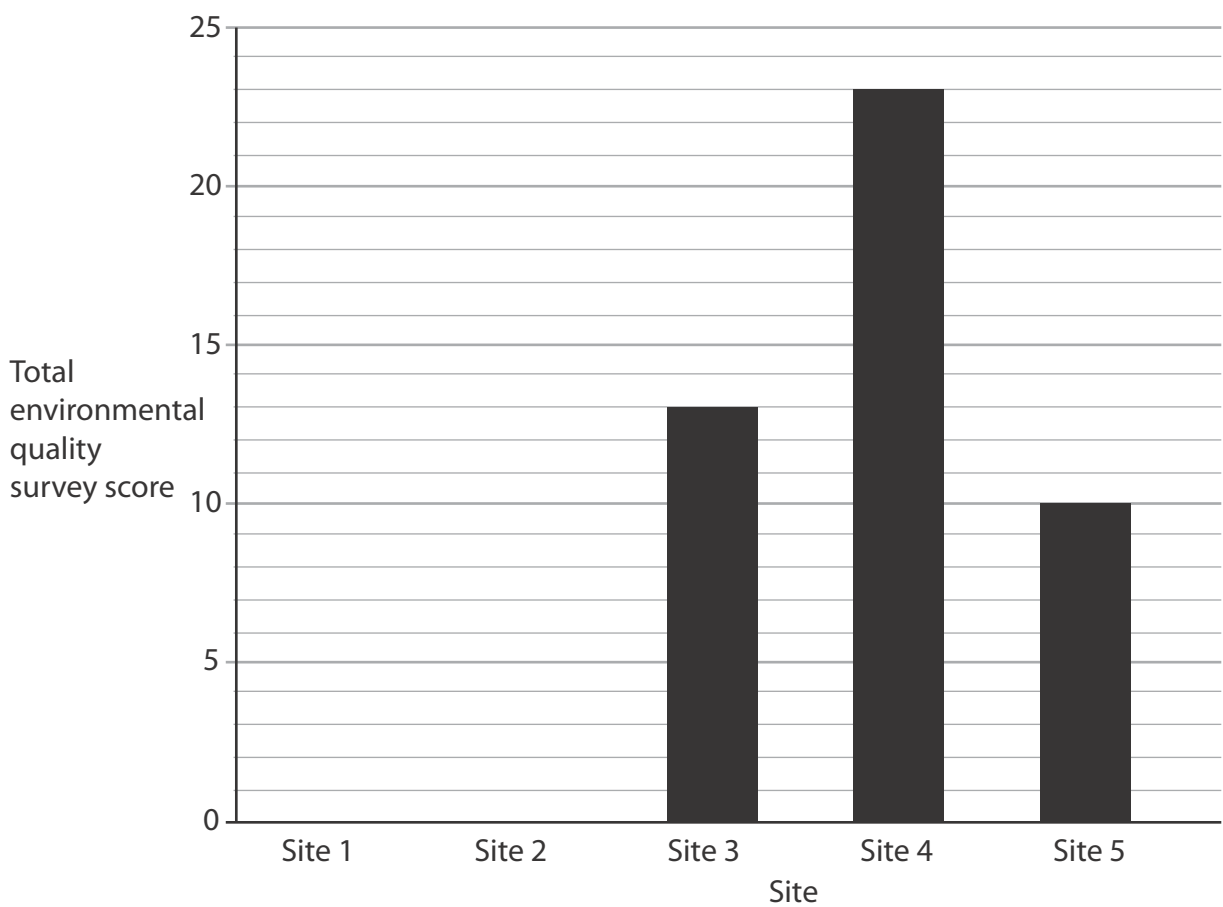


Figure 6c

A graph of environmental quality survey data

(i) Plot the data for sites 1 and 2 (from Figure 6b in the Resource Booklet) to complete the graph above (Figure 6c).

Some data has been plotted for you.

(2)

(ii) Identify the type of graph shown in Figure 6c.

(1)

<input type="checkbox"/>	A Bar
<input type="checkbox"/>	B Line
<input type="checkbox"/>	C Pie
<input type="checkbox"/>	D Scatter

(iii) Identify the site in Figure 6c that has the highest environmental quality score.

(1)

(iv) Calculate the range in environmental quality scores.

Show all your workings.

(2)

(c) Explain **one** way you could manage a risk during fieldwork in a regenerated urban area.

(3)

(Total for Question 6 = 12 marks)

TOTAL FOR SECTION B = 12 MARKS



SECTION C

Global issues

Answer ONE question from this section.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

If you answer Question 7 put a cross in the box ☒ .

7 Fragile environments and climate change

- (a) (i) Identify the meaning of the term **Milankovitch cycles**.

(1)

<input type="checkbox"/>	A Variations in ocean circulation movements.
<input type="checkbox"/>	B Variations in the length of time it takes for the earth to orbit the sun.
<input type="checkbox"/>	C Variations in the movement of air in the atmosphere.
<input type="checkbox"/>	D Variations in the tilt and/or orbit of the earth around the sun.

- (ii) Explain what is meant by the term **drought**.

(2)

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- (iii) Identify **one** source leading to a significant increase of methane (CH₄) in the atmosphere.

(1)

<input type="checkbox"/>	A Burning wood as fuel.
<input type="checkbox"/>	B Decaying organic matter.
<input type="checkbox"/>	C Use of artificial fertilisers.
<input type="checkbox"/>	D Use of aerosols.

- (b) Study Figure 7a in the Resource Booklet.

- (i) Identify which month had the highest average rainfall in 1991–2016.

(1)

.....



(ii) Compare the temperature profile for 1901–1931 with the temperature profile for 1991–2016.

(2)

(iii) Identify **one** human cause of climate change.

(2)

(iv) Suggest **one** reason why the data in Figure 7a could create an inaccurate interpretation of global climate change trends.

(2)

(c) State **two** impacts of deforestation.

(2)

1

2



(d) Explain **two** different approaches to managing deforestation in a named developing or emerging country.

(4)

Named developing or emerging country

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Assess the reasons for the global variation in the vulnerability to desertification.

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(Total for Question 7 = 35 marks)



If you answer Question 8 put a cross in the box ☐.

8 Globalisation and migration

(a) (i) Identify the meaning of the term **TNC**.

(1)

<input type="checkbox"/>	A Translocal Corporation
<input type="checkbox"/>	B Transnational Corporation
<input type="checkbox"/>	C Transnational Country
<input type="checkbox"/>	D Transporting National Corporation

(ii) Explain what is meant by the term **forced migration**.

(2)

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(iii) Identify **one** push factor for rural-urban migration.

(1)

<input type="checkbox"/>	A Poor employment opportunities.
<input type="checkbox"/>	B Desire for large amounts of space.
<input type="checkbox"/>	C Lower air pollution.
<input type="checkbox"/>	D Lower land prices.

(b) Study Figure 8a in the Resource Booklet.

(i) Identify which region had the highest percentage (%) of internet users in 2010.

(1)

.....



(ii) Compare the percentage (%) of internet users in Africa and the Americas.

(2)

(iii) Identify **one** advantage of increased access to the internet.

(2)

(iv) Suggest **one** reason why the data in Figure 8a might be a poor indicator of a growing global economy.

(2)

(c) State **two** pull factors for economic migration.

(2)

1

2



(d) Explain **two** different approaches to making tourism sustainable, **one** in a developed country and **one** in a developing or emerging country. (4)

Developed country

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Developing/Emerging country

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(d) Explain **two** different approaches to making tourism sustainable, **one** in a developed country and **one** in a developing or emerging country. (4)

Developed country

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Developing/Emerging country

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Assess the impacts of global international migration on host countries.

(6)

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(Total for Question 8 = 35 marks)



If you answer Question 9 put a cross in the box ☐.

9 Development and human welfare

(a) (i) Identify the main characteristic of **top down development**.

(1)

<input type="checkbox"/>	A Usually involves decisions at the local level.
<input type="checkbox"/>	B Usually involves government decisions.
<input type="checkbox"/>	C Usually involves small amounts of funding.
<input type="checkbox"/>	D Usually involves the ideas of local people.

(ii) Explain what is meant by the term **international aid**.

(2)

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(iii) Identify **one** type of project that could be created by a non-governmental organisation (NGO).

(1)

<input type="checkbox"/>	A Large investments in high speed rail network.
<input type="checkbox"/>	B Facilitating increases in trade between two national governments.
<input type="checkbox"/>	C Improving water supplies in an informal settlement.
<input type="checkbox"/>	D Large investments in national agricultural development.

(b) Study Figure 9a in the Resource Booklet.

(i) Identify the age group with the largest population in 2015.

(1)

.....



(ii) Compare the population structures of the United Kingdom in 1980 and 2015.

(2)

(iii) Identify **one** reason for the changes in population structure between 1980 and 2015.

(2)

(iv) Suggest **one** reason population structure can be an indicator of the level of development.

(2)

(c) State **two** reasons why development can be uneven within a country.

(2)

1

2



(d) Explain **one** advantage and **one** disadvantage of a bottom-up development project in a named developing or emerging country.

(4)

Named developing or emerging country

Advantage

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Disadvantage

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Assess the importance of food security on the global pattern of human welfare.

(6)

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(Total for Question 9 = 35 marks)

TOTAL FOR SECTION C = 35 MARKS
TOTAL FOR PAPER = 97 MARKS



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Time 1 hour 45 minutes

**Paper
reference**

4GE1/02

Geography

PAPER 2: Human geography

Resource Booklet

Do not return this Booklet with the question paper.

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Figure 1a

Photograph of a house adapted for more sustainable energy consumption

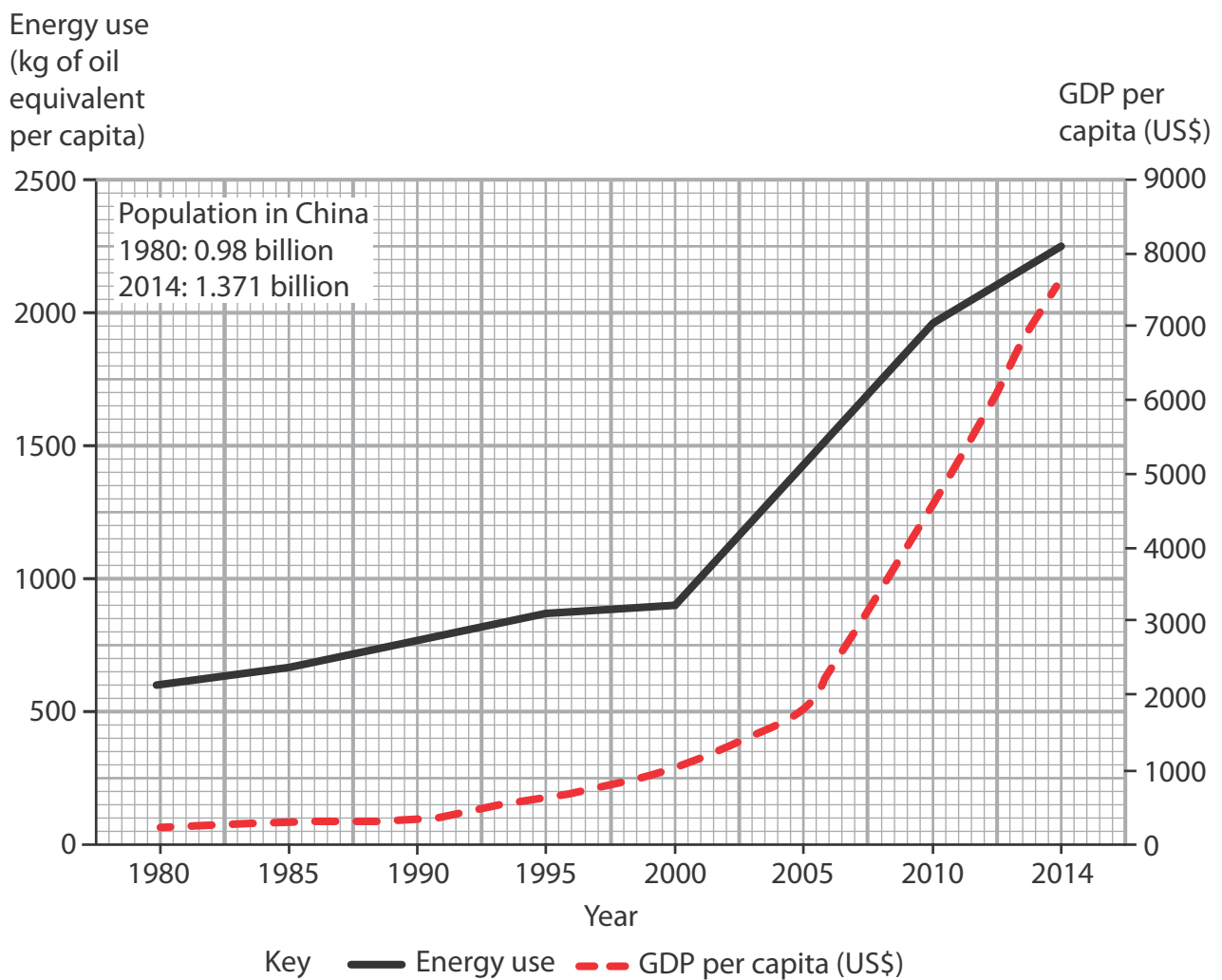


Figure 1c

Energy use and GDP per capita in China, 1980–2014



Figure 2a

New activities on a dairy farm

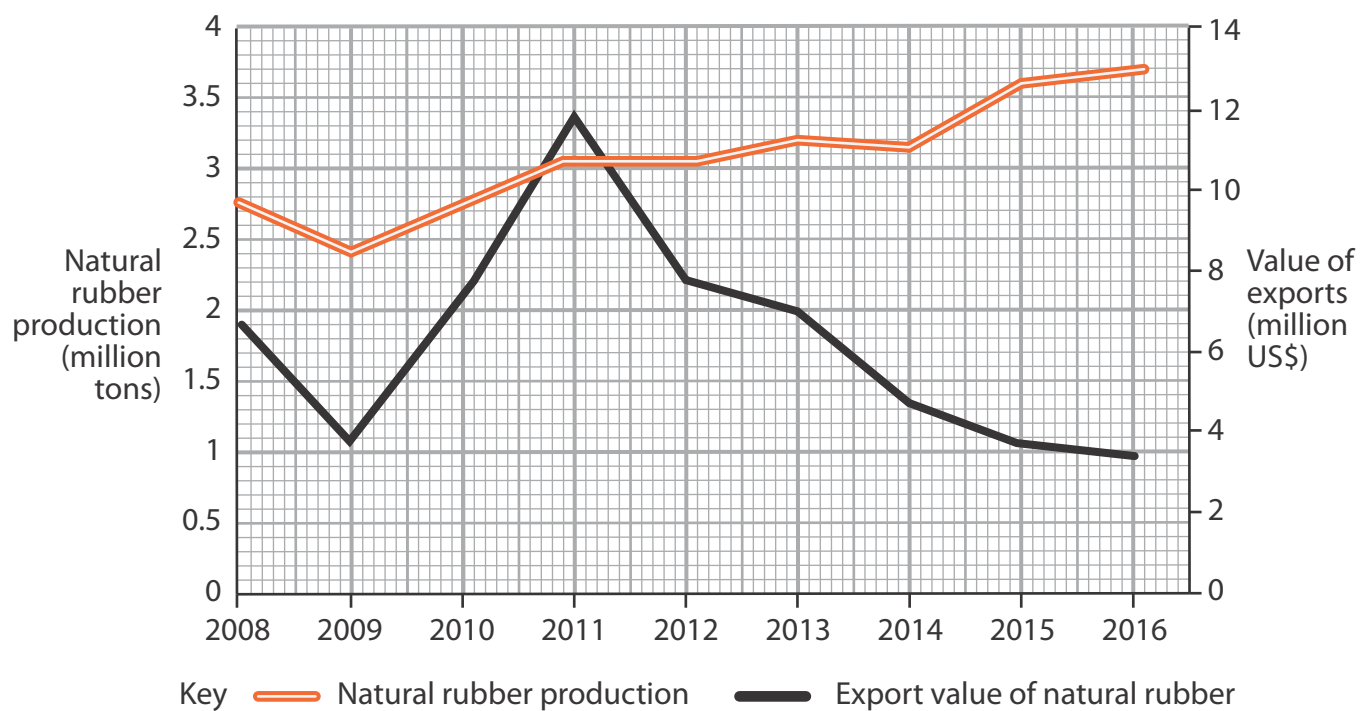


Figure 2c

Production and export value of natural rubber extracted from forests in Indonesia, 2008–2016



Figure 3a
An urban area

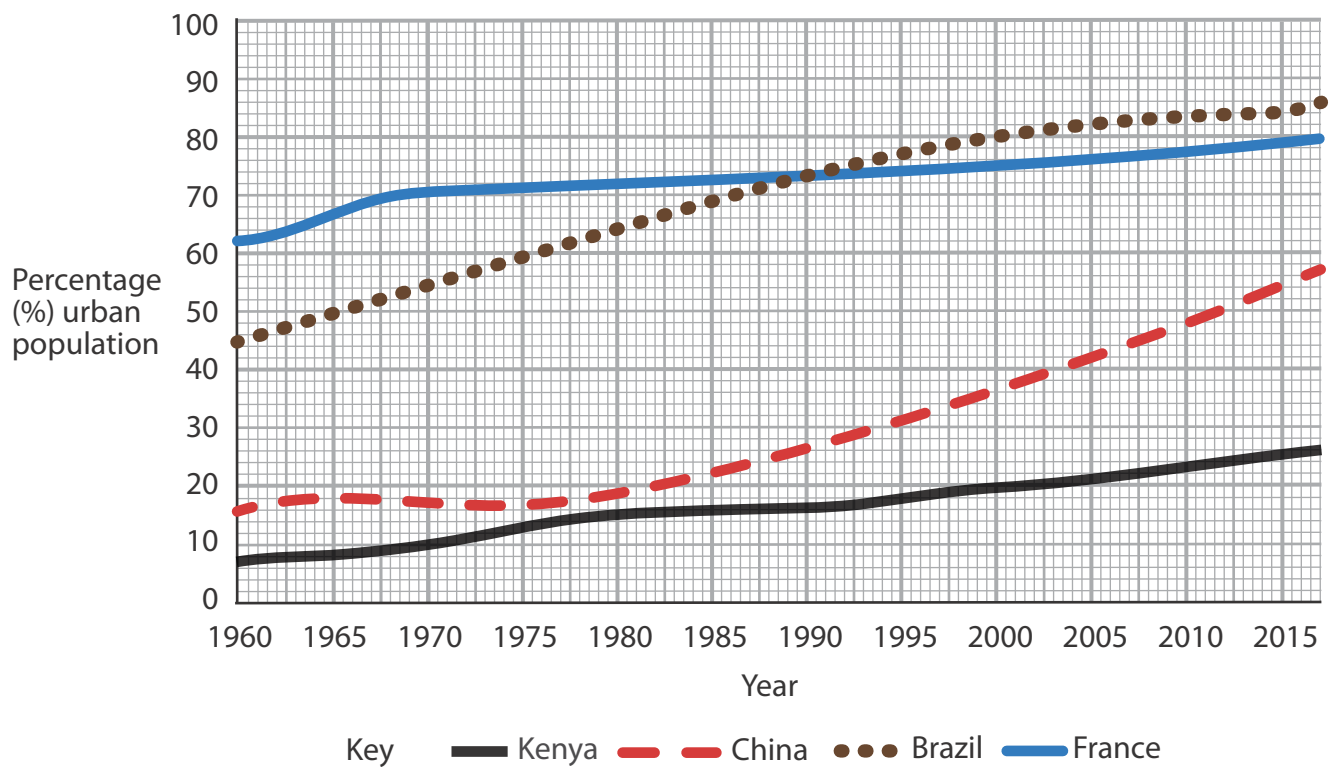


Figure 3c

Trends in urban population for selected countries, 1960–2016



Figure 4a

Photograph of a new renewable energy plant

Environmental quality indicator	Site 1	Site 2	Site 3	Site 4	Site 5
Building condition (1 = Poor condition/5 = Good condition)	4	5	3	5	2
Road quality (1 = Poor condition/5 = Good condition)	4	2	3	5	2
Noise (1 = Very noisy/5 = No noise)	4	3	3	4	1
Litter (1 = A lot of litter/5 = No litter)	4	4	3	5	3
Air pollution (1 = Poor air quality/5 = Good air quality)	4	1	1	4	2
Total environmental quality score	20	15	13	23	10

Figure 4b

Extract from a table of results from an environmental quality survey



Figure 5a

Photograph of a new development in a rural area

Environmental quality indicator	Site 1	Site 2	Site 3	Site 4	Site 5
Building condition (1 = Poor condition/5 = Good condition)	4	5	3	5	2
Road quality (1 = Poor condition/5 = Good condition)	4	2	3	5	2
Noise (1 = Very noisy/5 = No noise)	4	3	3	4	1
Litter (1 = A lot of litter/5 = No litter)	4	4	3	5	3
Air pollution (1 = Poor air quality/5 = Good air quality)	4	1	1	4	2
Total environmental quality score	20	15	13	23	10

Figure 5b

Extract from a table of results from an environmental quality survey



Figure 6a

Photograph of a regenerated urban area

Environmental quality indicator	Site 1	Site 2	Site 3	Site 4	Site 5
Building condition (1 = Poor condition/5 = Good condition)	4	5	3	5	2
Road quality (1 = Poor condition/5 = Good condition)	4	2	3	5	2
Noise (1 = Very noisy/5 = No noise)	4	3	3	4	1
Litter (1 = A lot of litter/5 = No litter)	4	4	3	5	3
Air pollution (1 = Poor air quality/5 = Good air quality)	4	1	1	4	2
Total environmental quality score	20	15	13	23	10

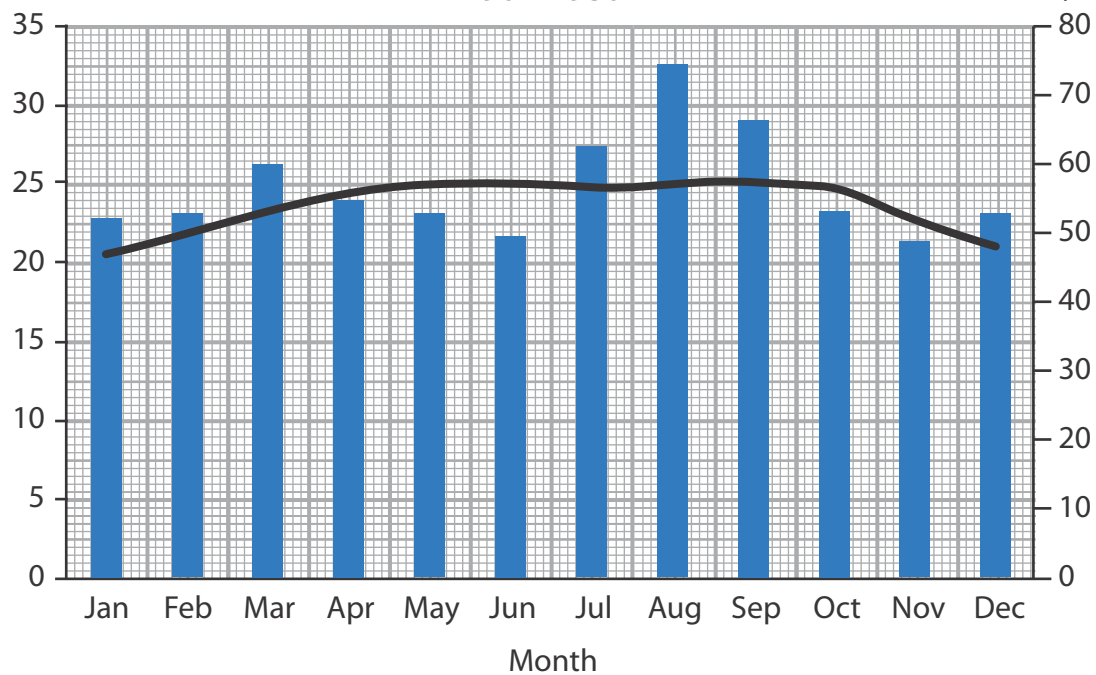
Figure 6b

Extract from a table of results from an environmental quality survey

Temperature
(°C)

1901–1930

Rainfall
(mm)

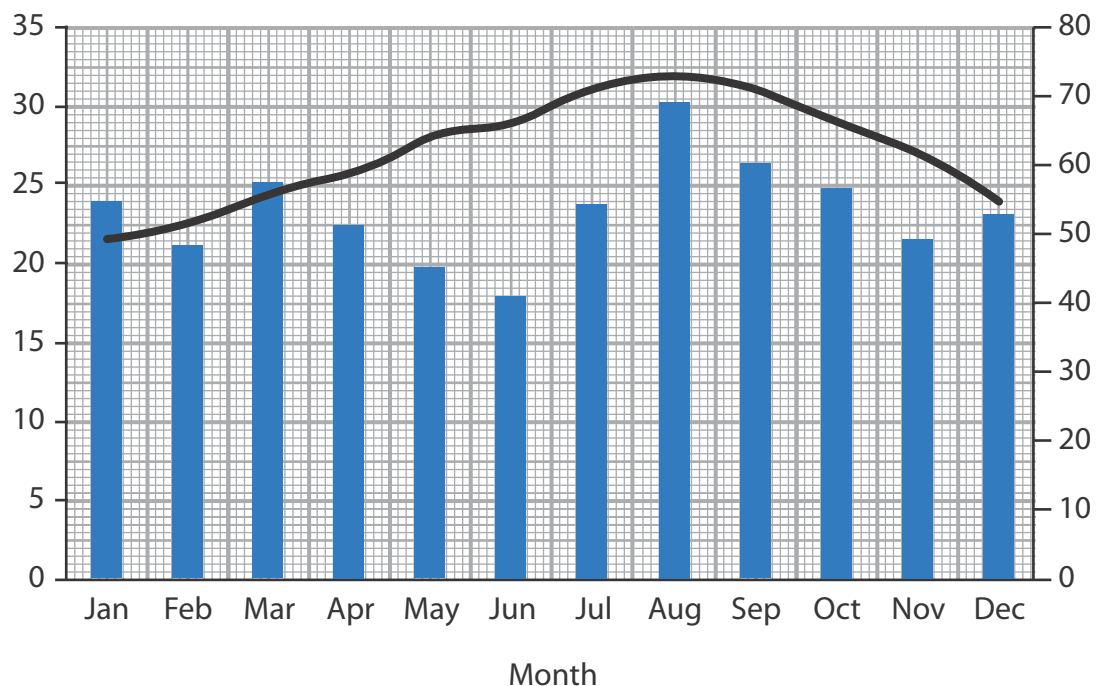


Key ■ Average rainfall — Average temperature

Temperature
(°C)

1991–2016

Rainfall
(mm)



Key ■ Average rainfall — Average temperature

Figure 7a

Climate graphs for Africa, 1901–1930 and 1991–2016

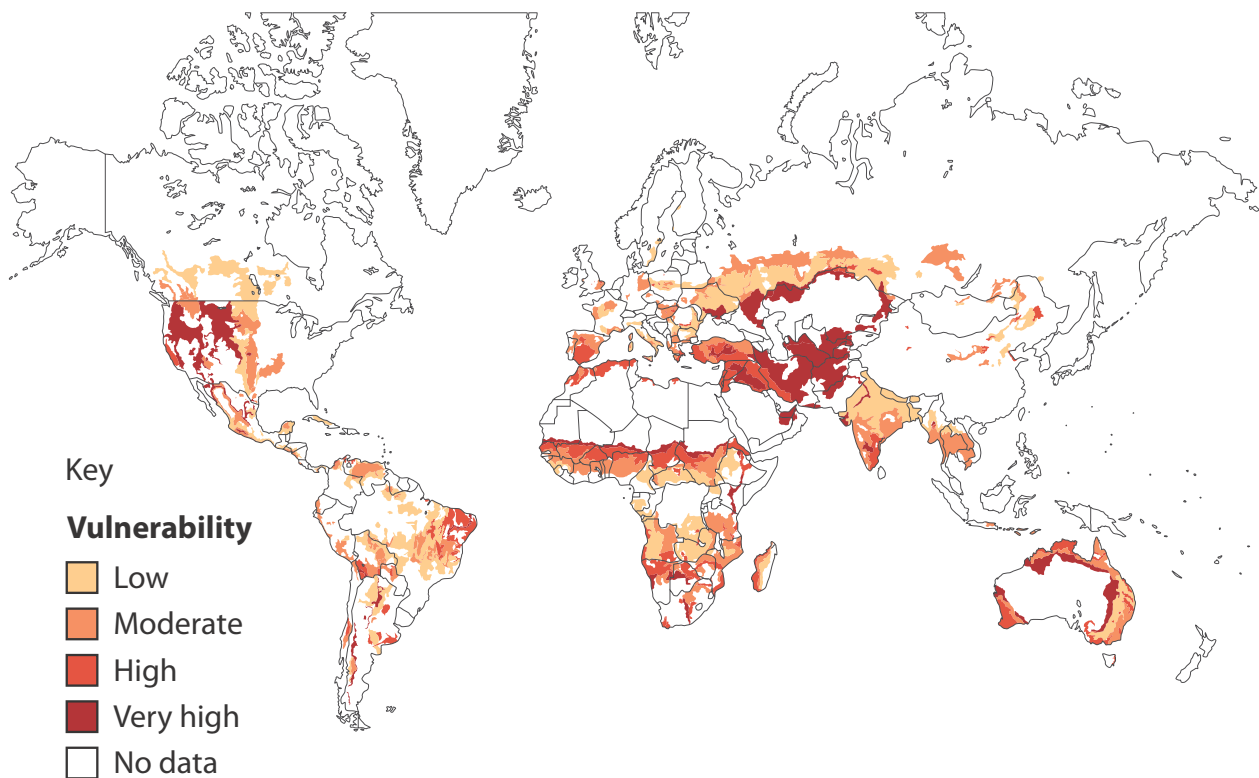


Figure 7b

A global map of vulnerability to desertification

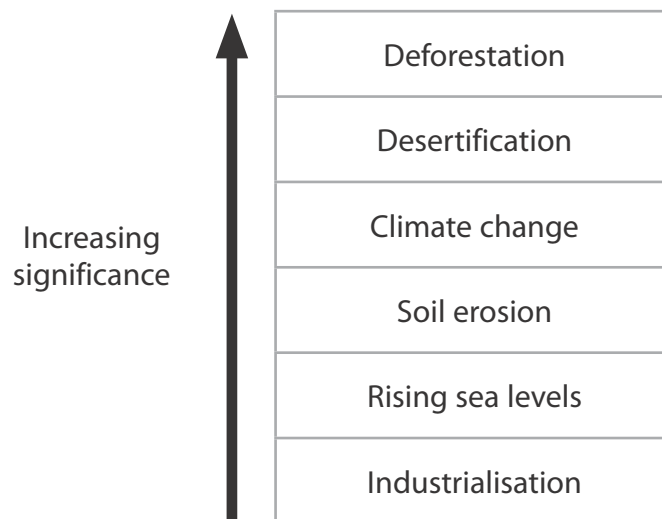


Figure 7c

Selected threats to fragile environments

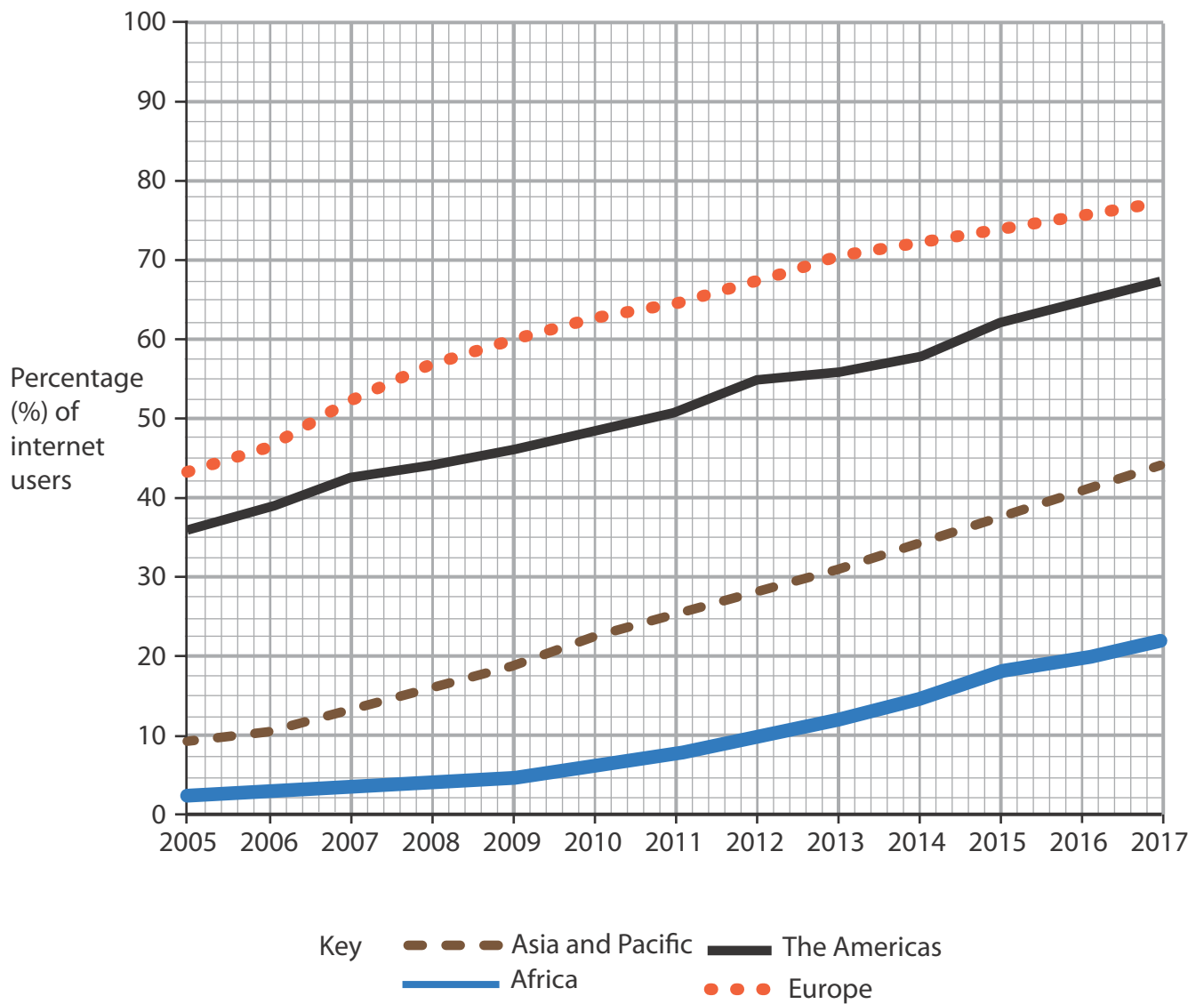


Figure 8a
Trend in internet use for selected regions, 2005–2017

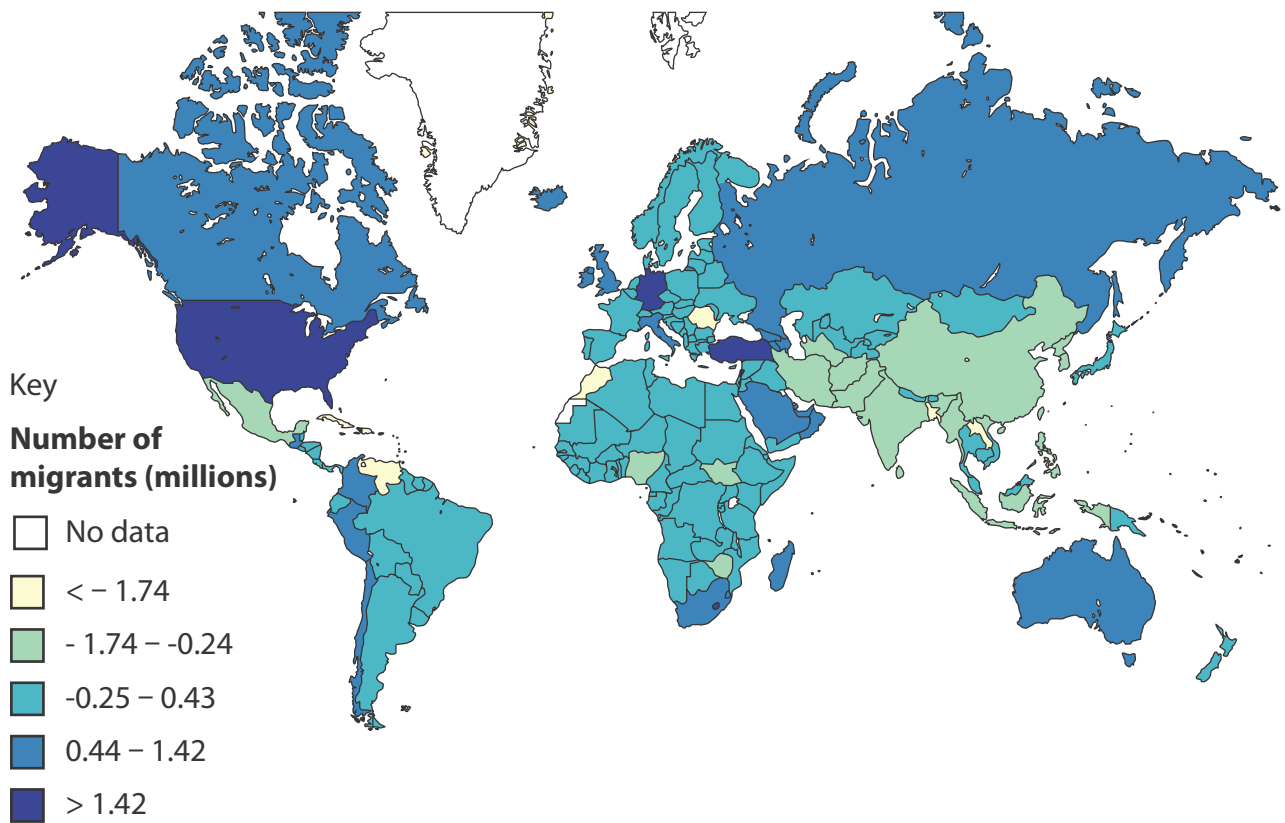


Figure 8b
Global map of net migration, 2017

Rank Importance	Factor
1	Information and communications technology
2	Transport technology
3	Trade agreements
4	Foreign investment
5	Labour
6	Migration

Figure 8c
Selected factors affecting the rise in the global economy

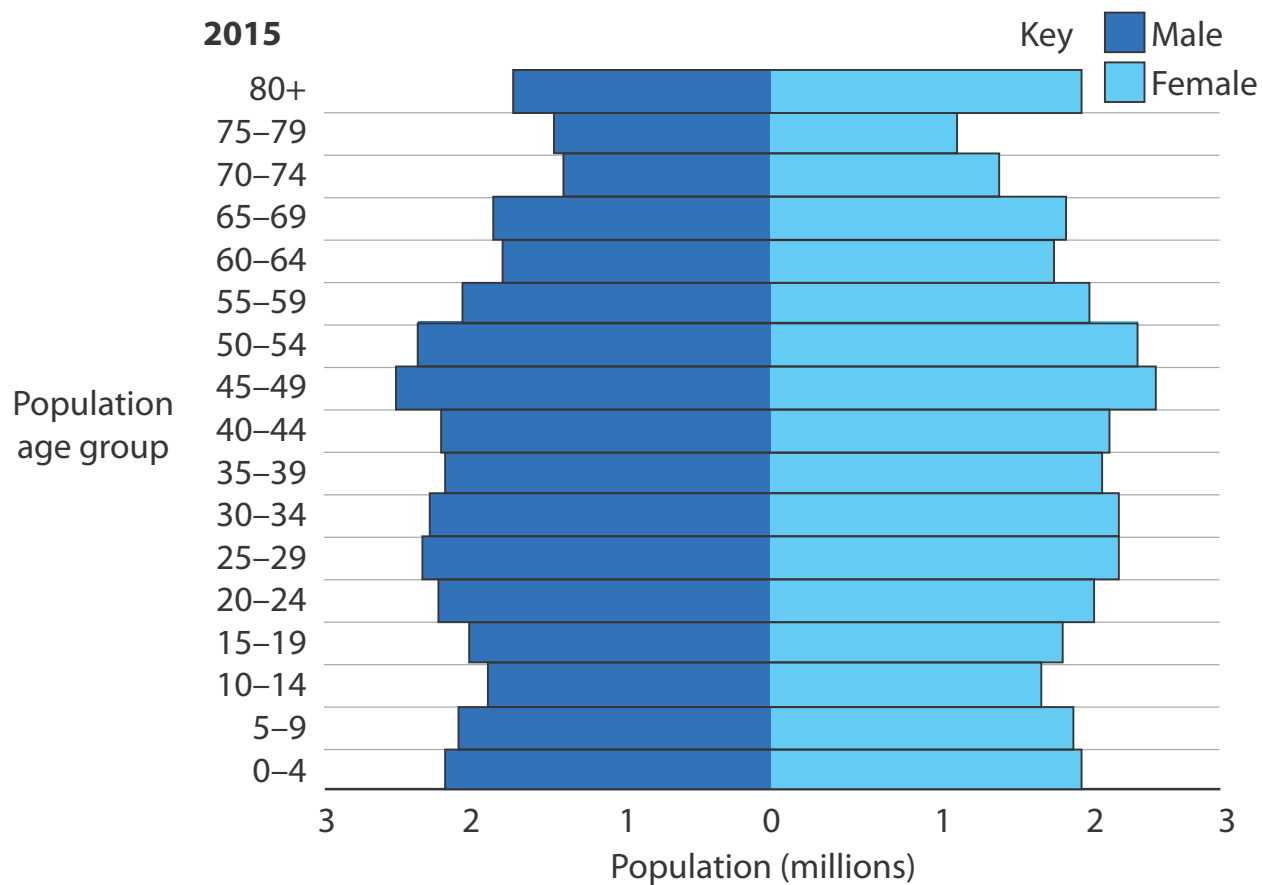
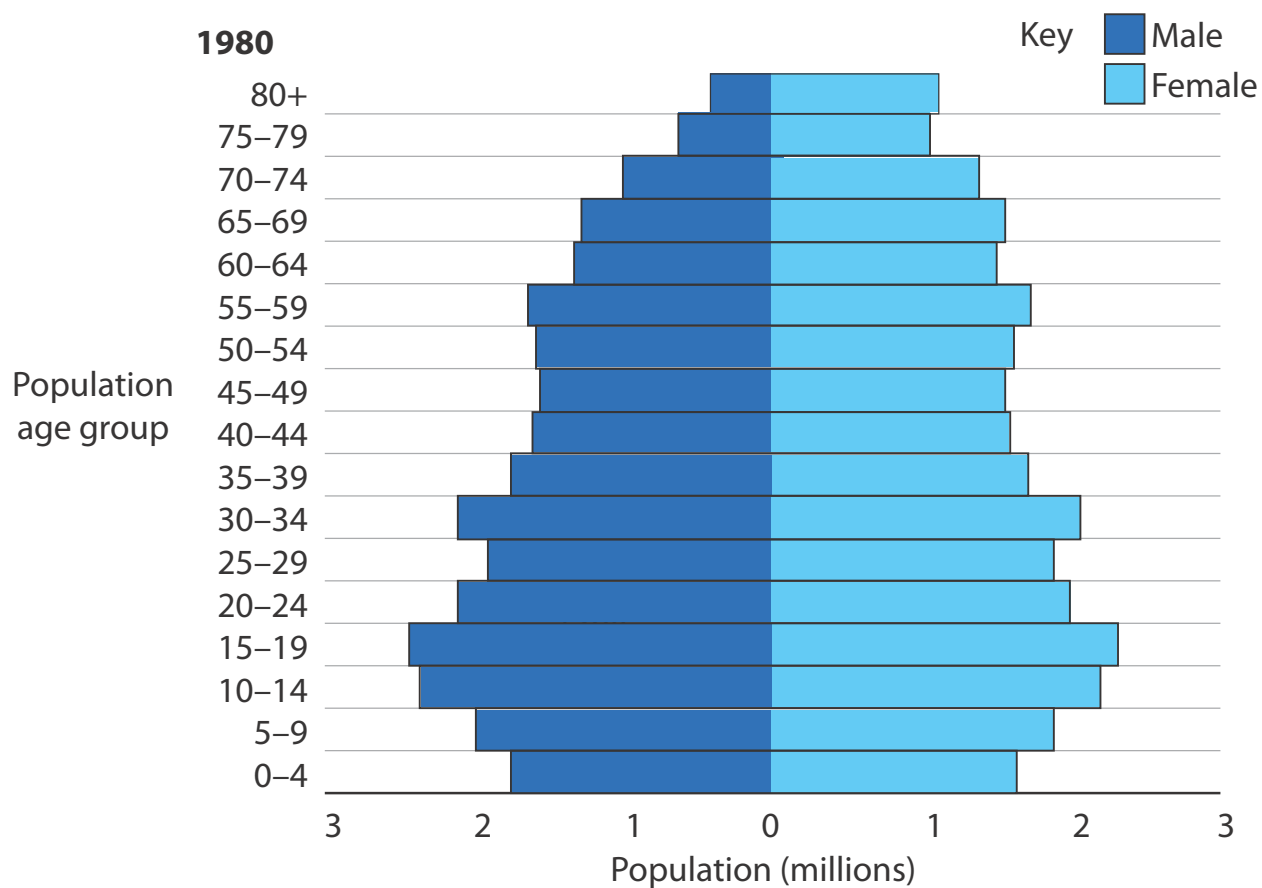


Figure 9a

Population pyramids for the United Kingdom, 1980 and 2015

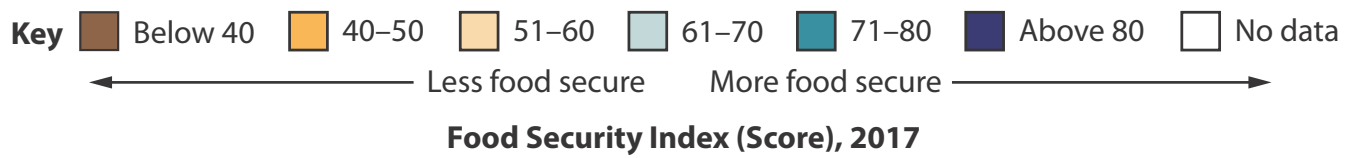
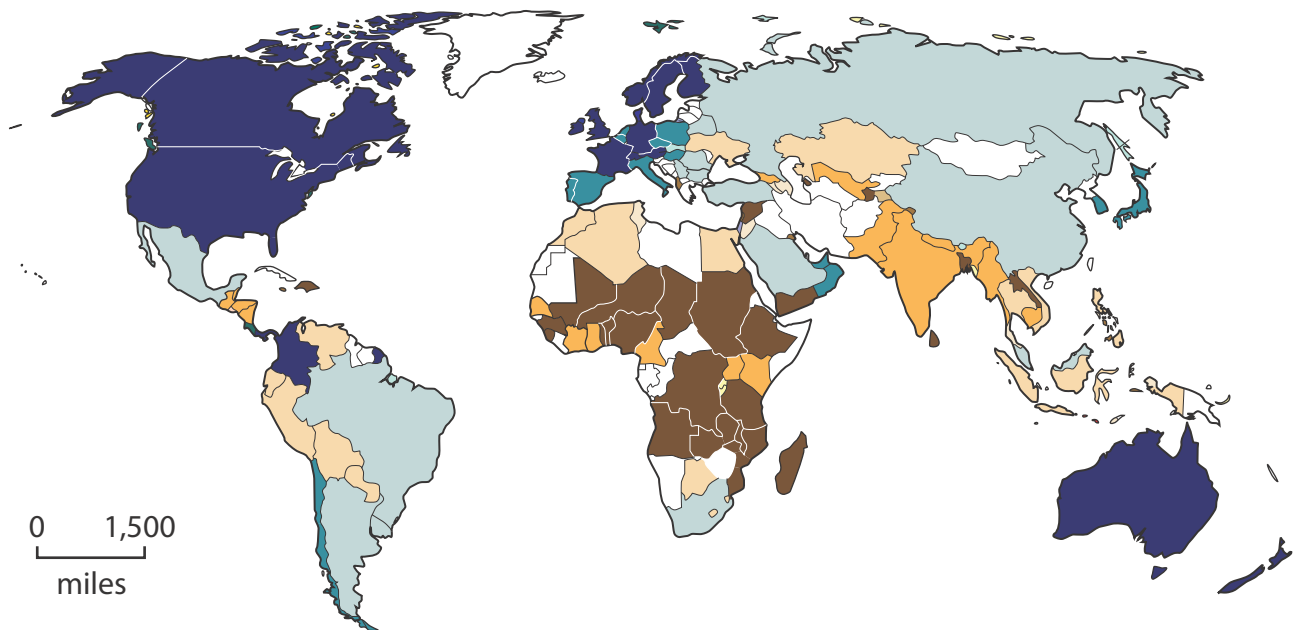


Figure 9b
Map of global food security



Figure 9c
Selected factors that affect development in rank order

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Acknowledgements

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Figure 1c source from: Source from: <https://data.worldbank.org/>

Figure 2a: © Tim Rooke/Shutterstock

Figure 2b: Source from: <https://data.worldbank.org/>

Figure 2c: Source from: <https://www.indonesia-investments.com/business/commodities/rubber/item185>

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Figure 8a: Source from: www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx

Figure 8b: Source from: <https://data.worldbank.org/>

Figure 9a: Source from: <https://www.un.org/en/development/desa/population/publications/dataset/urban/urbanAndRuralPopulationByAgeAndSex.asp>

Figure 9b: Source based on: <https://www.mapsofworld.com/answers/food/countries-highest-food-security/>