

Please check the examination details below before entering your candidate information

Candidate surname					Other names				
Centre Number					Candidate Number				
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Pearson Edexcel International GCSE (9–1)

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 **one** question 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 72.
- 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.

Turn over ►

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Q:1/1/1/1/1




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SECTION A**Answer ONE question from this section.**

Some questions must be answered with a cross ☐. 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) Identify **one** advantage of using geothermal energy as a source of energy.

(1)

- ☐ **A** It uses the power of the sun.
- ☐ **B** It uses the power of the wind.
- ☐ **C** It is a type of non-renewable energy.
- ☐ **D** It is a type of renewable energy.

(ii) Define the term **renewable energy**.

(1)

(b) Identify **one** way to make transport more sustainable.

(1)

- ☐ **A** increasing the use of powerful petrol engines.
- ☐ **B** increasing air travel routes.
- ☐ **C** increasing the use of electric battery technology.
- ☐ **D** increasing the size of motorways.



(c) (i) Study Figure 1a in the Resource Booklet.

Suggest **one** reason why the activity shown might be considered informal employment.

(2)

(ii) State **one** advantage of informal employment.

(1)

(d) Explain **two** factors that affect global energy demand.

(4)

1

2



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

Explain the relationship shown between population growth and food supply.

(3)

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(f) Explain **two** factors that affect the location of quaternary sector employment.

(4)

1

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

Analyse the reasons for the changes in the percentage of people employed in the secondary sector.

(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) Identify **one** characteristic associated with a tropical forest.

(1)

- ☐ **A** arid conditions
- ☐ **B** low temperature
- ☐ **C** high humidity
- ☐ **D** strong winds

(ii) Define the term **biome**.

(1)

(b) Identify the meaning of the term **organic farming**.

(1)

- ☐ **A** farming that only produces genetically modified crops.
- ☐ **B** farming that uses chemical fertilisers.
- ☐ **C** farming that does not require irrigation.
- ☐ **D** farming that does not use chemical fertilisers.

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

Suggest how this forest ecosystem might provide goods for people.

(2)



(d) State **one** advantage of using genetically modified (GM) crops.

(1)

(e) For people living in a developed country, explain **two** strategies used to make rural life more sustainable.

(4)

1

2

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

Suggest **one** reason for the trends shown.

(3)



(g) Explain how governments and NGOs manage challenges in rural environments in developing or emerging countries.

(4)

Governments

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NGOs (Non-governmental organisations)

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(g) Explain how governments and NGOs manage challenges in rural environments in developing or emerging countries.

(4)

Governments

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NGOs (Non-governmental organisations)

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

Analyse the factors that can lead to rural changes in developing or emerging countries.

(8)



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(Total for Question 2 = 25 marks)



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

3 Urban environments

(a) (i) Identify **one** advantage of building on a brownfield site.

(1)

- ☐ **A** land and buildings need to be cleared first.
- ☐ **B** reduces loss of countryside.
- ☐ **C** may need to remove contaminated material.
- ☐ **D** involves building on the greenbelt.

(ii) State **one** problem associated with rapid urbanisation.

(1)

(b) Identify **one** feature often found in the rural-urban fringe.

(1)

- ☐ **A** business park
- ☐ **B** high street shops
- ☐ **C** bus station
- ☐ **D** skyscraper buildings

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

Suggest **one** factor that may have affected the decision to locate the factory in this area.

(2)



(d) Define the term **megacity**.

(1)

(e) Explain **two** factors that have led to suburbanisation.

(4)

1

2

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

Suggest **one** reason for the trends shown.

(3)

(g) Explain **two** strategies used to manage challenges in squatter settlements.

(4)

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(h) Study Figure 3c in the Resource Booklet.

Analyse the environmental challenges facing urban areas in developed countries.

(8)

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(Total for Question 3 = 25 marks)

TOTAL FOR SECTION A = 25 MARKS



SECTION B

Geographical enquiry

Answer ONE question only 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

Study Figures 4a and 4b in the Resource Booklet. These show extracts from a student's data collection and presentation methods.

The aim of the student's investigation was to understand people's attitudes to making their homes more energy efficient in Vancouver, Canada.

The student carried out a questionnaire, took photographs of energy efficiency measures, and used secondary data about energy consumption in homes in Canada.

- (a) Identify **one** question in Figure 4a that would produce qualitative data.

(1)

- (b) Identify **one** advantage of the presentation type shown in Figure 4b.

(1)

- (c) Explain **one** type of sampling that could have been used in this investigation.

(2)



(d) Study Figures 4a and 4b in the Resource Booklet.

Evaluate the student's data collection and presentation methods.

(8)



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(Total for Question 4 = 12 marks)



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

5 Investigating rural environments

Study Figures 5a and 5b in the Resource Booklet. These show extracts from a student's data collection and presentation methods.

The aim of the student's investigation was to understand how local people felt about the impact of tourists in the Lake District National Park.

The student carried out a questionnaire, took photographs of tourist services, and used secondary data about visitor numbers to the national park.

(a) Identify **one** question in Figure 5a that would produce qualitative data.

(1)

(b) Identify **one** advantage of the presentation type shown in Figure 5b.

(1)

(c) Explain **one** type of sampling that could have been used in this investigation.

(2)



(d) Study Figures 5a and 5b in the Resource Booklet.

Evaluate the student’s data collection and presentation methods.

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(Total for Question 5 = 12 marks)



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

6 Investigating urban environments

Study Figures 6a and 6b in the Resource Booklet. These show extracts from a student's data collection and presentation methods.

The aim of the student's investigation was to investigate attitudes to an old factory being redeveloped in Manchester, United Kingdom.

The student carried out a questionnaire, took photographs of the factory being redeveloped, and used secondary data about property prices in the area.

- (a) Identify **one** question in Figure 6a that would produce qualitative data.

(1)

- (b) Identify **one** advantage of the presentation type shown in Figure 6b.

(1)

- (c) Explain **one** type of sampling that could have been used in this investigation.

(2)



- (d) Study Figures 6a and 6b in the Resource Booklet. It shows an extract from a student's data collection and presentation methods.

Evaluate the student's data collection and presentation methods.

(8)



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(Total for Question 6 = 12 marks)

TOTAL FOR SECTION B = 12 MARKS



SECTION C

Global issues

Answer ONE question only 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 correct word to complete the sentence below.

Greenhouse gases allow ... radiation through the atmosphere to warm the Earth's surface.

(1)

- ☐ **A** nuclear
- ☐ **B** light
- ☐ **C** temperature
- ☐ **D** solar

- (ii) Identify the meaning of the term **Milankovitch cycle**.

(1)

- ☐ **A** changes in the shape of the Earth's orbit
- ☐ **B** changes to rainfall patterns
- ☐ **C** changes to the carbon cycle
- ☐ **D** changes in the composition of the atmosphere

- (b) State **one** human cause of climate change.

(1)



(c) Study Figure 7a in the Resource Booklet.

(i) Name **two** countries labelled in Figure 7a at 'Very High' risk of desertification. (2)

1

2

(ii) Suggest **two** possible reasons for the distribution of countries at risk of desertification. (4)

1

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(d) Explain **two** strategies for sustainable rainforest management. (4)

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(e) Study Figure 7b in the Resource Booklet.

- (i) Calculate the range in the number of tropical storms for 2019.

You must show all your workings in the space below.

Give your answer to one decimal place.

(2)

- (ii) Describe **one** difference in the number of tropical storms between 2010 and 2019.

(2)



(f) Study Figure 7c in the Resource Booklet.

Assess the potential impacts of deforestation.

(6)

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(g) Discuss the view

'The most significant impact of climate change will be the increased frequency of extreme weather events.'

Use Figures 7a and 7b from the Resource Booklet, and your own knowledge and understanding to support your answer.

(12)



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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 correct word to complete the sentence below:

The ... was established to promote free trade and fair trade between countries.

(1)

- ☐ **A** International Monetary Fund
- ☐ **B** Oxfam
- ☐ **C** World Bank
- ☐ **D** World Trade Organisation

(ii) Identify **one** advantage of transnational corporations (TNCs) for host countries.

(1)

- ☐ **A** exploitation of workers
- ☐ **B** infrastructure development
- ☐ **C** profits leak out of the country
- ☐ **D** environmental damage

(b) (i) Define the term **commodity chain**.

(1)



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

Identify the country with the highest and lowest percentage of the population who do **not** use the internet.

(2)

Highest

Lowest

(iii) Suggest **two** possible reasons for the pattern shown in Figure 8a.

(4)

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2

(c) Explain **two** reasons why trade is important for the global economy.

(4)

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2

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

- (i) Calculate the range in the number of refugees.

You must show all your workings in the space below.

Give your answer to one decimal place.

(2)

- (ii) Compare the trends for refugees and internally displaced persons between 2015–2019.

(2)



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(f) Discuss the view

'The benefits of globalisation outweigh the drawbacks.'

Use Figures 8a and 8c from the Resource Booklet, and your own knowledge and understanding to support your answer.

(12)



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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 indicator used to calculate the Human Development Index (HDI).

(1)

- ☐ **A** infant mortality rate
- ☐ **B** access to water
- ☐ **C** life expectancy
- ☐ **D** houses with electricity

(ii) Identify the correct word to complete the sentence below:

The ... can be used to measure inequality.

(1)

- ☐ **A** adult literacy rate
- ☐ **B** Gini-coefficient
- ☐ **C** rate of natural increase
- ☐ **D** dependency ratio

(b) (i) Define the term **development gap**.

(1)



(ii) Study Figure 9a in the Resource Booklet

Identify **two** countries labelled in Figure 9a with a Corruption Perception Index score between 80–100.

(2)

1

2

(iii) Suggest **two** possible reasons for the pattern shown in Figure 9a.

(4)

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- (c) Explain how **fertility rates** and **population structures** change as a country becomes more developed.

(4)

Fertility rates

Population structure

- (d) Study Figure 9b in the Resource Booklet.

- (i) Calculate the range in the mortality rates for India between 1990–2018.

You must show all your workings in the space below.

Give your answer to one decimal place.

(2)

- (ii) Suggest how this trend might compare to a developed country such as Canada.

(2)



(e) Study Figure 9c in the Resource Booklet.

Assess the different views on the use of bottom-up projects to improve quality of life.

(6)

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(f) Discuss the view

'Top-down projects are the most effective for tackling the development gap between countries.'

Use Figures 9a and 9c from the Resource Booklet, and your own knowledge and understanding to support your answer.

(12)



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(Total for Question 9 = 35 marks)

TOTAL FOR SECTION C = 35 MARKS
TOTAL FOR PAPER = 72 MARKS



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Time 1 hour 45 minutes

**Paper
reference**

4GE1/02

Geography

PAPER 2: Human geography

Resource Booklet

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Figure 1a

Informal employment in Kolkata, India

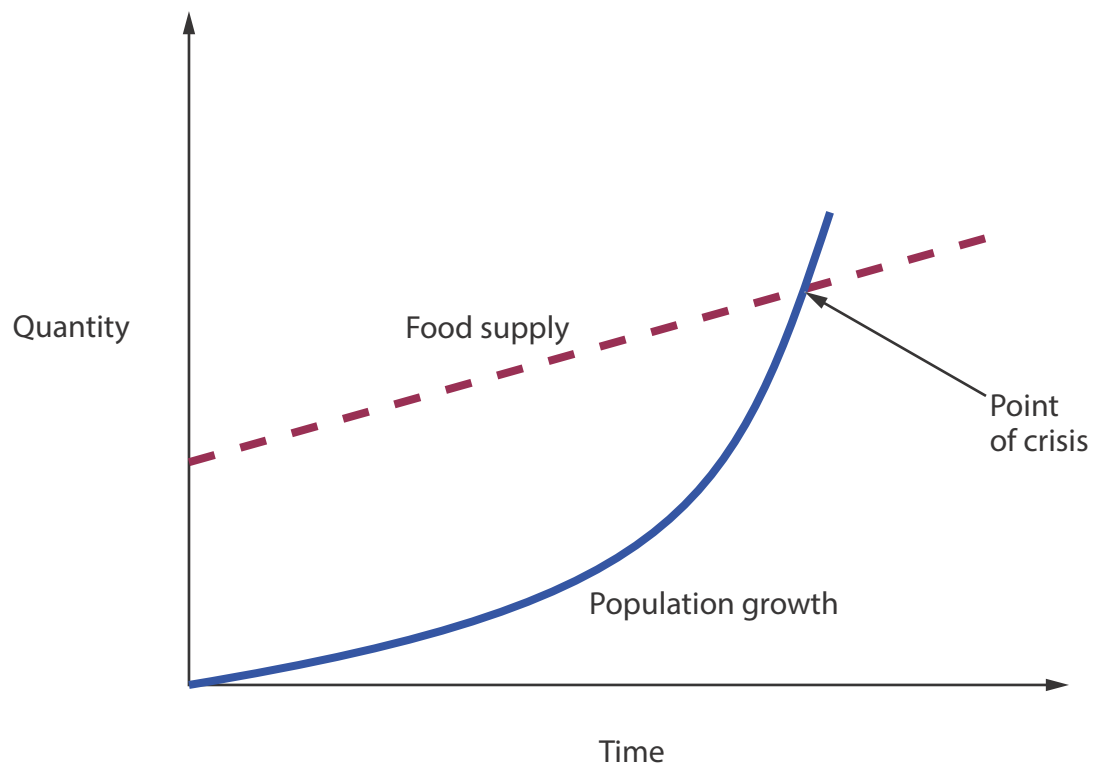


Figure 1b

Malthus' theory of population growth and food supply over time

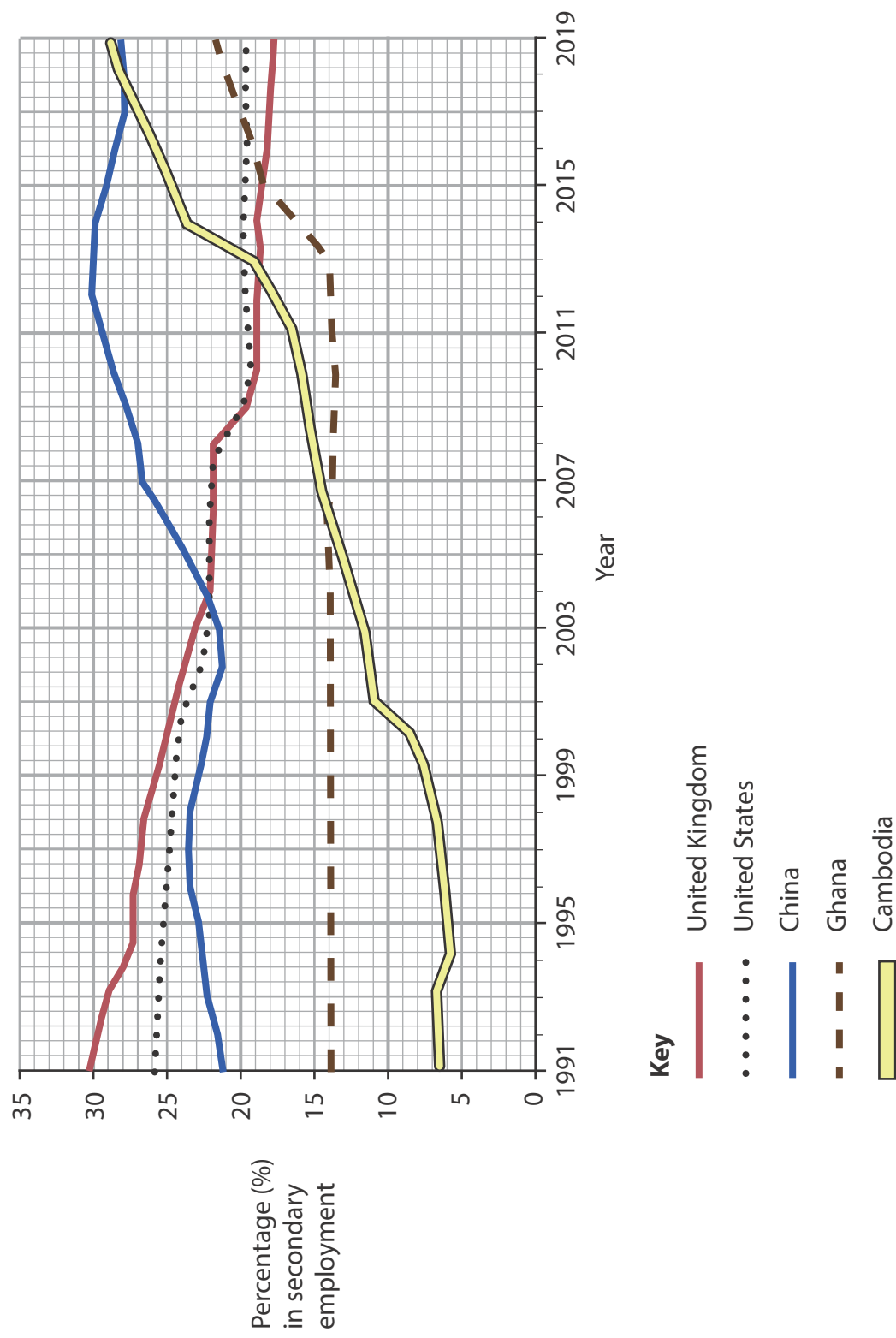


Figure 1c

Percentage (%) of people employed in the secondary sector in selected countries, 1991–2019



Figure 2a

A temperate forest in the United States of America

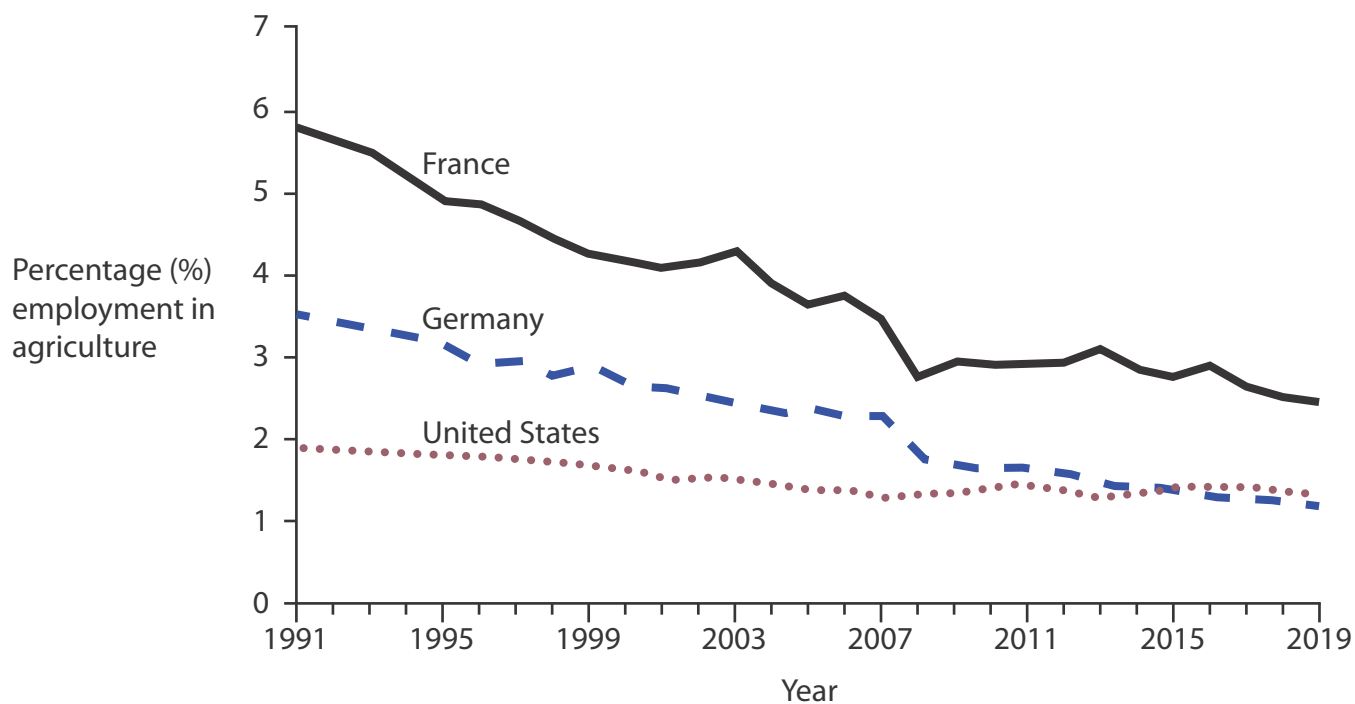


Figure 2b
Percentage (%) of employment in agriculture for selected countries, 1991–2019

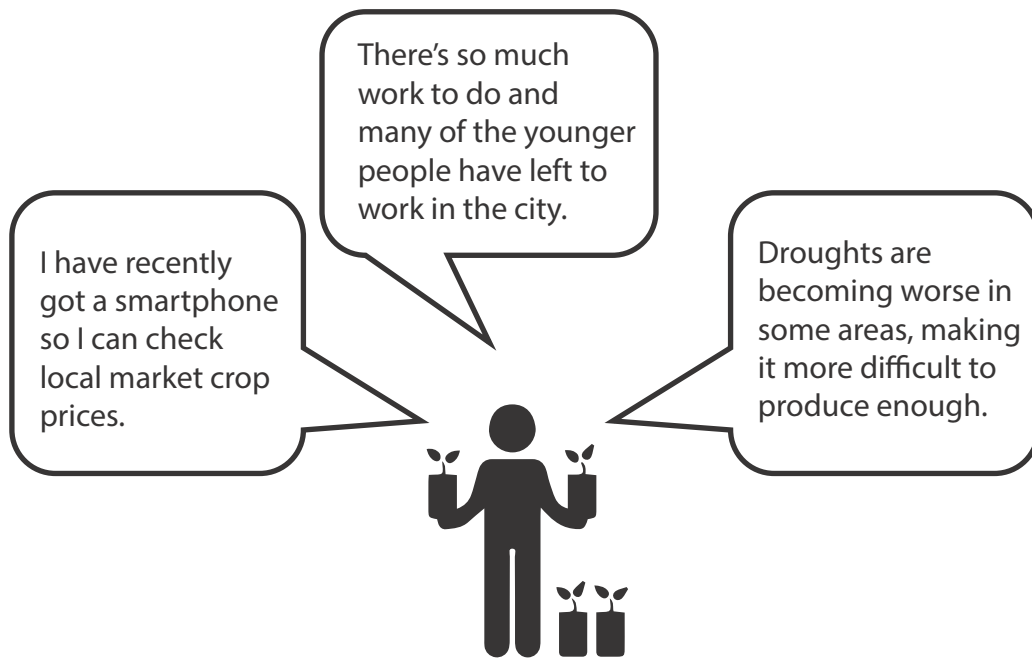


Figure 2c
Views from a farmer in Uganda



Figure 3a

Aerial photo of a factory in New Orleans, United States of America

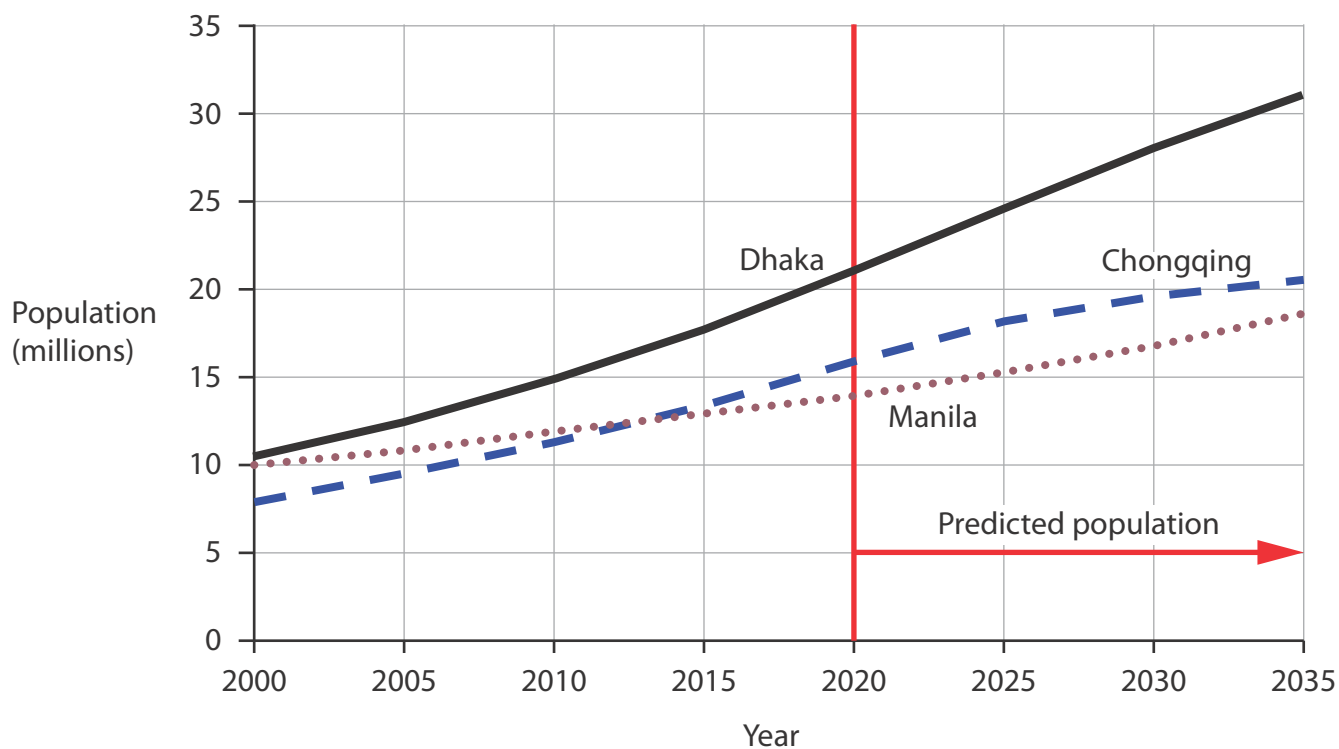


Figure 3b
**Population and predicted population of selected
 megacities, 2000–2035**



Figure 3c

Comments from a planner in London, United Kingdom

Questionnaire: Investigating energy efficiency in the home

1. Do you think your home is energy efficient?

Yes ☐

No ☐

2. Do you want to make your home more energy efficient?

Yes ☐

No ☐

3. Why?

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4. How do you think you could make your home more energy efficient?

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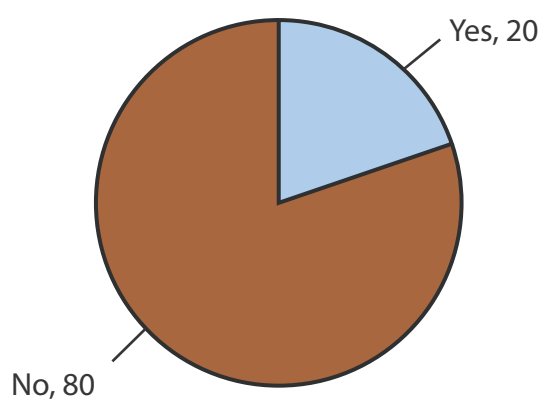
5. On a scale of 1–5 how likely are you to make the following changes to your home:

	1	2	3	4	5
Solar panels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New windows (with double glazing)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roof insulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Underfloor heating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 4a

An extract from a student's questionnaire

Question 1. Do you think your home is energy efficient?



Question 2. Do you want to make your home more energy efficient?

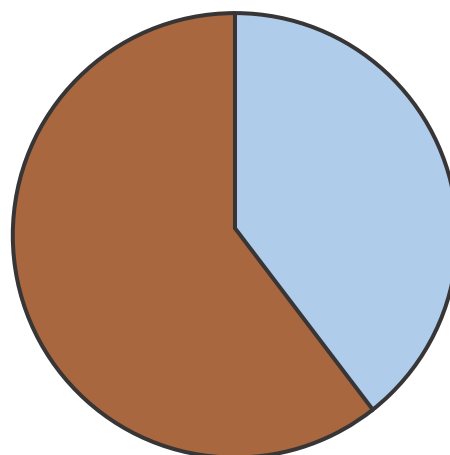


Figure 4b

An extract from a student's data presentation

**Questionnaire: Investigating the impact of tourists in the
Lake District National Park**

1. Do you think tourists have a negative impact on the national park?

Yes ☐ No ☐

2. Do you think there should be limits on the number of tourists?

Yes ☐ No ☐

3. Why?

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4. How do you think tourists could reduce their impact on the national park?

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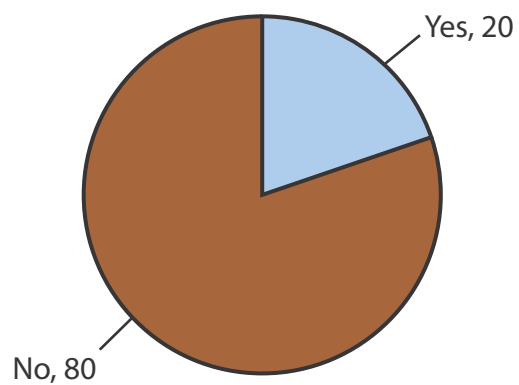
5. On a scale of 1–5 how much do tourists affect these features of the national park:

	1	2	3	4	5
Traffic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Property prices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Scenic beauty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pollution	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 5a

An extract from a student's questionnaire

Question 1. Do you think tourists have a negative impact on the national park?



Question 2. Do you think there should be limits to the number of tourists?

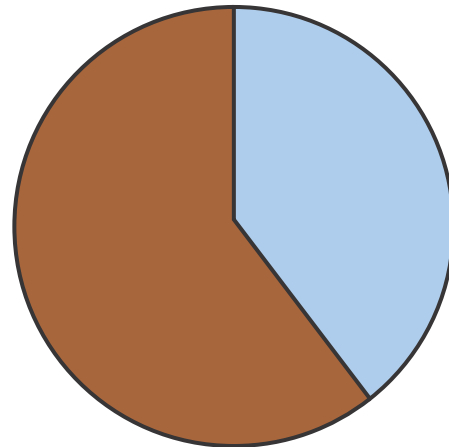


Figure 5b

An extract from a student's data presentation

Questionnaire: Investigating factory redevelopment

1. Do you think the factory needs to be redeveloped?

Yes ☐

No ☐

2. Does this area need more space for businesses and a hotel?

Yes ☐

No ☐

3. Why?

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4. How do you think the factory could be redeveloped to be useful to the local area?

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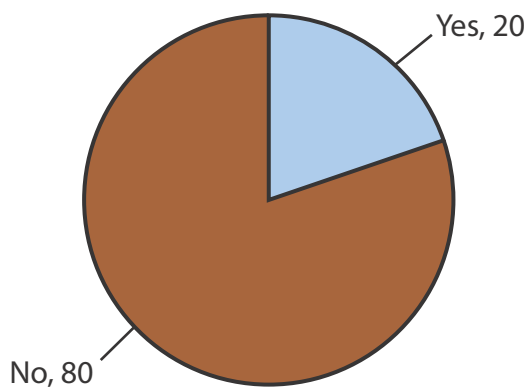
5. On a scale of 1–5 how likely are you to use the future businesses planned for this factory:

	1	2	3	4	5
Office space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gym	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Coffee shop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hotel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 6a

An extract from a student's questionnaire

Question 1. Do you think the factory needs to be redeveloped?



Question 2. Do you think this area needs more space for business and a hotel?

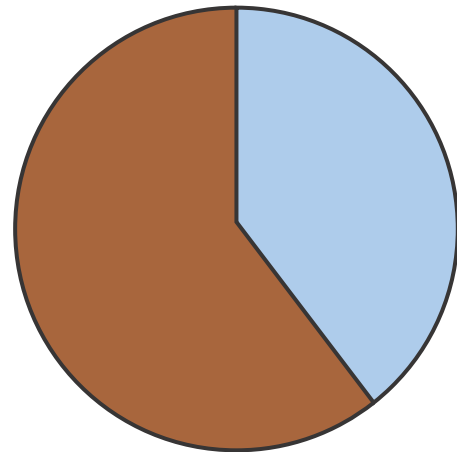


Figure 6b

An extract from a student's data presentation

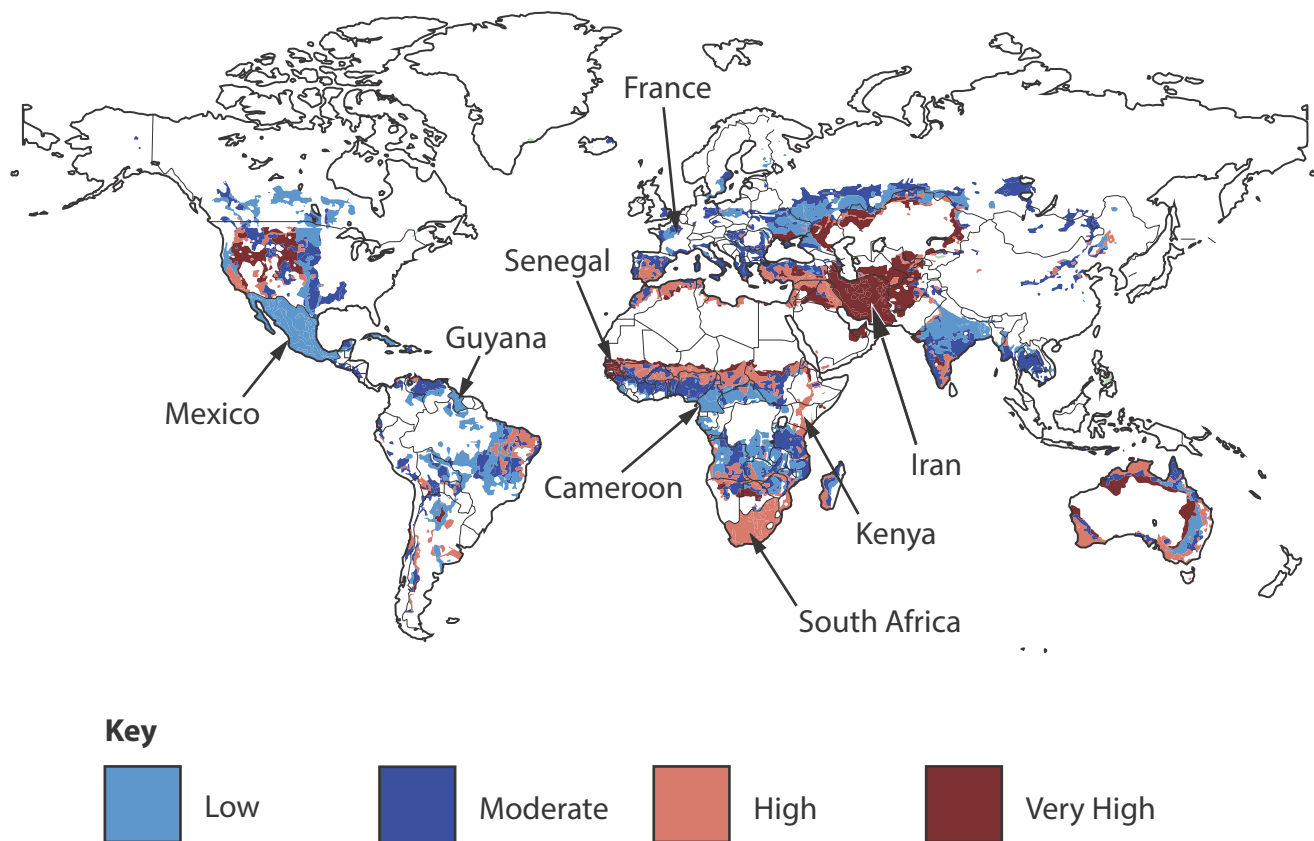


Figure 7a
Levels of global desertification risk

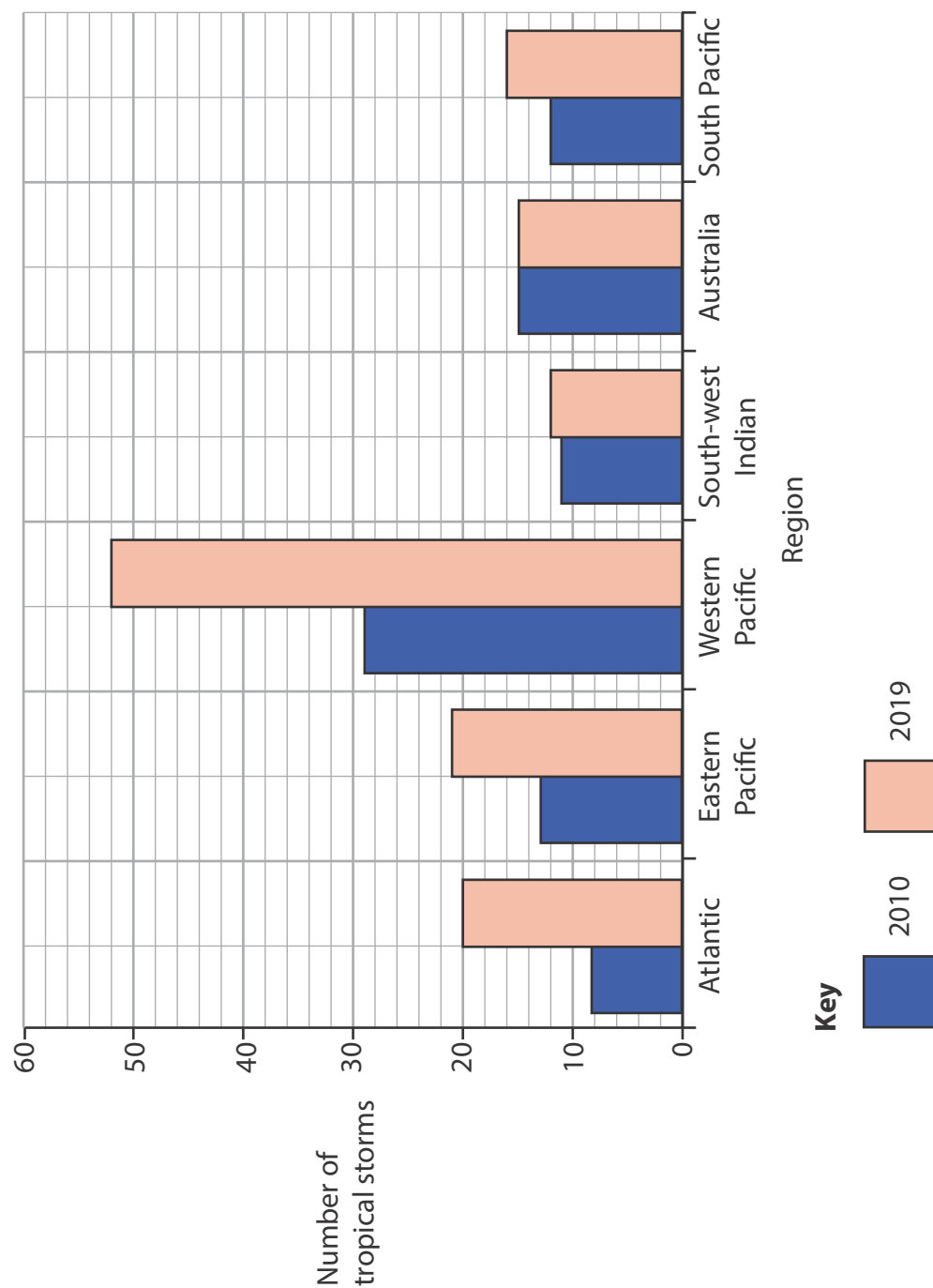


Figure 7b
Number of tropical storms affecting selected regions, 2010–2019




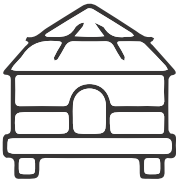
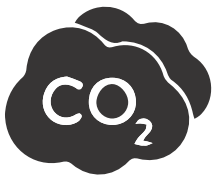

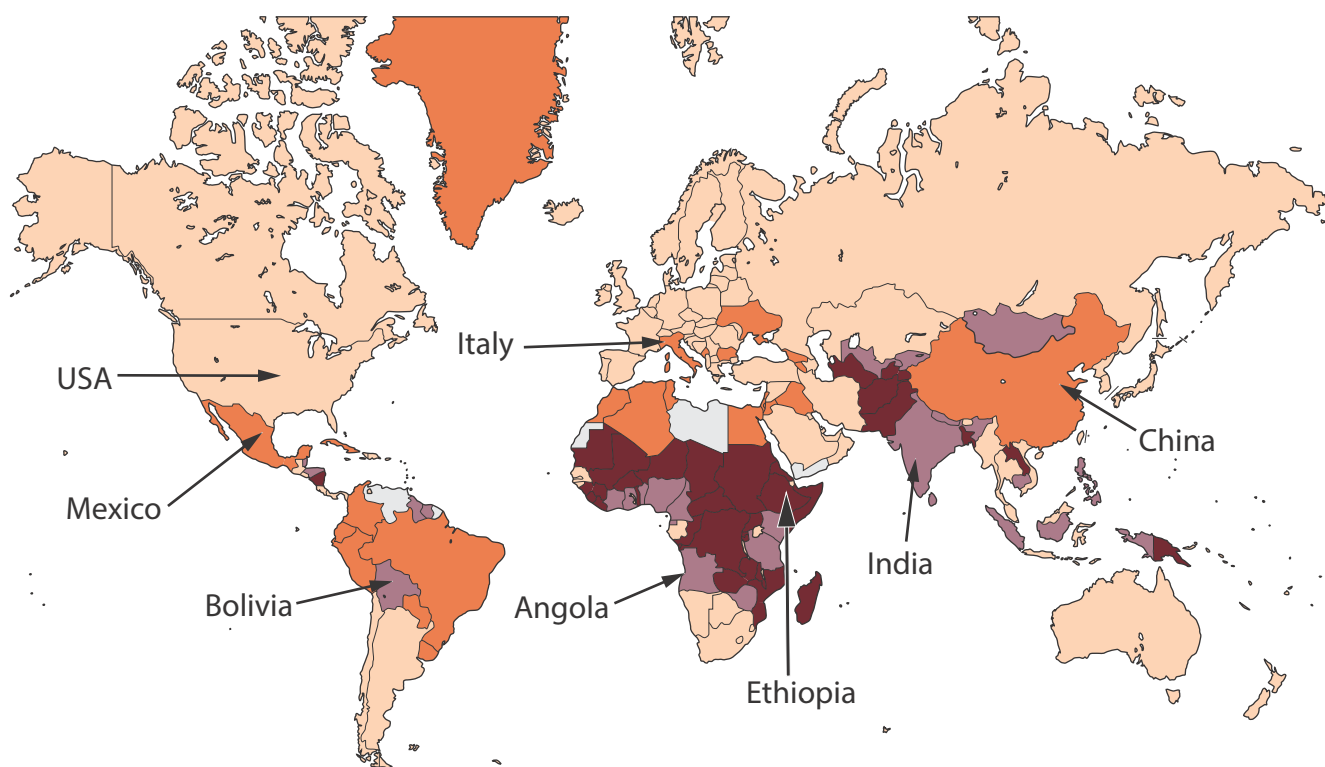
Physical	Human
 <p>Loss of biodiversity</p>	 <p>Loss of goods provided by the forest</p>
 <p>Soil erosion</p>	 <p>Local communities forced to move</p>
 <p>Increased CO₂ in the atmosphere</p>	 <p>Money made from deforestation can support economic development</p>

Figure 7c
Selected impacts of deforestation



Key: Percentage (%) of population not using the internet

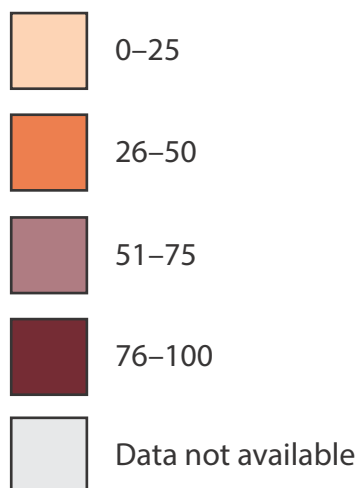


Figure 8a

Percentage of the population not using the internet (2019)

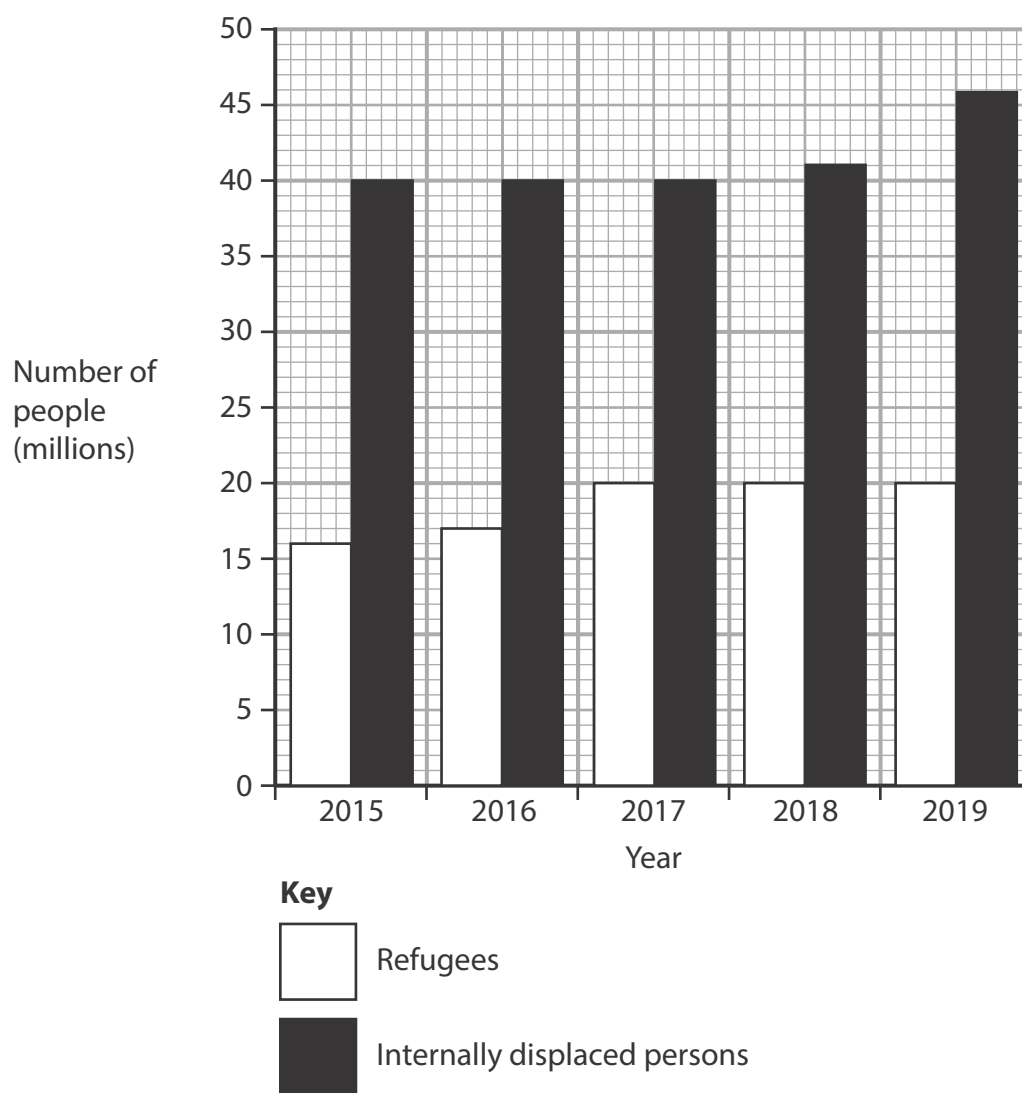
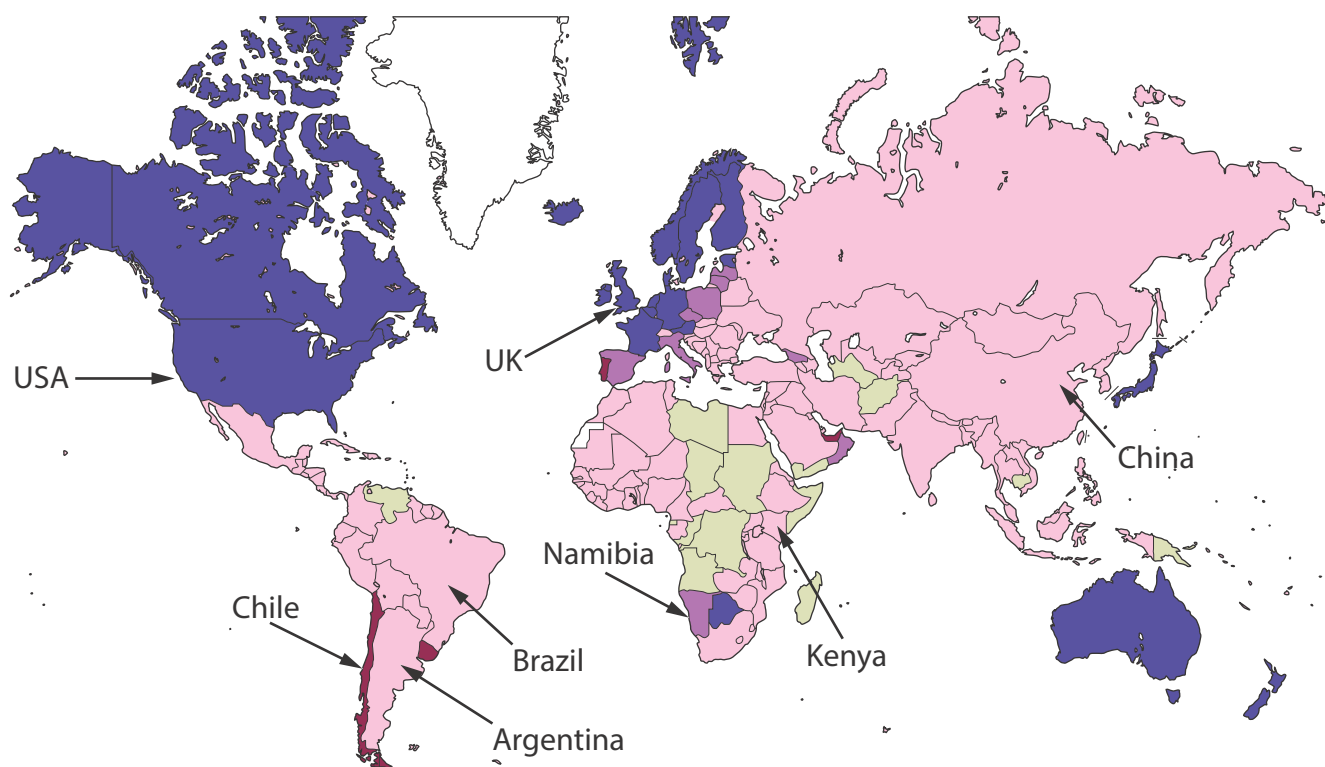


Figure 8b
Number of refugees and internally displaced persons, 2015–2019



Figure 8c
Selected strategies to support sustainable tourism



Key: Corruption Perception Index score

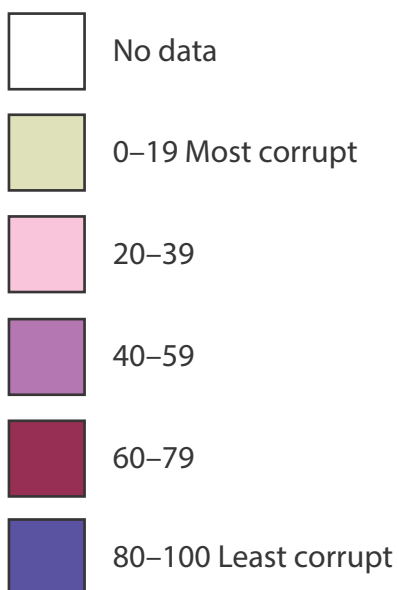


Figure 9a
Corruption Perception Index, 2018

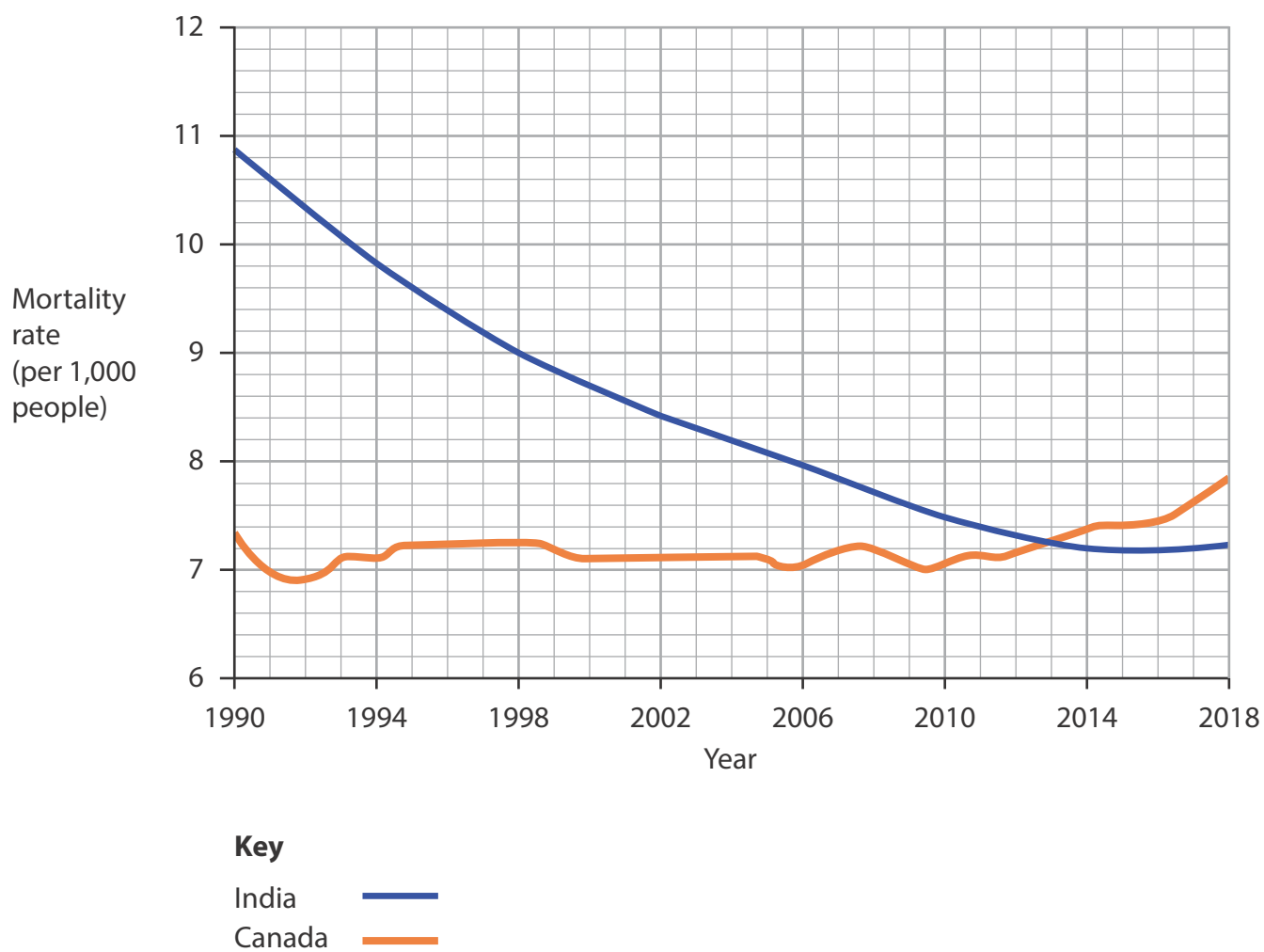


Figure 9b
Mortality rates for India and Canada, 1990–2018







Government	Organisations	Individuals
<p>Inefficient compared to large-scale investments.</p> 	<p>Low-cost loans could help develop small businesses.</p> 	<p>Focused on local communities.</p> 
<p>Difficult to have an impact at the national level.</p> 	<p>Can improve basic facilities, such as quality of water supply.</p> 	<p>Provides opportunities for empowerment.</p> 

Figure 9c
Views on bottom-up projects

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Acknowledgements

Pearson Education Ltd. gratefully acknowledges all the following sources used in the preparation of this paper:

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Figure 9b: Source adapted from: <https://data.worldbank.org/indicator/SP.DYN.CDRT.IN?locations=IN&start=1990IN?locations=IN&start=1990>