Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel International GCSE (9–1)

Friday 9 June 2023

Morning (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 105.
- 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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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) Identify **one** advantage of using solar energy.

(1)

☐ **A** Many turbines are needed.

☐ **B** Could also protect coastlines from erosion.

☐ **C** Can be used in most areas of the world.

☐ **D** The waste can be recycled.

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

(1)

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(b) Identify the correct definition of the term **energy gap**.

(1)

☐ **A** The difference between renewable and non-renewable energy use.

☐ **B** The difference between a country's energy demand and its ability to produce it.

☐ **C** The difference between production of energy ten years ago and today.

☐ **D** The difference between energy imports and population growth.

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

Suggest **one** factor that has influenced the location of this factory.

(2)

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(d) State **one** economic activity that is part of the primary sector.

(1)

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

Suggest **one** possible reason for changes to secondary sector employment.

(3)

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(f) Explain **one** advantage and **one** disadvantage of using non-renewable energy sources.

(4)

Advantage

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Disadvantage

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(g) For a named developed country, explain **two** ways it has tried to increase energy security.

(4)

Named developed country

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

Analyse the reasons for the patterns of informal employment.

Refer to the resource in your answer.

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

2 Rural environments

(a) (i) Identify a service provided by a tropical forest.

(1)

☒ **A** recycling of nutrients

☒ **B** medicinal plants

☒ **C** different types of timber

☒ **D** many food types

(ii) Define the term **natural ecosystem**.

(1)

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(b) Identify the definition of the term **subsistence farming**.

(1)

☒ **A** farming that reduces environmental impact

☒ **B** farming to make a profit

☒ **C** farming to meet the needs of the farmer and family

☒ **D** farming in which products are intended for sale

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

Suggest how natural hazards can cause changes in rural areas.

(2)

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(d) State **one** impact of the negative multiplier effect in rural areas.

(1)

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(e) For a named developing or emerging country, explain **two** ways farm incomes are being diversified.

(4)

Named developing or emerging country

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

Suggest **one** reason for the pattern shown in Figure 2b.

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(g) Explain **two** strategies that improve quality of life in rural environments.

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

Analyse the factors that affect the structure of rural populations in developing countries.

Refer to the resource in your answer.

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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 the location where you would usually find a science park.

(1)

☒ **A** central business district

☒ **B** city centre

☒ **C** remote rural location

☒ **D** rural-urban fringe

(ii) State **one** reason why suburbanisation occurs.

(1)

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(b) Identify a factor that can affect urban land use values.

(1)

☒ **A** food supplies

☒ **B** temperature

☒ **C** international aid

☒ **D** transport connections

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

Explain **one** advantage of building on a brownfield site.

(2)

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

(1)

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(e) Explain **two** factors that have led to the emergence of megacities.

(4)

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

Suggest **one** reason for a trend shown.

(3)

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(g) For a named developed country, explain how **two** different groups of people manage environmental urban challenges.

(4)

Named developed country

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

Analyse the environmental problems associated with rapid urbanisation.

Refer to the resource in your answer.

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(Total for Question 3 = 25 marks)

TOTAL FOR SECTION A = 50 MARKS

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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

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

(i) Identify **one** of the closed questions in the questionnaire.

(1)

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(ii) Explain why open questions can be useful in a questionnaire.

(2)

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

(i) Identify a type of sampling used for the questionnaire.

(1)

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(ii) Plot the remaining data for Site 1 (Figure 4c in the Resource Booklet) to complete the bar graph below (Figure 4d).

Some data has been plotted for you as an example.

(2)

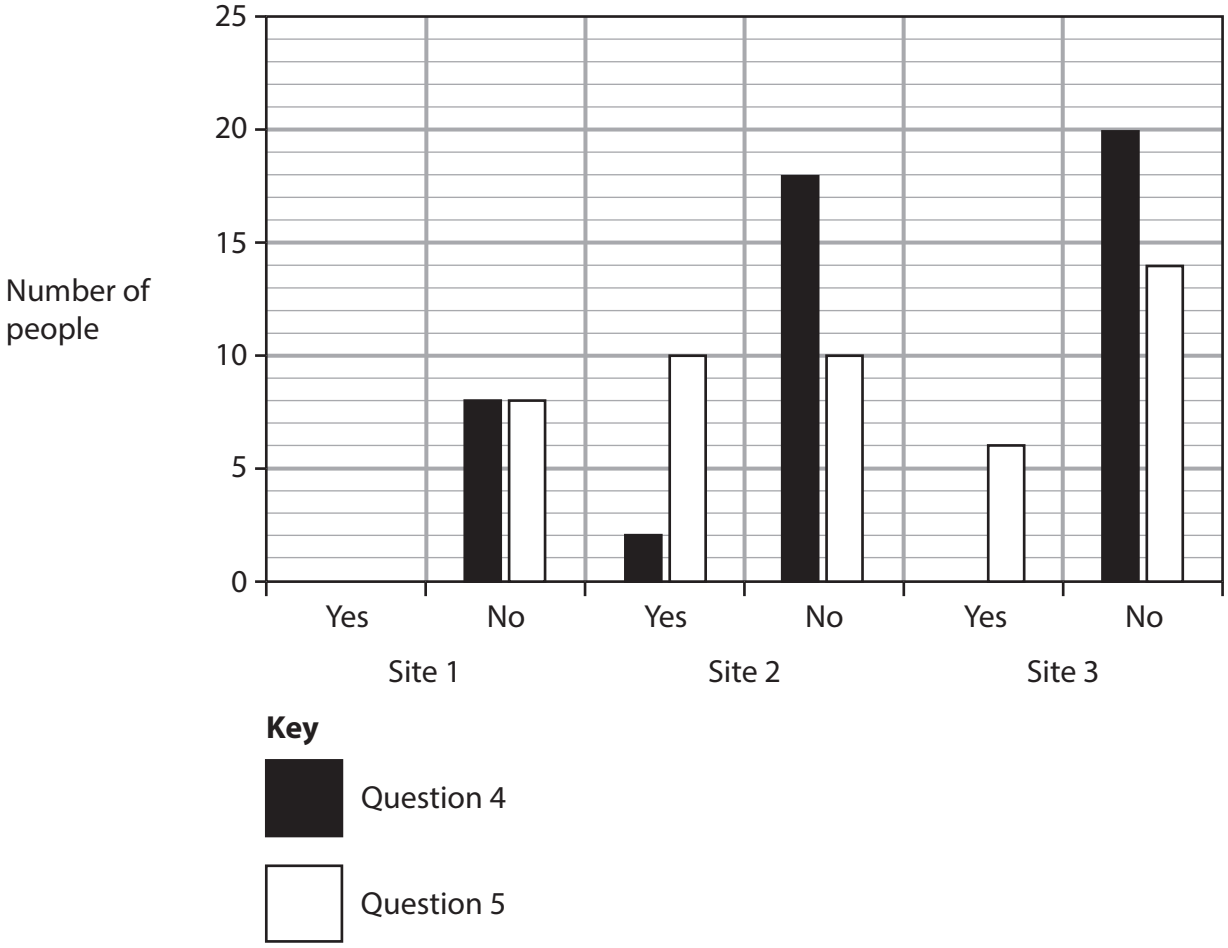

Figure 4d

Bar graph to show data from questionnaire

(iii) Identify the site that had the largest range for Question 1 in the questionnaire.

(1)

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(iv) Calculate the mean number of people who would like to own an electric car (Question 5).

(2)

Write your answer to 1 decimal place.

Show all your workings.

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(c) Explain **one** other data collection method the students could have used in this enquiry.

(3)

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(d) You have studied economic activity and energy for your own geographical enquiry.

State the title of your geographical enquiry.

Evaluate the data presentation techniques you used.

(8)

Geographical enquiry title

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(Total for Question 4 = 20 marks)

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

5 Investigating rural environments

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

(i) Identify **one** of the closed questions in the questionnaire.

(1)

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(ii) Explain why open questions can be useful in a questionnaire.

(2)

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

(i) Identify the type of sampling used for the questionnaire.

(1)

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(ii) Plot the remaining data for Site 1 (Figure 5c in the Resource Booklet) to complete the bar graph below (Figure 5d). Some data has been plotted for you as an example.

(2)

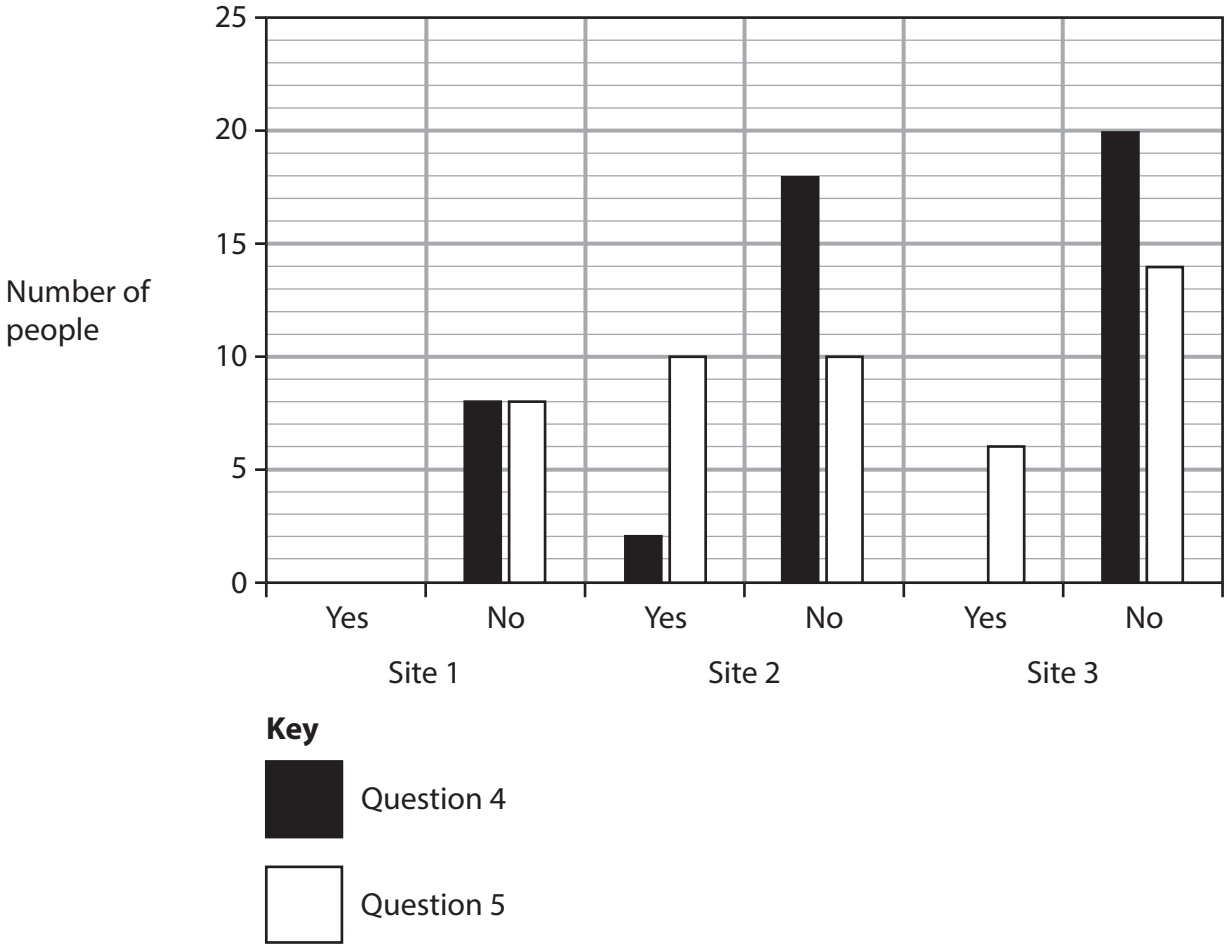

Figure 5d

Bar graph to show data from questionnaire

(iii) Identify the site that had the largest range for Question 1 in the questionnaire.

(1)

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(iv) Calculate the mean number of people who travelled out of the village frequently (Question 5).

(2)

Write your answer to 1 decimal place.

Show all your workings.

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(c) Explain **one other** data collection method the students could have used in this enquiry.

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(d) You have studied rural environments as part of your own geographical enquiry.

State the title of your geographical enquiry.

Evaluate the data presentation techniques you used.

(8)

Geographical enquiry title

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(Total for Question 5 = 20 marks)

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

6 Investigating urban environments

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

(i) Identify **one** of the closed questions in the questionnaire.

(1)

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(ii) Explain why open questions can be useful in a questionnaire.

(2)

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

(i) Identify the type of sampling used for the questionnaire.

(1)

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(ii) Plot the remaining data for Site 1 (Figure 6c in the Resource Booklet) to complete the bar graph below (Figure 6d). Some data has been plotted for you as an example.

(2)

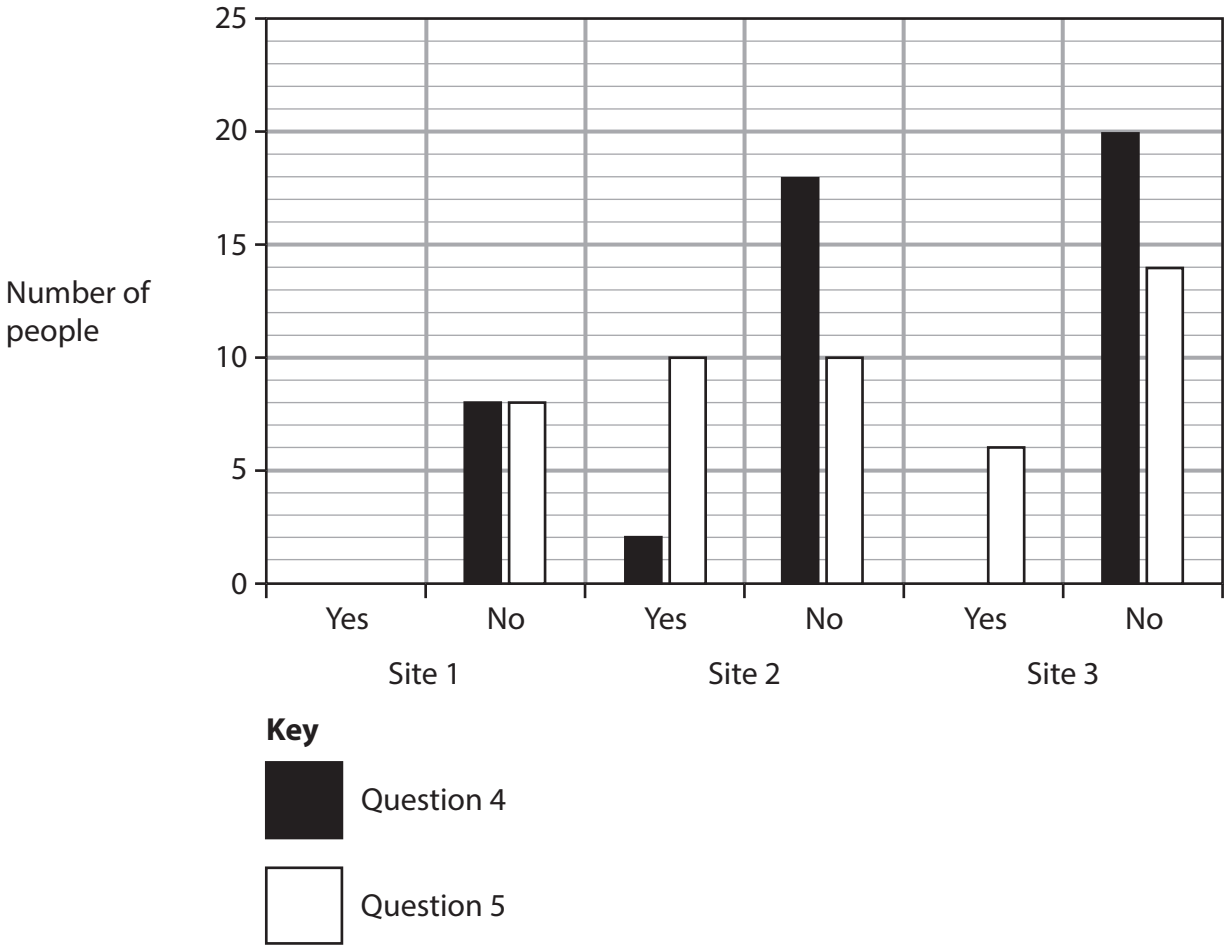

Figure 6d

Bar graph to show data from questionnaire

(iii) Identify the site that had the largest range for Question 1 in the questionnaire.

(1)

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(iv) Calculate the mean number of people who would like to recycle more (Question 5).

(2)

Write your answer to 1 decimal place.

Show all your workings.

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(c) Explain **one other** data collection method the students could have used in this enquiry.

(3)

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(d) You have studied urban environments as part of your own geographical enquiry.

State the title of your geographical enquiry.

Evaluate the data presentation techniques you used.

(8)

Geographical enquiry title

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(Total for Question 6 = 20 marks)

TOTAL FOR SECTION B = 20 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) Identify a cause of desertification.

(1)

☐ **A** hydroelectric power

☐ **B** increased rainfall

☐ **C** international trade

☐ **D** overgrazing

(b) Identify an impact of desertification.

(1)

☐ **A** increased exports

☐ **B** increase of species diversity

☐ **C** reduced crop yields

☐ **D** reduced energy production

(c) Explain **one** natural cause of climate change.

(2)

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

(i) Identify the labelled country most at risk from sea level rise.

(1)

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(ii) Compare the level of risk for Asia and North America.

(2)

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(iii) Suggest **one** reason for the pattern shown.

(2)

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(iv) Explain why the data shown is useful for understanding the potential impacts of climate change.

(2)

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(e) State **two** causes of deforestation.

(2)

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(f) Explain **two** impacts of deforestation.

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

Assess strategies used to reduce threats from desertification.

Refer to the resource in your answer.

(6)

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(h) Discuss the view:

"Strategies to reduce threats to fragile environments should be led by governments."

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

Refer to the resources in your answer.

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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 an example of voluntary migration.

(1)

☒ **A** moving to another country for work

☒ **B** moving to another country to escape poverty

☒ **C** moving to another country due to war

☒ **D** moving to another country due to exploitation

(ii) Identify a push factor for migration.

(1)

☒ **A** job opportunities

☒ **B** shortage of jobs

☒ **C** better services

☒ **D** better education

(b) State **one** reason why a government might want to encourage tourism.

(2)

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(c) (i) Study Figure 8a in the Resource Booklet.

Identify the labelled country with the highest percentage of GDP from tourism.

(1)

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(ii) Compare the patterns shown for Asia and for South America.

(2)

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(iii) Suggest **one** possible impact of the global pattern shown.

(2)

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(iv) Explain why the data shown in Figure 8a might be a good indicator of a global economy.

(2)

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(d) Name **two** global institutions that can influence the global economy.

(2)

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(e) Explain **two** impacts of migration on destination countries.

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

Assess the role of TNCs in globalisation.

Refer to the resource in your answer.

(6)

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(g) Discuss the view:

"The advantages of globalisation outweigh the disadvantages."

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

Refer to the resources in your answer.

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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 type of diagram most suitable to examine population structure.

(1)

☒ **A** kite diagram

☒ **B** scattergraph

☒ **C** pie chart

☒ **D** population pyramid

(ii) Identify a reason for falling birth rates in developing or emerging countries.

(1)

☒ **A** improved access to retail services

☒ **B** improved access to healthcare services

☒ **C** improved access to transport services

☒ **D** improved access to legal services

(b) State **two** ways of measuring inequality.

(2)

1 .....

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(c) (i) Study Figure 9a in the Resource Booklet.

Identify the country labelled in Figure 9a with the highest levels of international aid received.

(1)

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(ii) Compare the level of aid received by South America and Africa.

(2)

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(iii) Suggest **one** possible reason for the pattern shown.

(2)

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(iv) Explain why the data shown in Figure 9a may be useful for understanding patterns of global development.

(2)

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(d) State **two** types of international aid.

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(e) Explain **two** ways uneven development within a country can affect human welfare.

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

Assess the advantages and disadvantages of bottom-up approaches to support development.

Refer to the resource in your answer.

(6)

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(g) Discuss the view:

"International strategies to reduce uneven global development are the most effective."

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

Refer to the resources in your answer.

(12)

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(Total for Question 9 = 35 marks)

TOTAL FOR SECTION C = 35 MARKS
TOTAL FOR PAPER = 105 MARKS

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Pearson Edexcel International GCSE (9–1)

Friday 9 June 2023

Morning (1 hour 45 minutes)

Paper reference **4GE1/02**

Geography

PAPER 2: Human geography

Resource Booklet

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Turn over

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Figure 1a

A cement factory in Norway

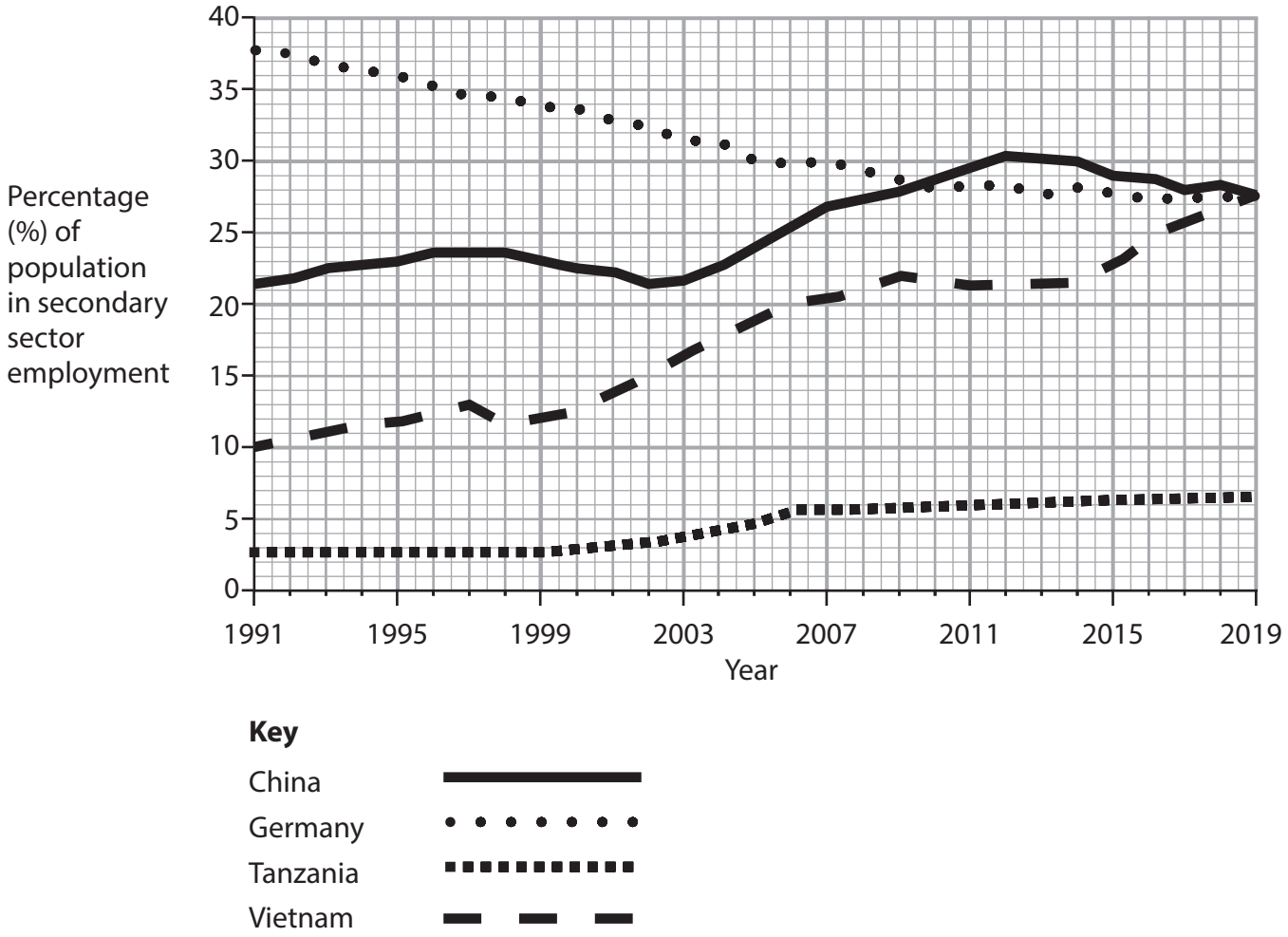


Figure 1b

Percentage (%) of population in secondary sector employment in selected countries, 1991–2019

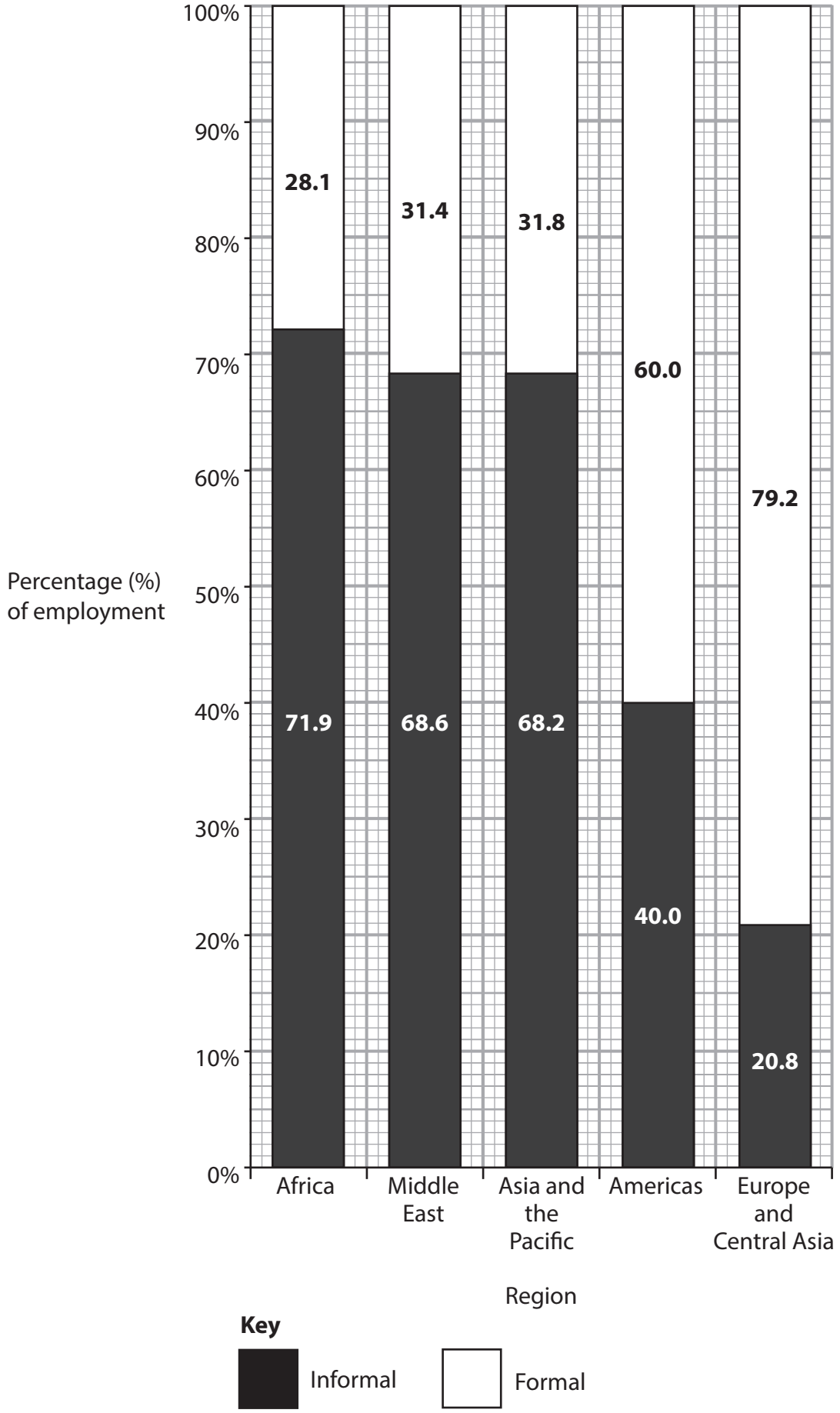


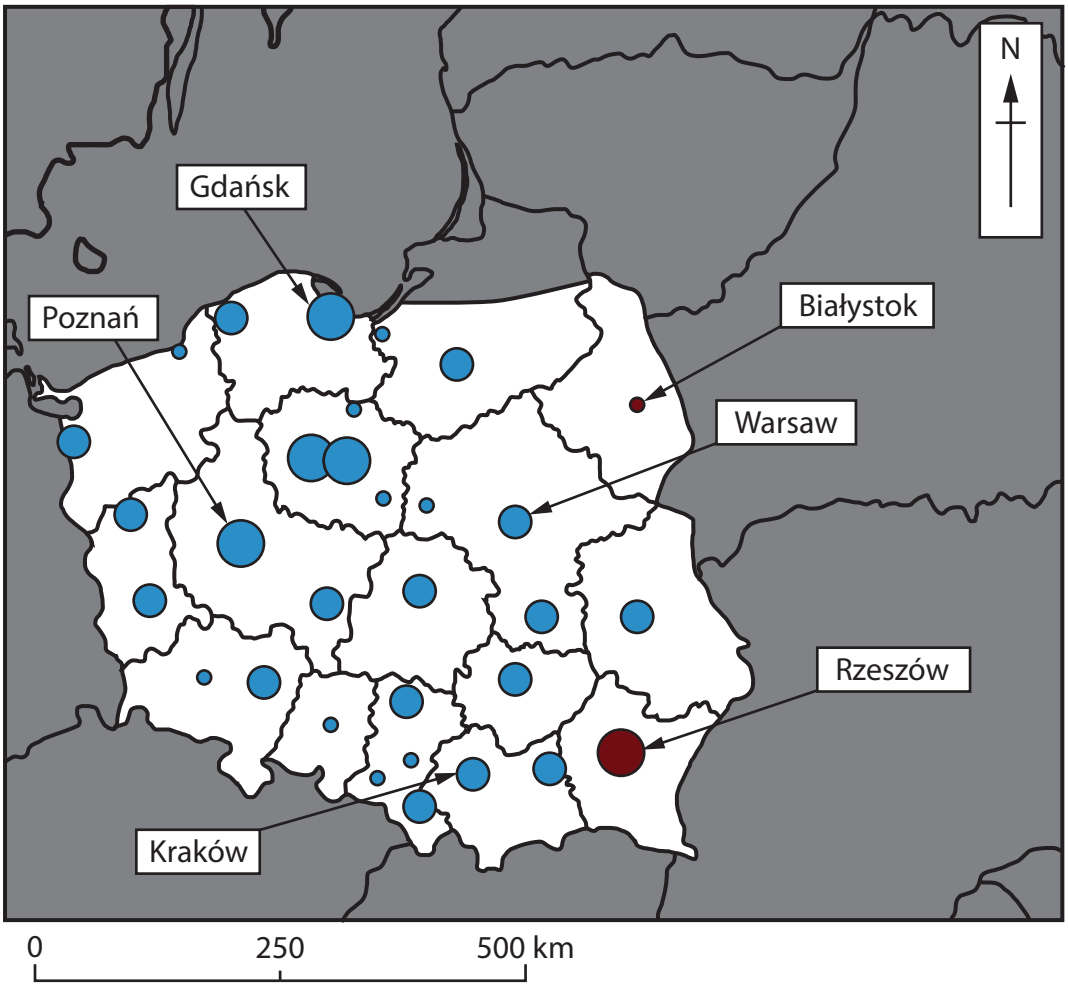
Figure 1c

Percentage (%) of informal and formal employment for selected regions, 2018

(Source: © Steve Mathambo Ngoma/Shutterstock)

Figure 2a

A photograph of damage caused by Cyclone Idai in Zimbabwe, 2019



Key: Size of population movement

Inflow to cities (Percentage (%))

- >2.90
- 1.46–2.90
- 0.29–1.45

Outflow to suburban areas (Percentage (%))

- >2.90
- 1.46–2.90
- 0.29–1.45

Outside coverage

Figure 2b

Movement of people into and out of Polish cities, 2004–2018

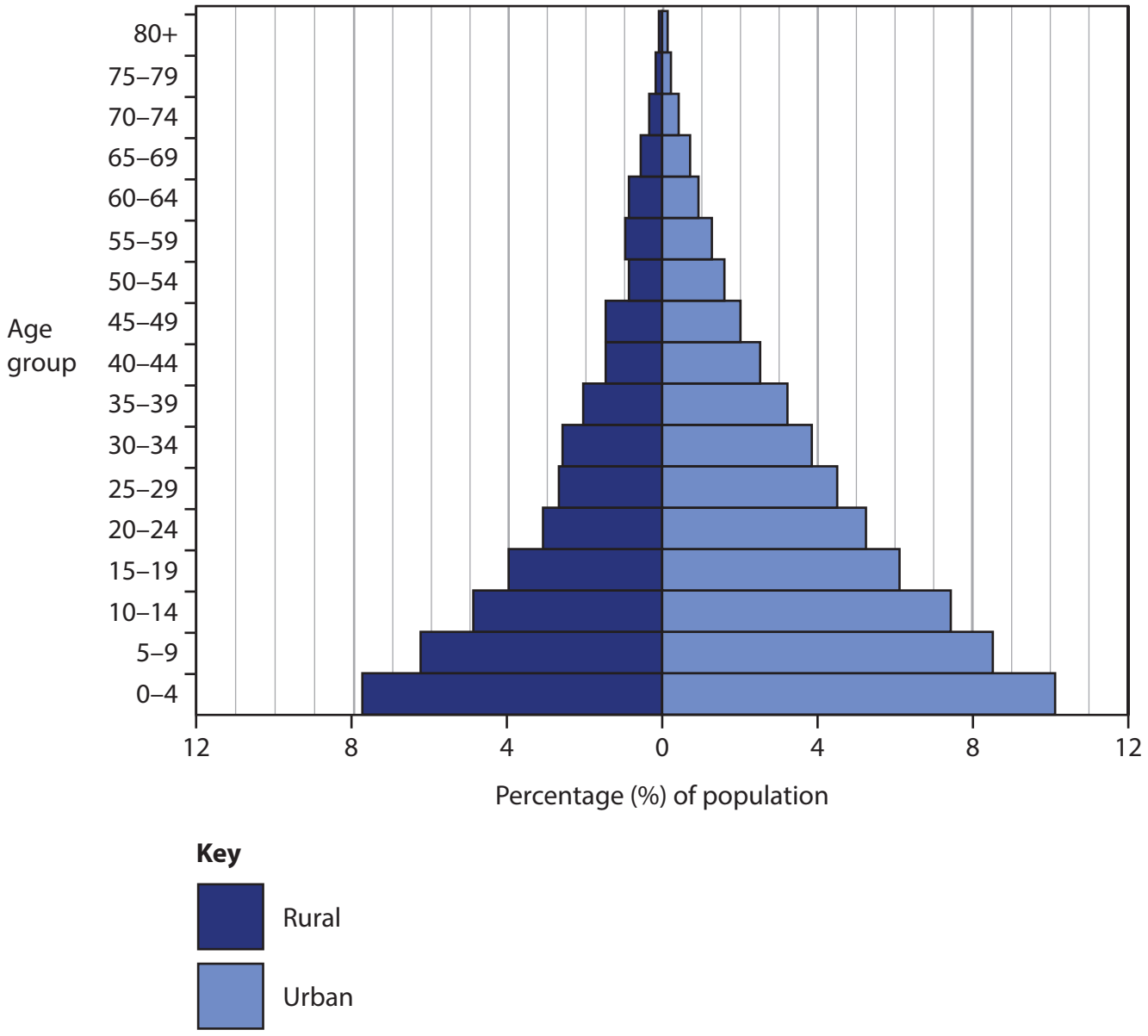


Figure 2c

A bar graph showing population structure for Nigeria, 2019

(Source: © Hans Blossey/Alamy Stock Photo)

Figure 3a

Photograph of a brownfield site in Mülheim Ruhr harbour, Germany

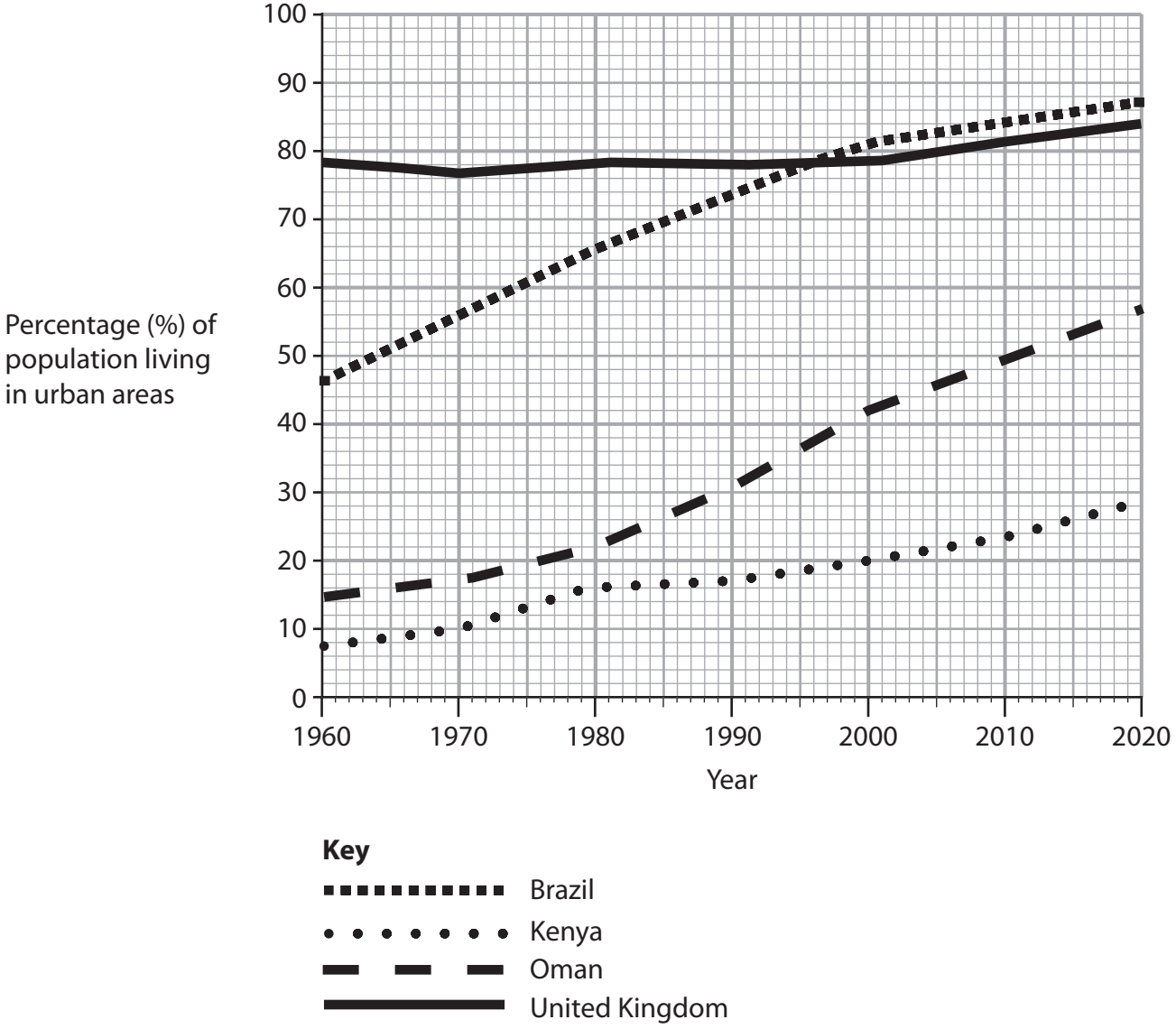


Figure 3b

Percentage (%) of population living in urban areas in selected countries, 1960–2020

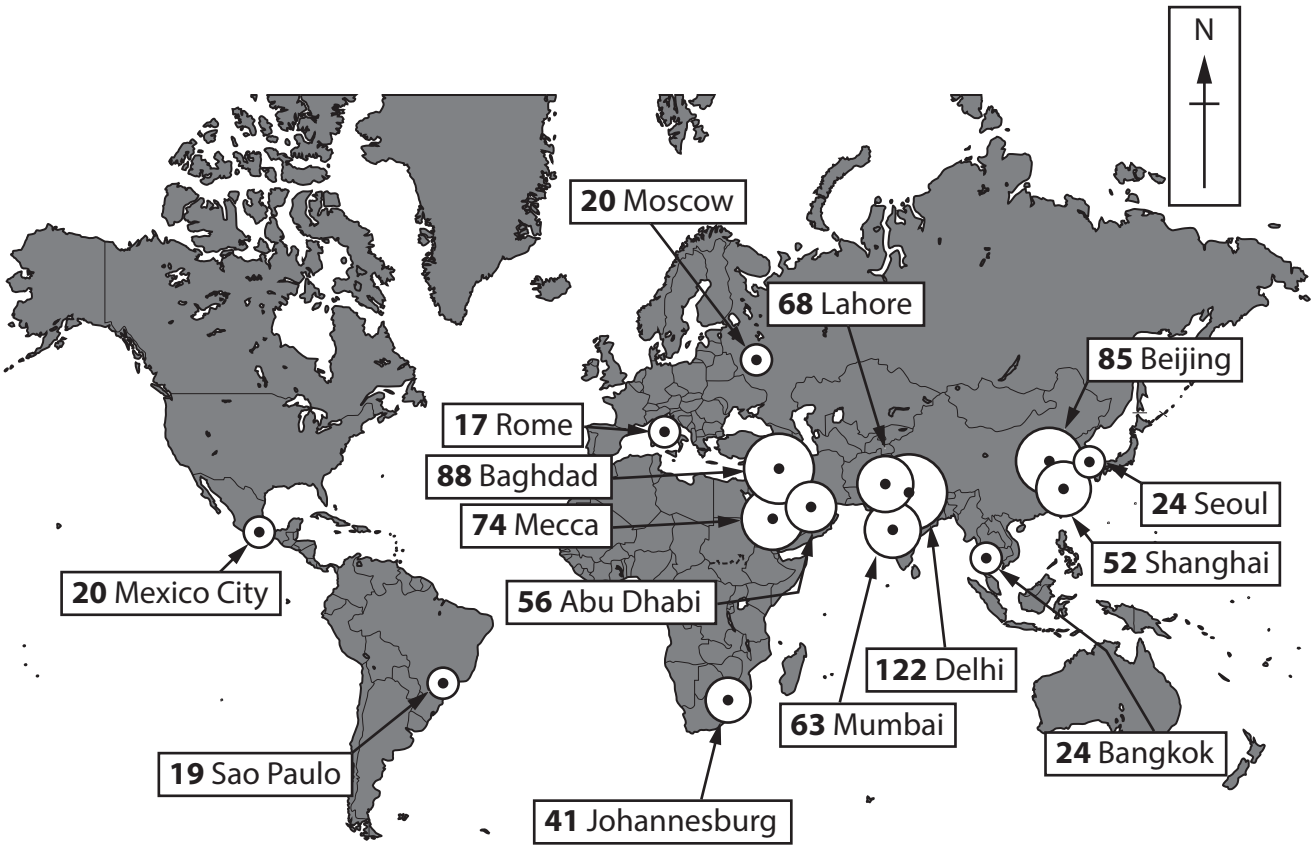


Figure 3c

Map of how air pollution varies across the world's cities, 2019
(PM 2.5 fine particulate material in the air contributing to air pollution)

Enquiry question: To what extent do people in different areas understand the benefits of making homes more sustainable?

A questionnaire was conducted with a total of 60 people from 3 different areas. In each area we conducted 20 questionnaires selecting every 2nd person that we met.

Figure 4a

Information about the students' data collection

Q1. Does your house have any renewable energy technology?	**Yes** ☐ **No** ☐
Q2. What type of renewable energy technology does your house have?	....
Q3. Do you think having renewable energy technology saves you money?	**Yes** ☐ **No** ☐
Q4. Do you own an electric car?	**Yes** ☐ **No** ☐
Q5. Would you like to own an electric car?	**Yes** ☐ **No** ☐
Q6. What would encourage you to use more renewable energy technology in your house?	....

Figure 4b

Extract from the students' questionnaire

	Site 1		Site 2		Site 3	
	Yes	No	Yes	No	Yes	No
Question 1	16	4	4	16	2	18
Question 3	10	10	10	10	0	20
Question 4	4	8	2	18	0	20
Question 5	12	8	10	10	6	14

Figure 4c

Extract from the students' questionnaire results

Enquiry question: How has accessibility affected village life?

A questionnaire was conducted with a total of 60 people from 3 different areas. In each area we conducted 20 questionnaires selecting every 2nd person that we met.

Figure 5a

Information about the students' data collection

Q1. Do you travel by public or private transport?	**Public** ☐ **Private** ☐
Q2. What types of public transport do you use?	....
Q3. Do you think the village has good accessibility?	**Yes** ☐ **No** ☐
Q4. Would you like trains to stop here more frequently?	**Yes** ☐ **No** ☐
Q5. Do you travel out of the village frequently?	**Yes** ☐ **No** ☐
Q6. What impact do you think the new train station has had on the village?	....

Figure 5b

Extract from the students' questionnaire

	Site 1		Site 2		Site 3	
	Yes	No	Yes	No	Yes	No
Question 1	16	4	4	16	2	18
Question 3	10	10	10	10	0	20
Question 4	4	8	2	18	0	20
Question 5	12	8	10	10	6	14

Figure 5c

Extract from the students' questionnaire results

Enquiry question: To what extent does the city encourage sustainable behaviour?

A questionnaire was conducted with a total of 60 people from 3 different areas. In each area we conducted 20 questionnaires selecting every 2nd person that we met.

Figure 6a

Information about the students' data collection

Q1. Do you recycle your rubbish when you are in the city?	**Yes** ☐ **No** ☐
Q2. Where do you usually deposit your rubbish?	....
Q3. Do you think recycling is the responsibility of the city council?	**Yes** ☐ **No** ☐
Q4. Do you own a reusable coffee cup?	**Yes** ☐ **No** ☐
Q5. Would you like to recycle more?	**Yes** ☐ **No** ☐
Q6. What would encourage you to recycle more in the city?	....

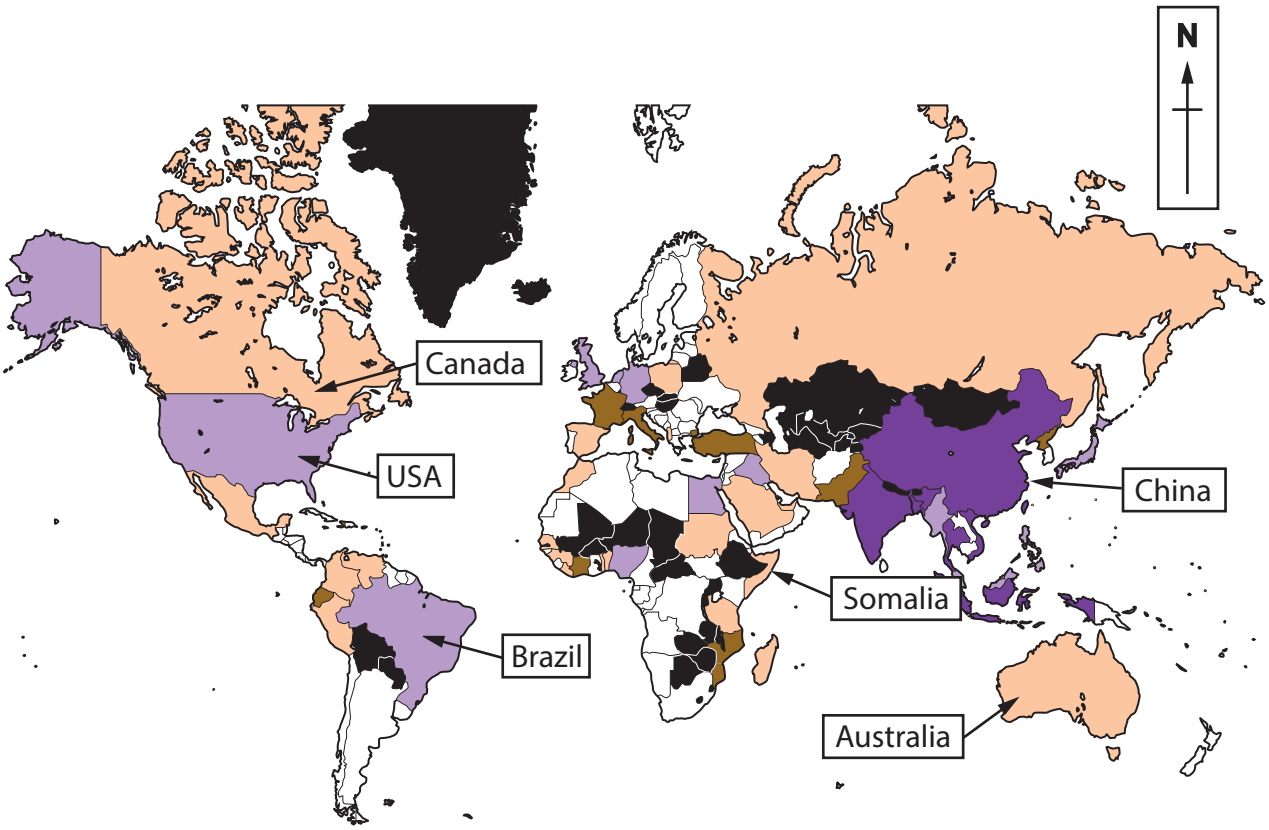
Figure 6b

Extract from the students' questionnaire

	Site 1		Site 2		Site 3	
	Yes	No	Yes	No	Yes	No
Question 1	16	4	4	16	2	18
Question 3	10	10	10	10	0	20
Question 4	4	8	2	18	0	20
Question 5	12	8	10	10	6	14

Figure 6c

Extract from the students' questionnaire results



Key: Number of people per country living on land expected to be under sea level by 2100*

- 10–50 million
- 1–9.9 million
- 500,000–999,999
- 100,000–499,999
- <100,000
- No data

*assuming a rise in sea levels of 50–70 cm

Figure 7a

Map of areas predicted to be at risk of sea level rise by 2100

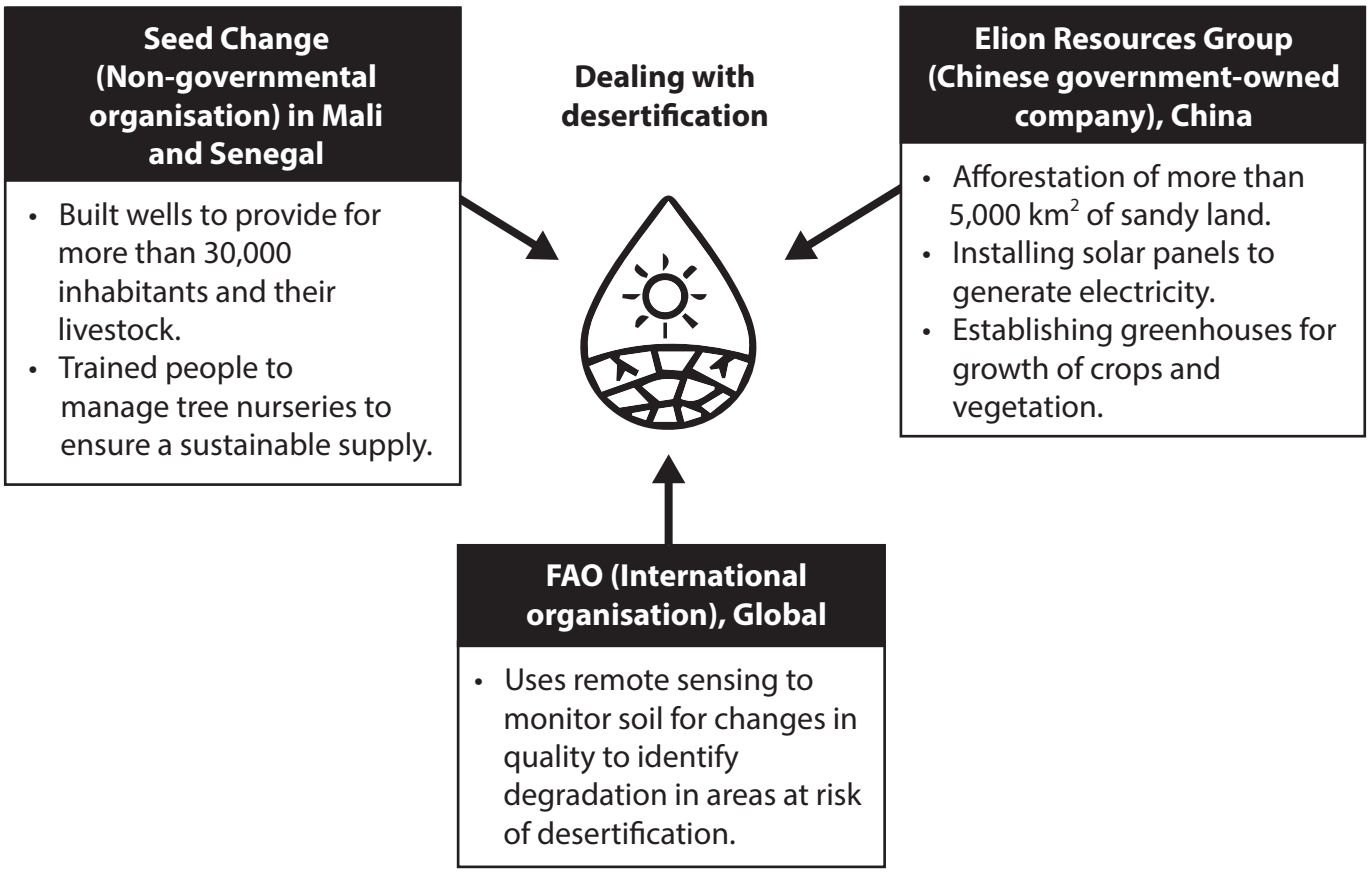
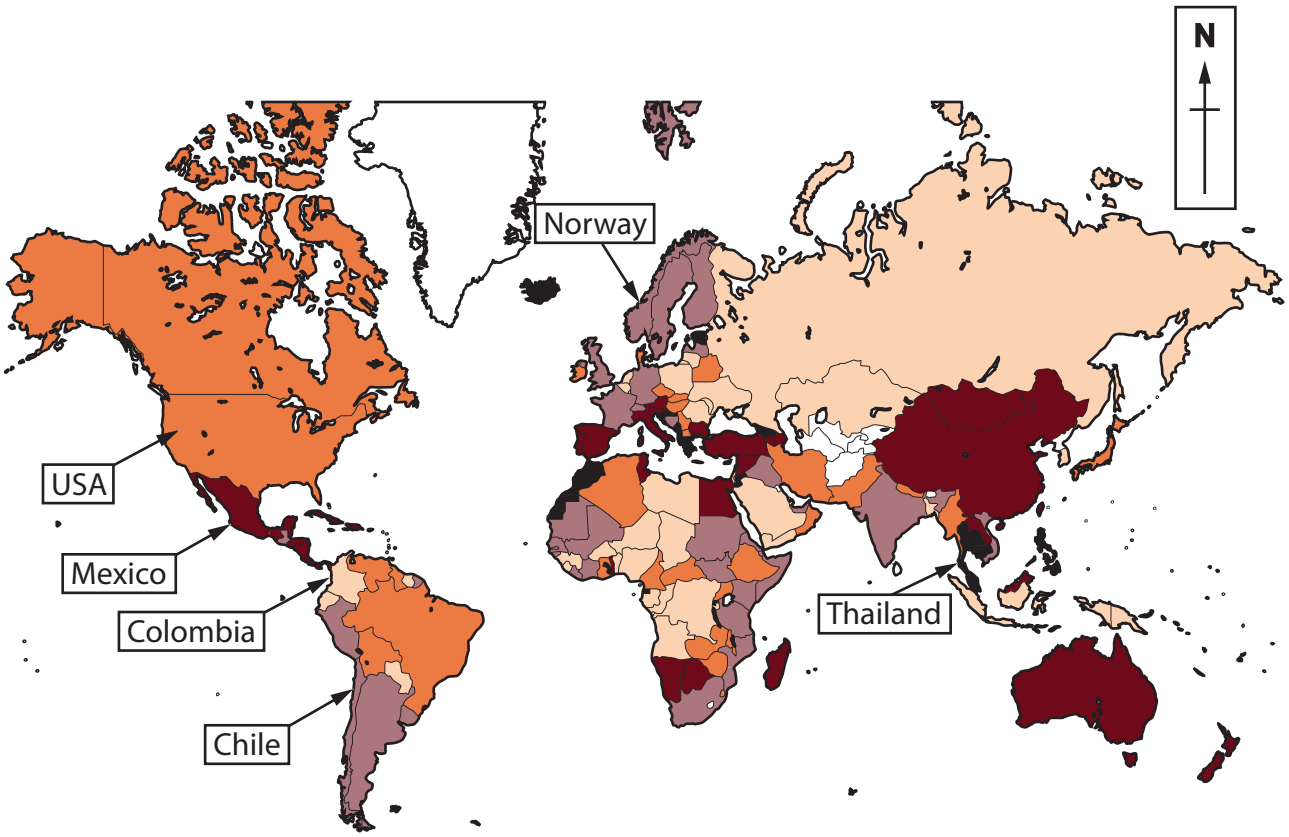


Figure 7b

Information on strategies to deal with desertification



Key: Percentage (%) of GDP

- 1.8–6.1
- 6.2–8.1
- 8.2–10.8
- 10.9–18.1
- 18.2–75
- No data

Figure 8a

Map of tourism as percentage of Gross Domestic Product (GDP), 2019

Shoe manufacturer TNC

- Present in 39 countries.
- 486 factories.
- 1.09 million workers.

- Headquarters: Oregon, USA.

- Accused of poor working conditions in some factories.

Research and pharmaceutical TNC

- 99,000 employees worldwide.
- Present in over 39 countries.
- Annual revenue of over US $40 billion.

- Headquarters: London, UK.

- Mainly targets more developed countries, but the company has several programmes that help less developed countries.

Soft drinks manufacturer TNC

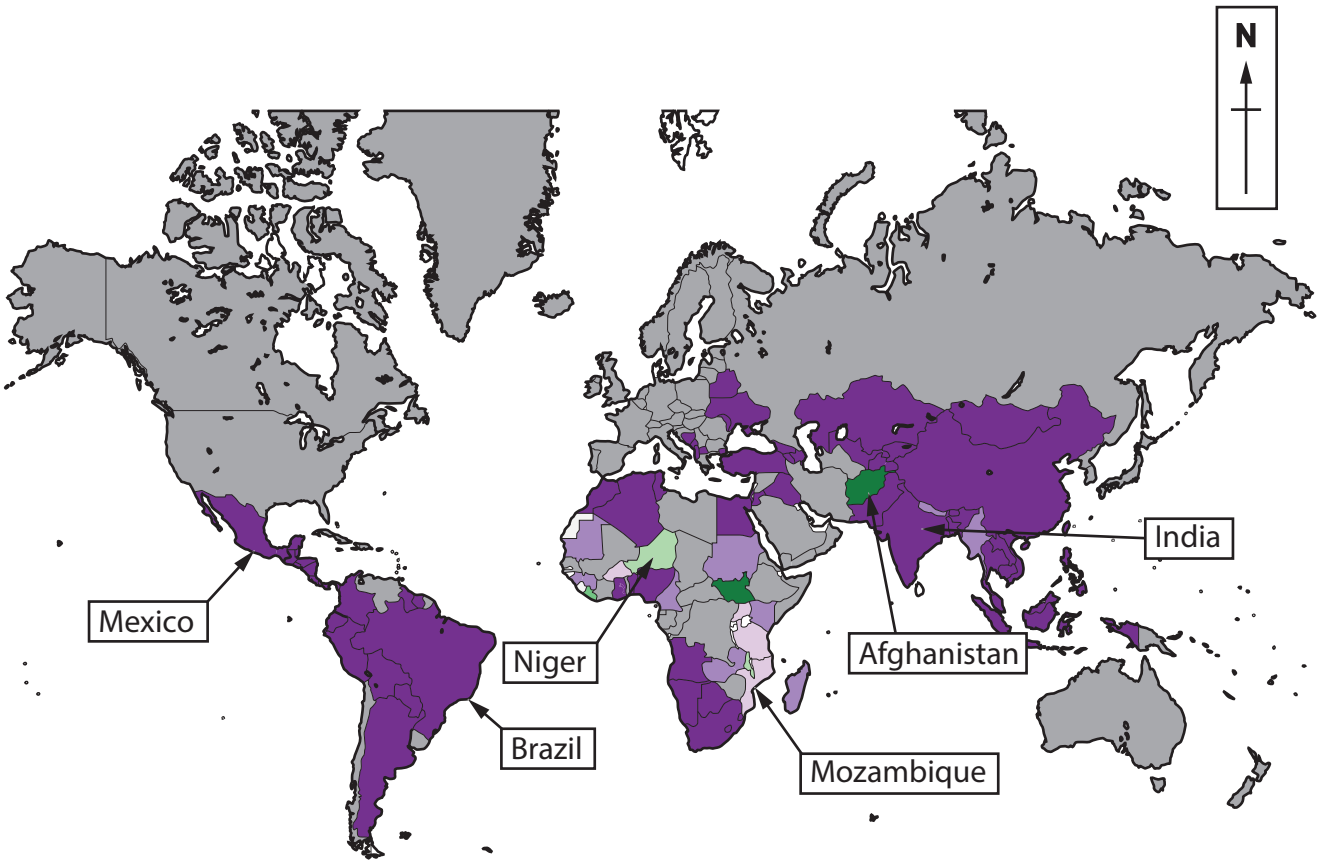
- Drinks are sold in more than 200 countries.
- Opened a new US $90 million research and development centre in India.

- Headquarters: Atlanta, USA.

- Accused of using too much groundwater in India.

Figure 8b

Information about three transnational corporations (TNCs)



Key: Net Overseas Development Assistance (ODA) received
(Percentage (%) of imports of goods, services and primary income)

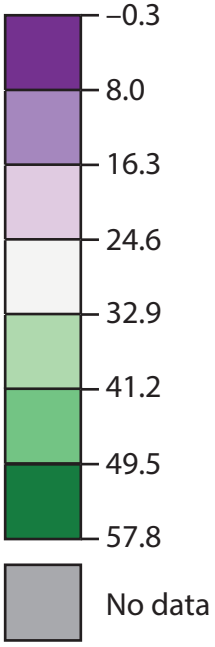


Figure 9a

Overseas development assistance (international aid) received, 2020

Bangladesh Rural Advancement Committee (BRAC), Bangladesh, Education

- Provides low-cost education programmes to a range of young learners in 23,000 schools across 64 districts.
- Establishing local learning community centres often run by women.

World Vision, Rwanda, Finance

- Provided people with access to basic financial services such as savings accounts and small business loans to increase their incomes.
- Provides farmers with vegetable seeds to help them grow more food for their families and for the market.

Society for the Promotion of Area Resource Centres (SPARC), India, Housing

- Helps residents in informal settlements to get secure land tenure.
- Uses local labour for low-cost construction of housing units.

Figure 9b

Information about selected bottom-up development projects

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

Figure 1a adapted from: © Vetle Houg
Figure 1b adapted from: https://data.worldbank.org/indicator/SL.SRV.EMPL.ZS?locations=JP-GH-KH-BW-EG
Figure 1c graph adapted from: https://ilostat.ilo.org/topics/informality/
Figure 2b adapted from: https://www.eea.europa.eu/data-and-maps/figures/suburbanisation-of-large-polish-cities/70809_fig2-9suburbanisation-of-large-polish-cities.png/70809-Fig2.9-Suburbanisation-of-large-Polish-cities.eps.75dpi.gif/download
Figure 2c adapted from : https://www.census.gov/data-tools/demo/idb/
Figure 3b adapted from: http://data.worldbank.org
Figure 3c adapted from: https://www.statista.com/chart/6794/how-air-pollution-varies-across-the-worlds-cities/
Figure 7a adapted from: https://www.statista.com/chart/19884/number-of-people-affected-by-rising-sea-levels-per-country/
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Figure 8b adapted from : https://manufacturingmap.nikeinc.com/
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http://joeblakey.com/geography/case-study-of-a-tnc-the-coca-cola-company/
Figure 9a adapted from: https://maps.worldbank.org/
Figure 9b adapted from:
https://www.visionfund.org/where-we-work/africa/rwanda/about-us#:~:text=VisionFund%20Rwanda%20(VFR)%20is%20one,services%20to%20underprivileged%20rural%20communities.
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https://www.sparcindia.org/aboutsparc.php#:~:text=The%20Society%20for%20the%20Promotion,urban%20poor%20%2D%20the%20pavement%20dwellers.