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## 0460/12

February/March 2021

**1 hour 45 minutes**

You must answer on the question paper.

You will need:    Insert (enclosed)  
                           Calculator  
                           Ruler

- Answer **three** questions in total, **one** from each section.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do **not** use an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- If additional space is needed, you should use the lined pages at the end of this booklet; the question number or numbers must be clearly shown.

- The total mark for this paper is 75.
- The number of marks for each question or part question is shown in brackets [ ].
- The insert contains additional resources referred to in the questions.

LEDCs – Less Economically Developed Countries

This document has **32** pages. Any blank pages are indicated.

## Section A

Answer **one** question from this section.

- 1 (a) Study Fig. 1.1 and Fig. 1.2 (Insert), which show information about population density and economic activity in Honduras (an LEDC in Central America).

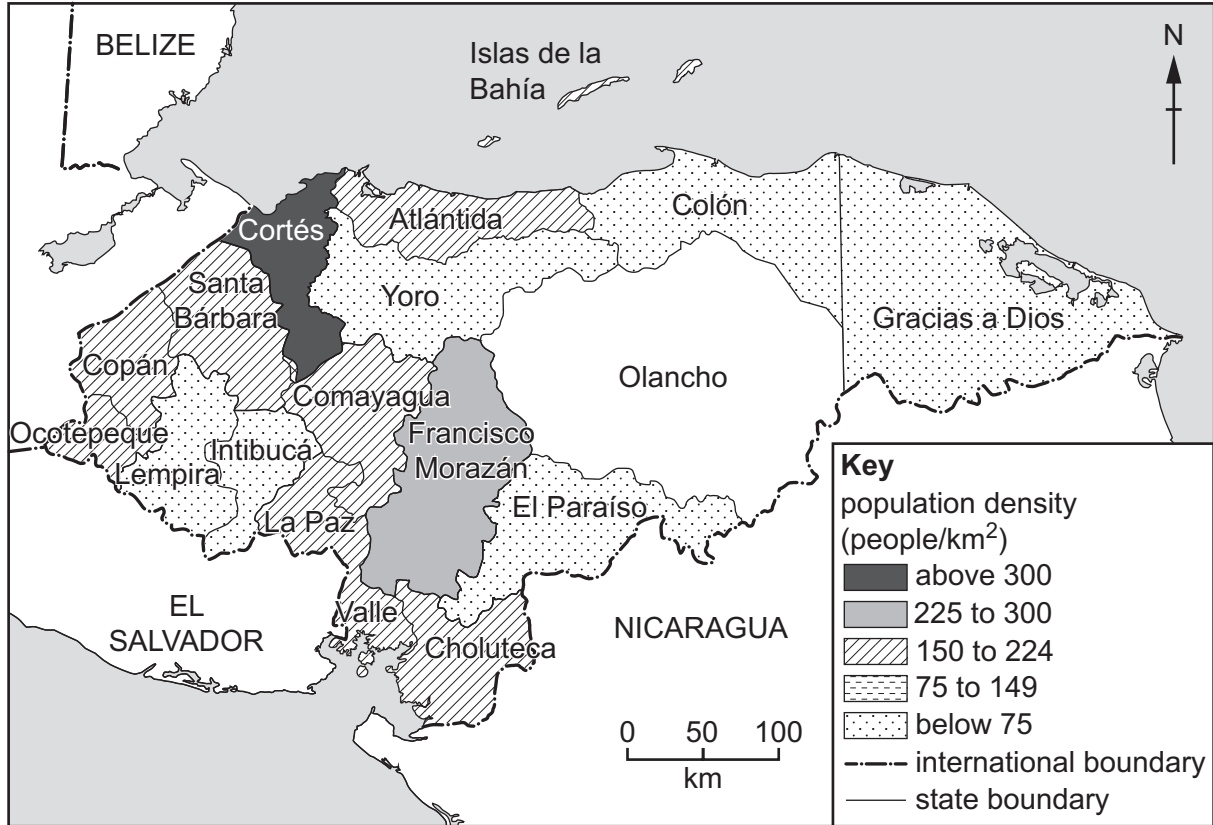


Fig. 1.1

- (i) On Fig. 1.1, **complete the shading** for the Olancho region.

The Olancho region has a population density of 24 people per km<sup>2</sup>.

[1]

- (ii) Put the following regions in rank order of their population density.

Atlántida

Colón

Cortés

Francisco Morazán

1<sup>st</sup> .....

2<sup>nd</sup> .....

3<sup>rd</sup> .....

4<sup>th</sup> .....

highest density



lowest density

[2]

- (iii) Using evidence from Fig. 1.2 **only**, suggest **three** different reasons why some regions of Honduras are densely populated.

1 .....

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2 .....

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3 .....

..... [3]

- (iv) Explain how **physical** factors can influence population density.

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..... [4]

**(b)** Study Figs. 1.3, 1.4 and 1.5 (Insert), which are photographs taken in an overpopulated country.

**(i)** Use evidence in each of Figs. 1.3, 1.4 and 1.5 to identify different problems caused by overpopulation.

Fig. 1.3 .....

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Fig. 1.4 .....

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Fig. 1.5 .....

..... [3]

**(ii)** Overpopulation occurs when the population is greater than the resources can support. Explain why this may occur in a country.

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..... [5]

- (c)** For a named country you have studied, describe a government policy used to influence population growth.

Country .....

[7]

[Total: 25]

- 2 (a) Study Fig. 2.1, which shows a map of settlements in the Osijek-Baranja region of Croatia (an MEDC in Europe).

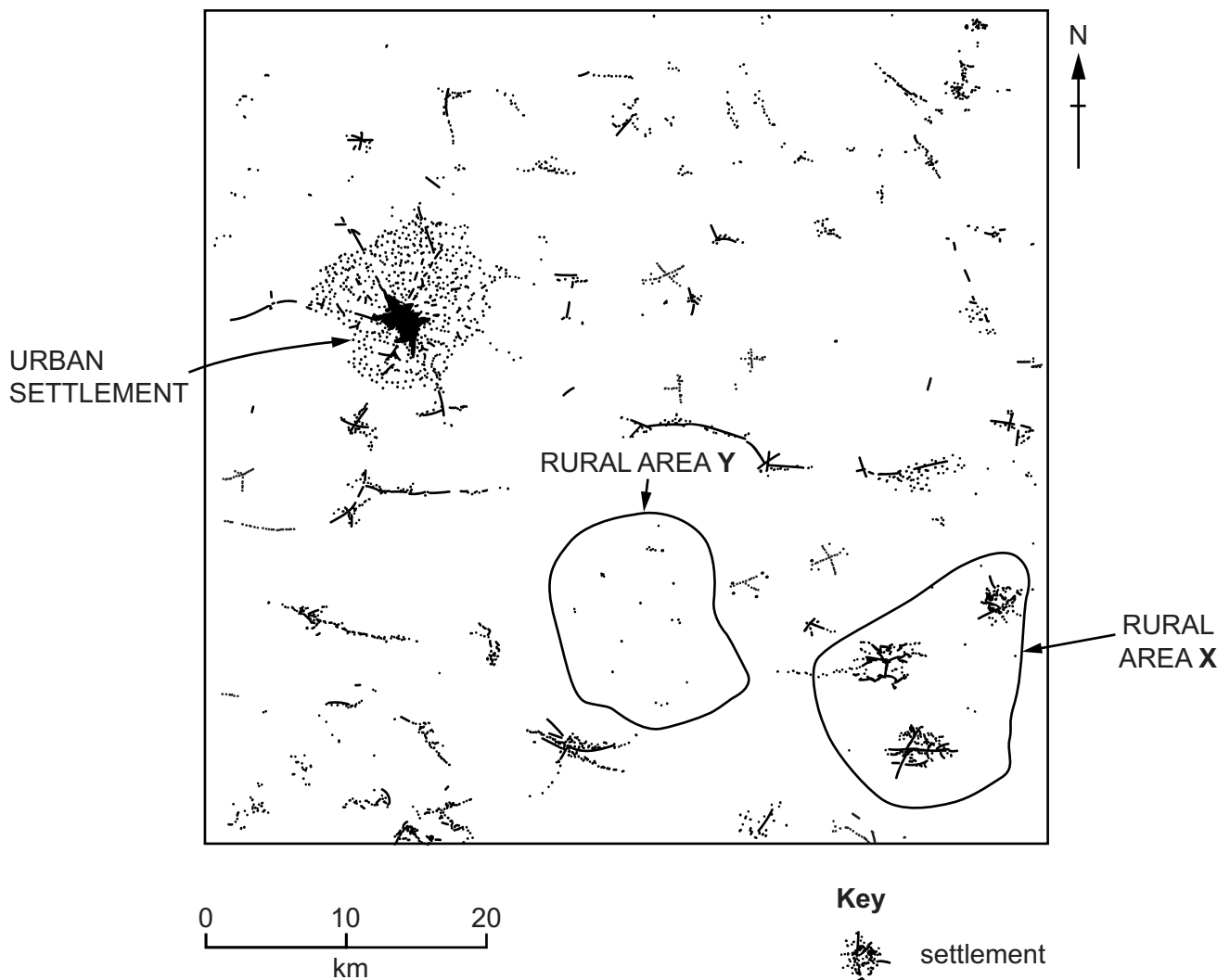


Fig. 2.1

- (i) What is meant by the term *settlement*?

.....  
 .....  
 ..... [1]

- (ii) Identify the settlement patterns in the **two** rural areas labelled **X** and **Y** in Fig. 2.1.

**X** .....

**Y** ..... [2]

- (iii) Suggest **three** factors which may have resulted in the growth of linear settlement patterns in parts of the area shown in Fig. 2.1.

1 .....

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2 .....

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3 .....

..... [3]

- (iv) Suggest likely differences in service provision between the urban and rural settlements shown in Fig. 2.1.

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..... [4]

- (b) Study Fig. 2.2, which is a map showing the location of Aliano, a settlement in a rural part of Southern Italy (an MEDC in Europe).

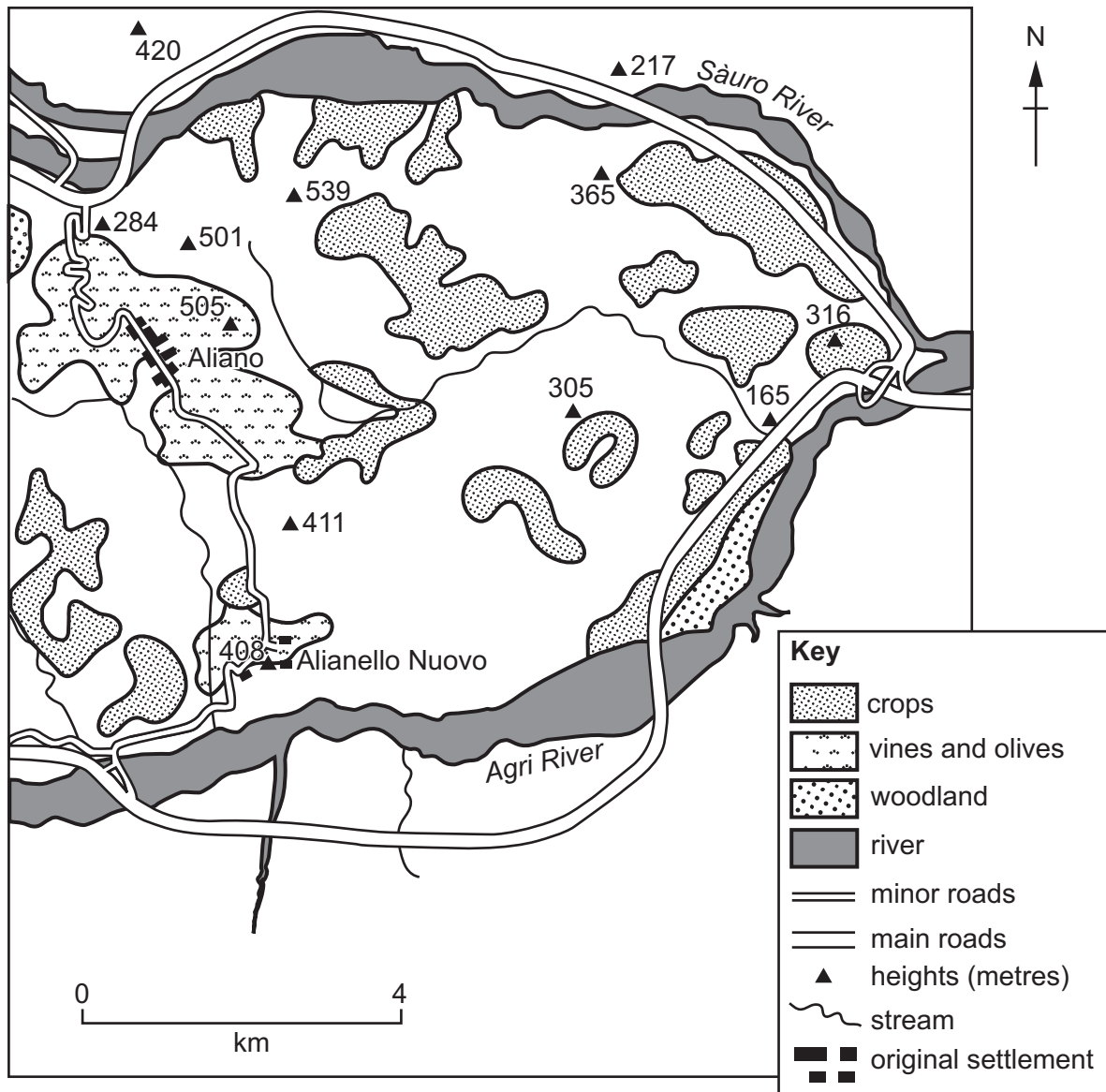


Fig. 2.2

- (i) Suggest reasons for the original growth of a settlement at Aliano.

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..... [3]

- (ii) The population of Aliano is now less than 1000 people.  
Explain why the population has declined in settlements in some rural areas in MEDCs.

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..... [5]

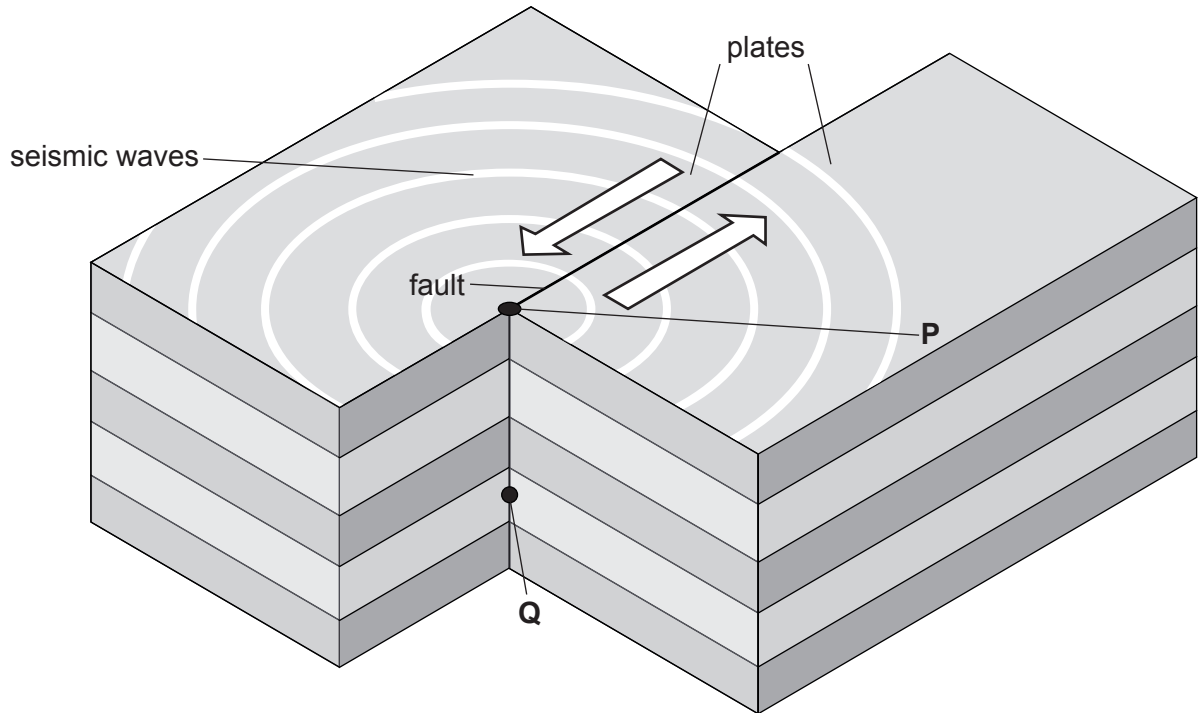


**TURN PAGE FOR QUESTION 3**

**Section B**

Answer **one** question from this section.

- 3 (a) Study Fig. 3.1, which shows information about an earthquake.



**Fig. 3.1**

- (i) Tick (✓) the **one** statement in the table below which is the correct definition of a fault.

|                                                                   | tick (✓) |
|-------------------------------------------------------------------|----------|
| a fracture of the rocks that make up the Earth's crust            |          |
| large slowly moving slabs of rock                                 |          |
| the point at the surface of the Earth where the earthquake occurs |          |
| waves that transmit the energy released by an earthquake          |          |

[1]

- (ii) Identify the points labelled **P** and **Q** in Fig. 3.1.

**P** .....

**Q** .....

[2]

- (iii) Using evidence from Fig. 3.1, explain why earthquakes occur.

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..... [3]

- (b) Study Fig. 3.2, which shows information about two earthquakes which occurred in 2018.

### Venezuela 21 August 2018

The August 2018 Venezuela earthquake measured 7.3 on the Richter scale and was one of the largest earthquakes ever to strike Venezuela. It occurred at a depth of 154 kilometres and was felt as far away as Bogotá, Colombia and Paramaribo, Suriname. The earthquake killed five people.

### Indonesia 28 September 2018

Following the earthquake in Indonesia measuring 7.5 on the Richter scale, at a depth of 20 kilometres, a tsunami occurred. This had a height of around 5 to 7 metres, and flooded the settlements of Palu, Donggala and Mamuju. At least 2256 people were confirmed killed, with hundreds more missing.

**Fig. 3.2**

- (i) Using information from Fig. 3.2 **only**, state **three** reasons why the earthquake in Indonesia caused more deaths and injuries than the earthquake in Venezuela.

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..... [3]

- (ii) Explain why large earthquakes are likely to cause more deaths and injuries in LEDCs than in MEDCs.

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- (iii) Explain why many people live in areas which are at risk from earthquakes.

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**(c)** For a named **volcano** you have studied, explain the causes of an eruption.

Name of volcano .....

[7]

[Total: 25]

- 4 (a) Study Fig. 4.1, which shows Golden Bay on New Zealand's South Island.

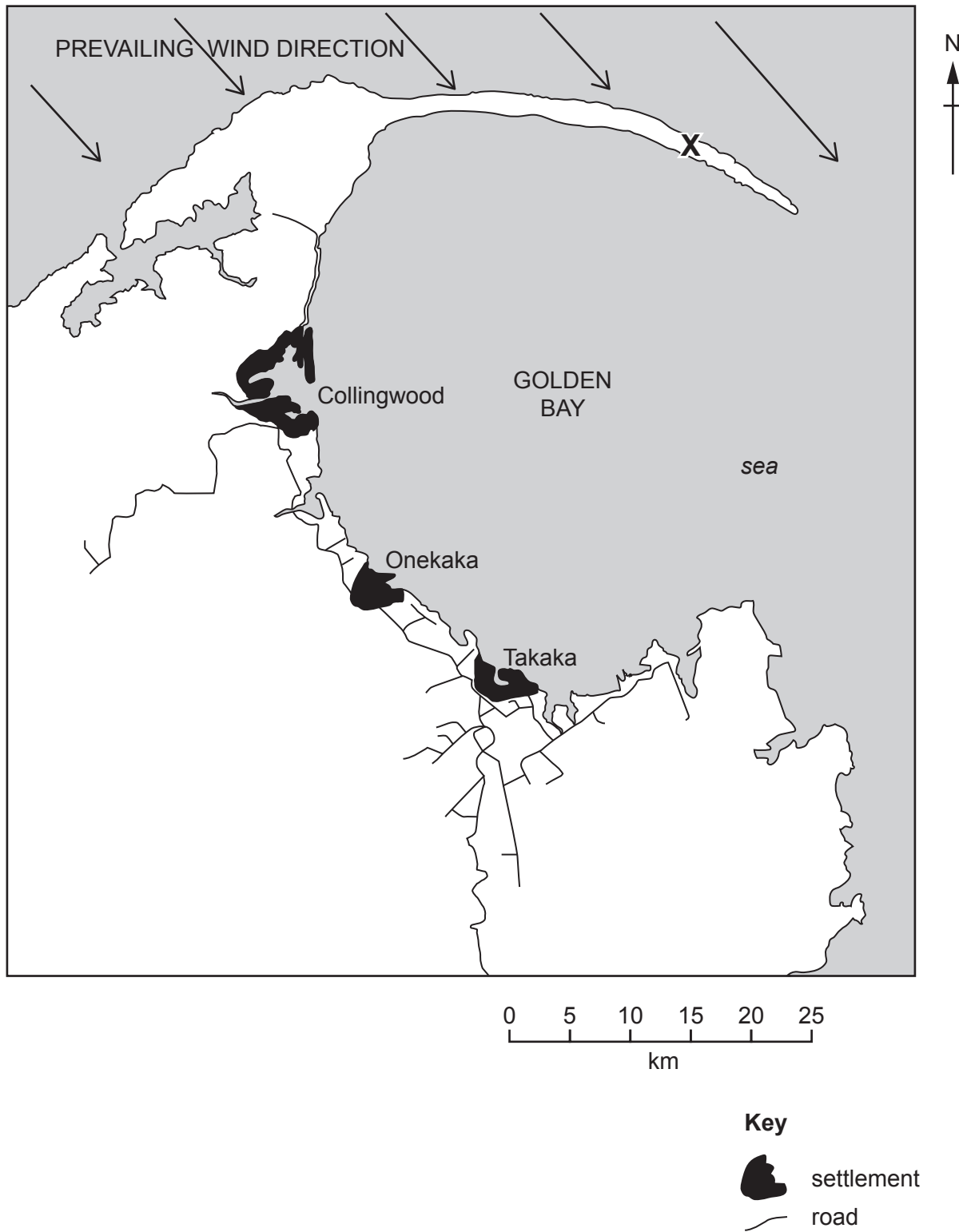


Fig. 4.1

- (i) Which type of coastal landform is labelled X?

.....

[1]

- (ii) What is the distance (measured in a straight line) and the direction from Onekaka to the eastern end of coastal landform **X**?

Distance ..... km

Direction ..... [2]

- (iii) Suggest how coastal landform **X** was formed by coastal processes.

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..... [3]

- (iv) Suggest reasons why there are many beaches in Golden Bay.

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..... [4]

(b) Study Figs. 4.2, 4.3 and 4.4 (Insert), which are photographs which show different features formed on a headland.

(i) Identify the coastal landform shown by the arrows in each of Figs. 4.2, 4.3 and 4.4.

Fig. 4.2 .....

Fig. 4.3 .....

Fig. 4.4 ..... [3]

(ii) Explain how coastal landforms on a headland, such as those shown in Figs. 4.2, 4.3 and 4.4, are formed by coastal erosion.

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- (c)** For a named area of coastline you have studied, explain how it provides opportunities for people.

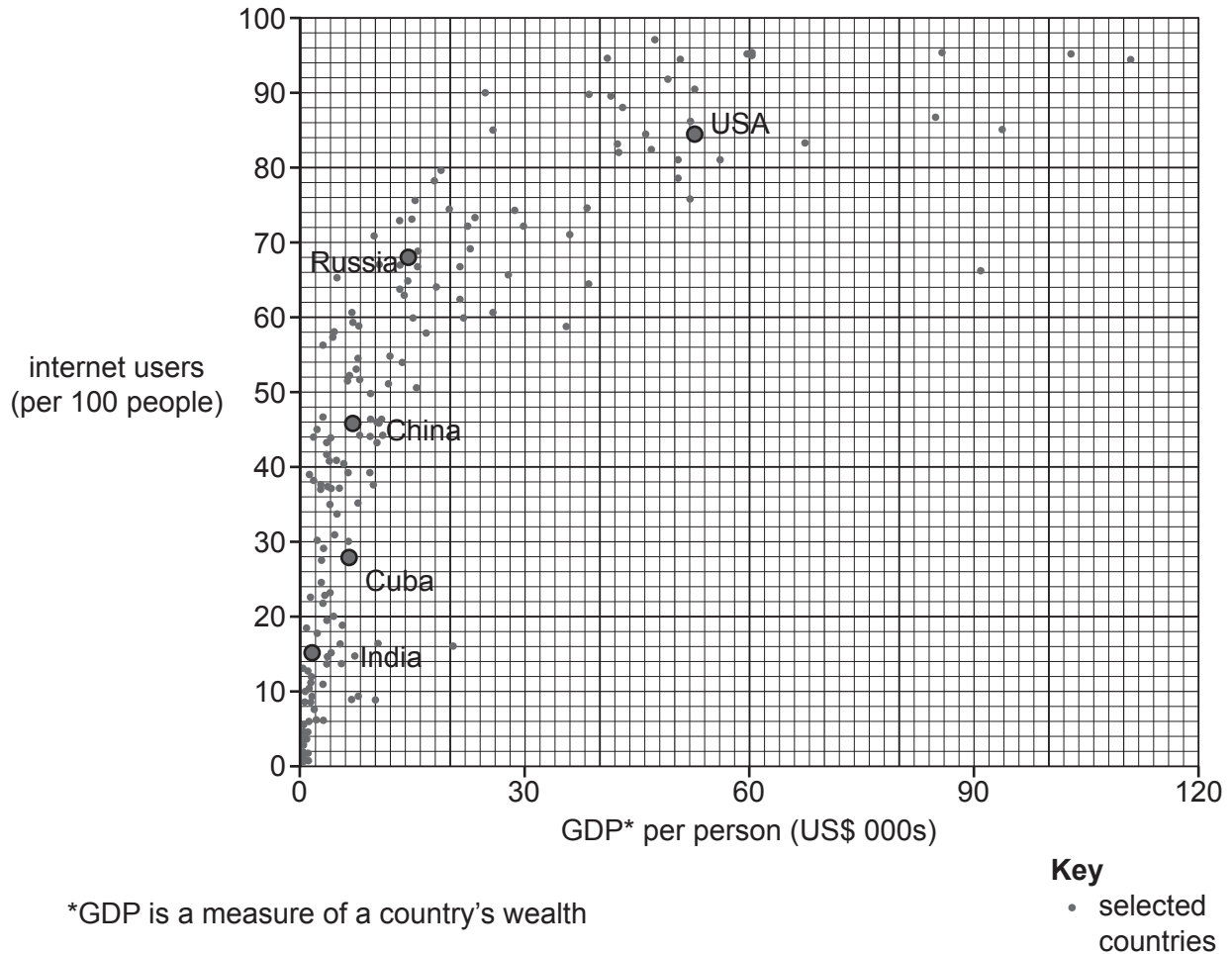
Area of coastline .....

..... [7]

## Section C

Answer **one** question from this section.

- 5 (a) Study Fig. 5.1, which shows information about the relationship between two indicators of development.



**Fig. 5.1**

- (i) Identify the named country which has a GDP per person of US\$15000 and 68 internet users per 100 people.

..... [1]

- (ii) To what extent does Fig. 5.1 show that there is a relationship between GDP per person and internet users per 100 people?

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..... [2]

- (iii) Suggest why there is a relationship between GDP per person and internet users per 100 people.

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..... [3]

- (iv) Another indicator of development is employment structure.  
Describe the changes in the employment structure of a country as its GDP per person increases.

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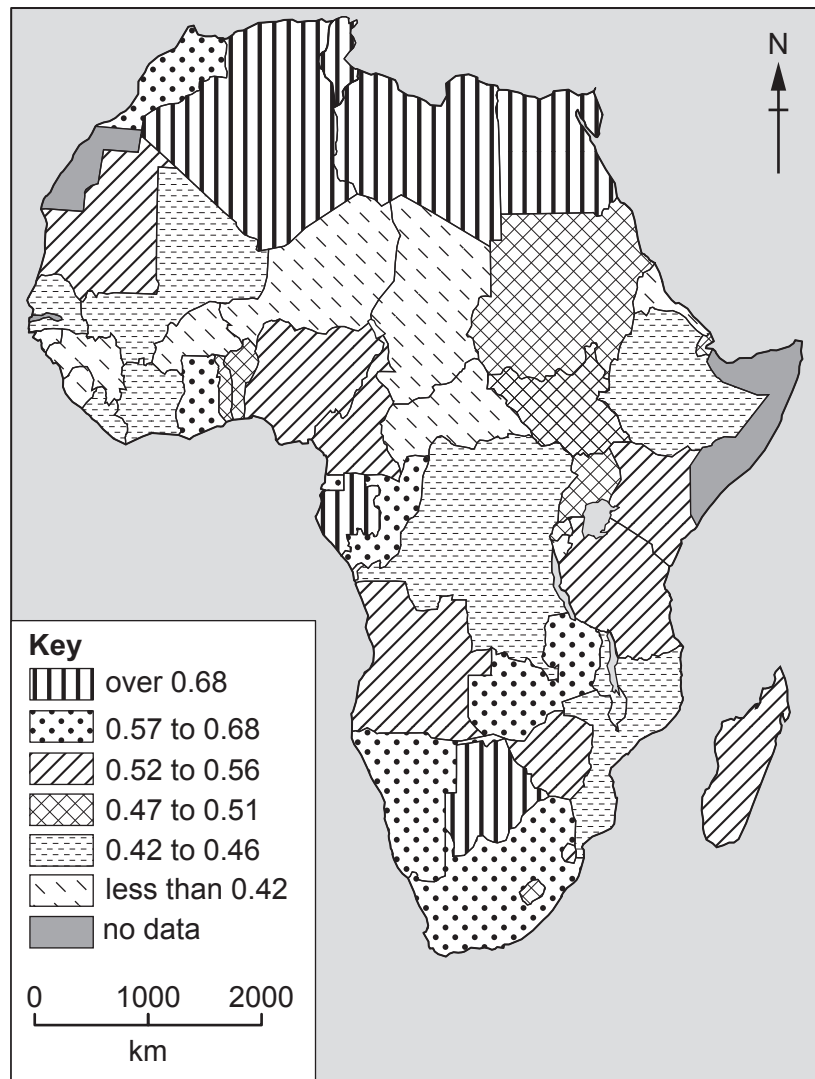
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..... [4]

- (b) Study Fig. 5.2, which shows the Human Development Index (HDI) in different countries in Africa.



**Fig. 5.2**

- (i) Using Fig. 5.2 **only**, compare the distribution of the countries with the highest (over 0.68) and lowest (less than 0.42) HDI within Africa.

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..... [3]

- (ii) Explain why there are inequalities in wealth between countries.

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- (c)** For a named transnational corporation (TNC) you have studied, explain why it operates in many countries.

Name of transnational corporation (TNC) .....

..... [7]

**TURN PAGE FOR QUESTION 6**

- 6 (a) Study Fig. 6.1, which shows a map of the Nujiang River in Yunnan Province, China, showing the location of four dams built to generate hydro-electric power (HEP).

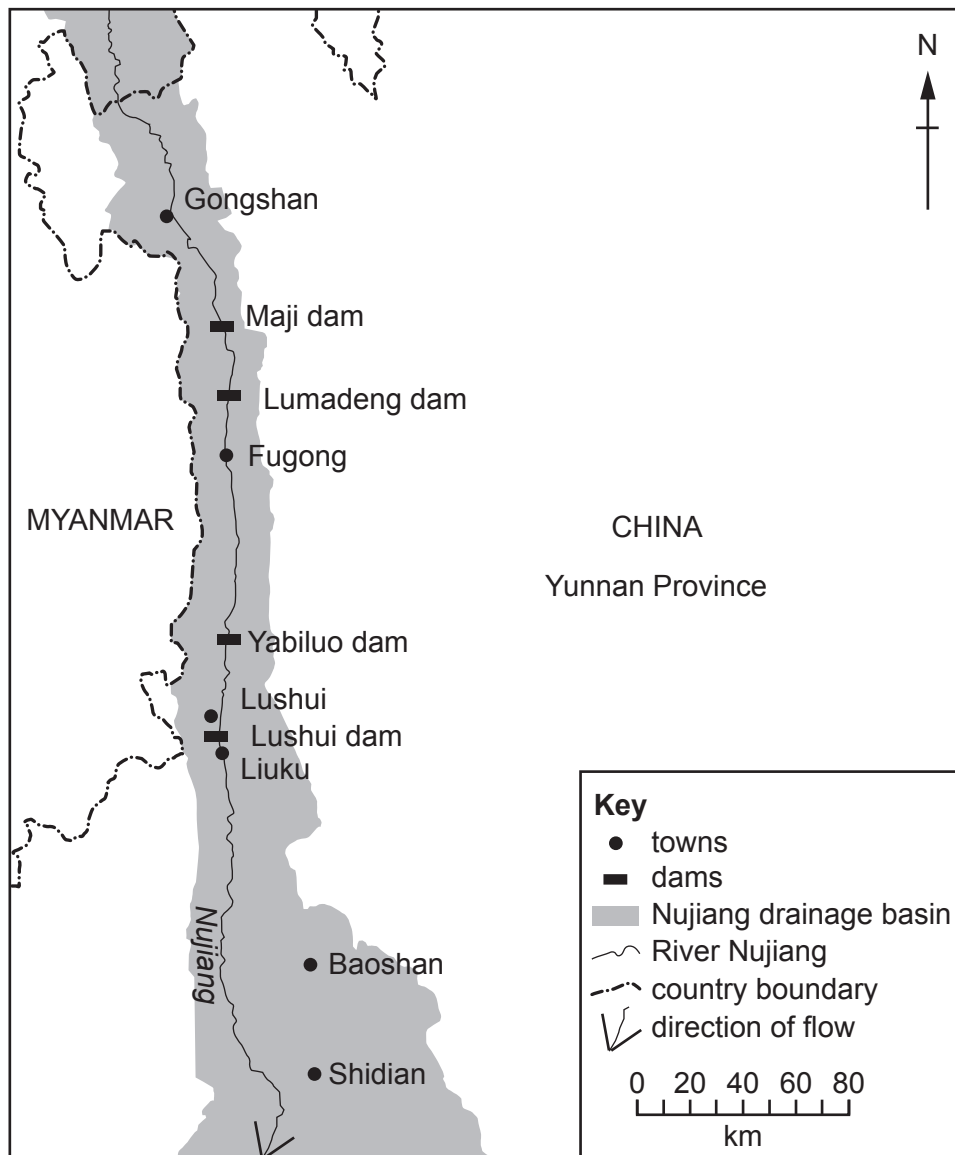


Fig. 6.1

- (i) Tick (✓) the **one** statement in the table below which describes how HEP is generated.

|                                                                    | Tick (✓) |
|--------------------------------------------------------------------|----------|
| Atoms of uranium are split to create electricity.                  |          |
| Coal is burnt to produce steam which is used in the power station. |          |
| Running water turns a turbine to generate power.                   |          |
| Strong winds blow turbines to produce electricity.                 |          |
| Turbines are turned when the tide goes in and out.                 |          |

[1]

(ii) Identify the following dams shown in Fig. 6.1:

– the dam which is nearest to the source of the river

.....

– the dam which is 100 km north-north west (NNW) of Baoshan.

.....

[2]

(iii) Give **three** different reasons why some countries generate a greater proportion of their energy from HEP than other countries.

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(iv) Explain why the proportion of energy generated from renewable sources is likely to increase in the future.

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..... [4]

- (b) Study Fig. 6.2, which shows information about the four dams on the Nujiang River which are labelled in Fig. 6.1.

| dam      | height of dam (metres) | area of reservoir (km <sup>2</sup> ) | annual value of electricity generated (billion RMB*) | total construction cost (billion RMB) | number of people made homeless |
|----------|------------------------|--------------------------------------|------------------------------------------------------|---------------------------------------|--------------------------------|
| Lumadeng | 165                    | 11                                   | 3.2                                                  | 9.1                                   | 6 092                          |
| Lushui   | 175                    | 19                                   | 4.0                                                  | 8.8                                   | 6 190                          |
| Maji     | 300                    | 66                                   | 5.9                                                  | 18.4                                  | 19 830                         |
| Yabiluo  | 133                    | 9                                    | 2.9                                                  | 6.0                                   | 3 982                          |

\*RMB is the currency of China.

**Fig. 6.2**

- (i) Using the information in Fig. 6.2 **only**, describe **three** differences between the Maji and Yabiluo dams.

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..... [3]

- (ii) Suggest why the building of dams to generate HEP along the Nujiang River may cause problems for people and the natural environment in the area.

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..... [5]

- (c)** For a named country or area you have studied, explain how clean water is supplied for domestic use.

Name of country or area.....

..... [7

[Total: 25]

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