

International General Certificate of Secondary Education
CAMBRIDGE INTERNATIONAL EXAMINATIONS

GEOGRAPHY
PAPER 2

0460/2

OCTOBER/NOVEMBER SESSION 2002

1 hour 45 minutes

Additional materials:
Answer paper
Ruler

TIME 1 hour 45 minutes

INSTRUCTIONS TO CANDIDATES

Write your name, Centre number and candidate number in the spaces provided on the answer paper/ answer booklet.

Answer any **three** questions.

Write your answers on the separate answer paper provided.

If you use more than one sheet of paper, fasten the sheets together.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets [] at the end of each question or part question.

Sketch-maps and diagrams should be drawn whenever they serve to illustrate an answer.

Insert 1 contains Fig. 6.

Insert 2 contains Photograph A.

This question paper consists of 14 printed pages, 2 blank pages and 2 inserts.



- 1 (a) Fig. 1 (opposite) provides information on the growth of the world's population and the United Nations forecast of the likely population growth until the total number of people is 8 billion.
- (i) Describe the changes in the growth rate of population in the world up to 1999, when the population reached 6 billion. [4]
 - (ii) Suggest reasons why the growth rate of the world's population may change in the future. [4]
- (b) (i) With reference to examples from Fig. 2 (opposite), describe what is shown on the map about expected population changes in
- A** the developing countries of the world,
 - B** the developed countries of the world. [4]
- (ii) Give reasons for the differences you have described in (b) (i) **A** and **B**. [8]
- (c) Italy, a developed country in Europe, has an ageing population. There are twice as many people aged 60 years and over than children aged below 10 years. What problems may this cause for the country? [5]

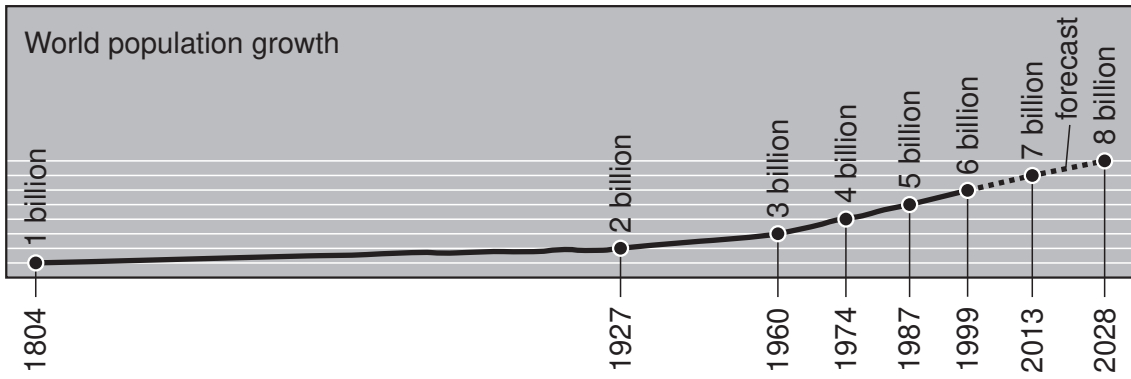


Fig. 1

Countries with populations over 100 million in 1998 and 2050 (forecast)

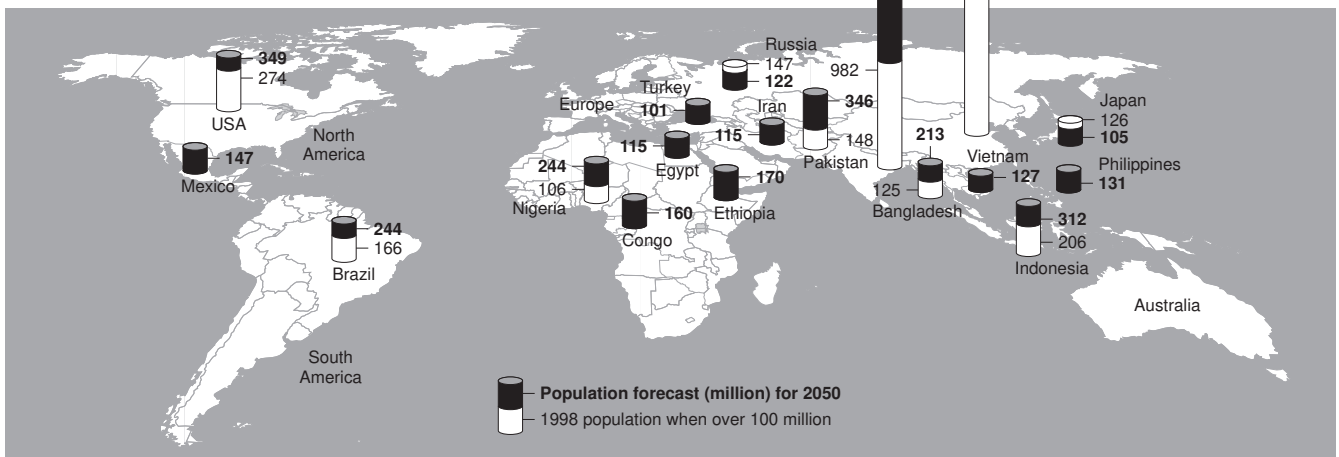


Fig. 2

2 (a) Maps X, Y and Z (Fig. 3) show three different settlements in rural areas.

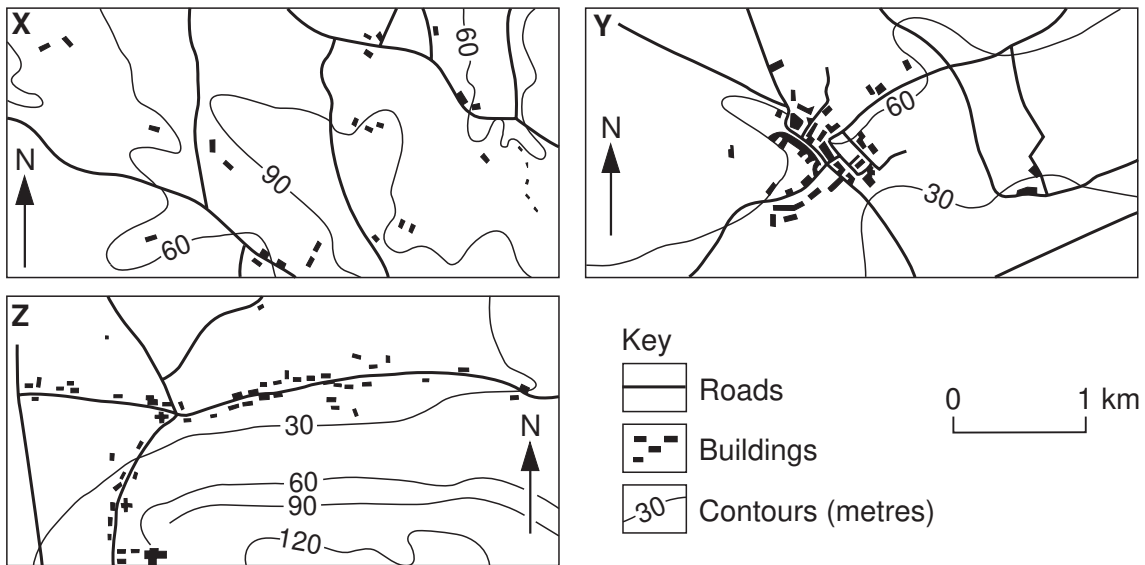


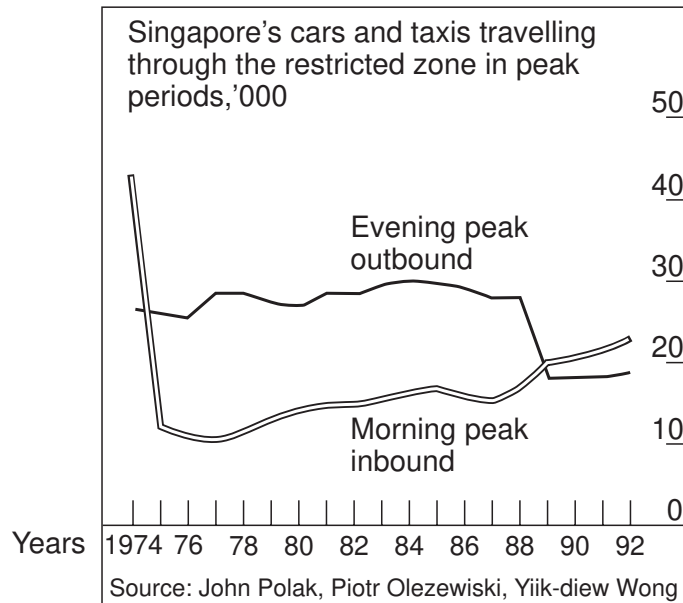
Fig. 3

- (i) Write down X, Y and Z as a list and name each settlement pattern. [3]
- (ii) Describe **each** settlement pattern. [6]
- (iii) With reference to Fig. 3 and to examples you have studied, explain why **each** of these rural settlement patterns may have developed. [6]

(b) Traffic congestion, especially at certain times of the day, occurs in most large towns and cities throughout the world.

(i) Fig. 4 shows the results of an attempt to reduce this problem in Singapore City in Asia.

The effect of charges on traffic flow in Singapore city



N.B. extra charges on cars and taxis travelling through the central restricted zone in the morning peak period were introduced in the 1970s. These were extended to evening peak traffic in 1989. The restricted zone is the central area of Singapore City.

Fig. 4

From the information provided, do you think that the attempt has been successful? Give reasons for your answer. [4]

(ii) Describe measures to reduce the problem of traffic congestion in towns and cities, *apart from the one referred to in (b) (i)*. You should refer to examples in your answer. [6]

- 3 (a)** Photograph A (Insert 2) and Fig. 5 (opposite) show a stretch of coastline.
- (i)** Use information from Photograph A and Fig.5 to describe the scale, orientation and appearance of the physical features shown in this coastal area. [6]
 - (ii)** Suggest how features **A**, **B** and **C** may have developed. [6]
- (b)** Now study Fig. 6 (Insert 1) which shows different speeds of the water as it flows around a river meander.
- (i)** Complete the line on Fig.6 which shows the river speed of 20 centimetres per second. [2]
 - (ii)** On Fig. 6, shade the part of the river where the flow is greater than 40 centimetres per second. [1]
 - (iii)** With the help of Fig. 6, explain the shape and features of a river meander. [5]
 - (iv)** Why do meanders sometimes develop into ox-bow lakes? [5]

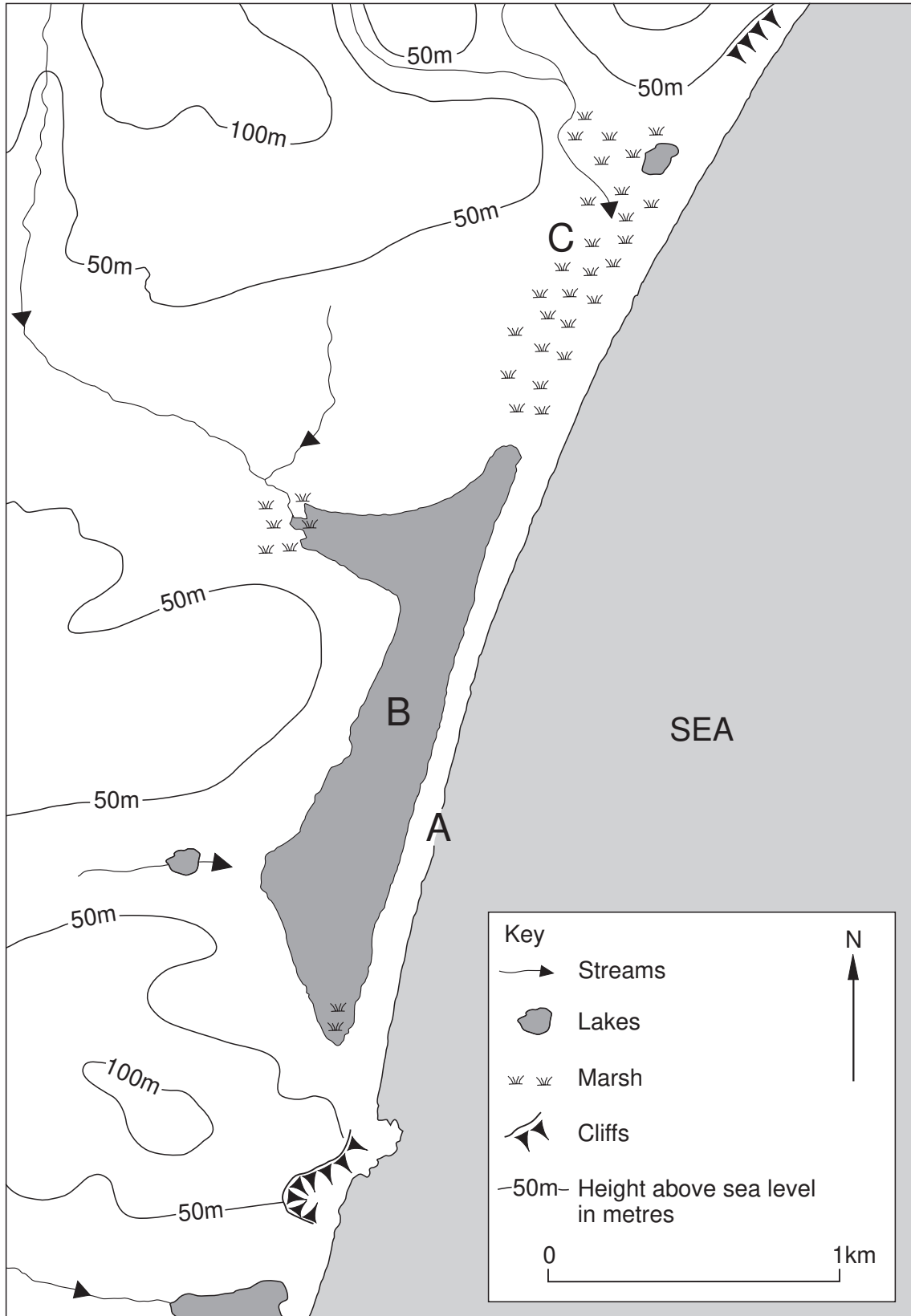


Fig. 5

- 4 Study Fig. 7 which shows the disasters (including natural hazards) which occurred in the world between 1971 and 1996.

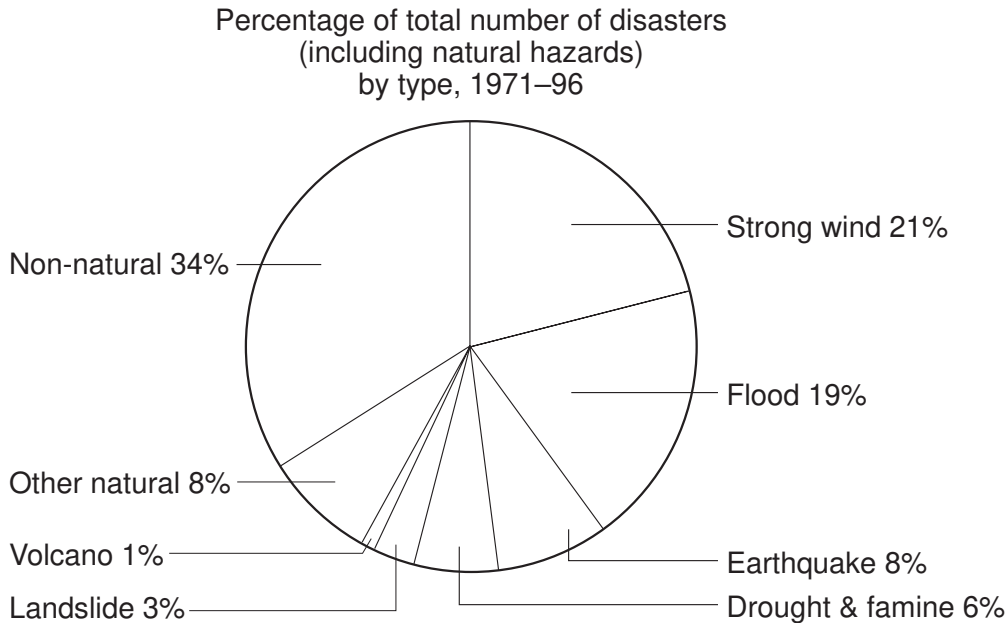


Fig. 7

- (a) (i) Suggest reasons why strong winds (including tropical storms) and flooding occurred more frequently than the other natural hazards named in Fig. 7. [4]
- (ii) State one natural hazard, not named on Fig. 7 which could be included in 'other natural hazards'. [1]
- (b) (i) Use the information given in Fig. 8 to describe the main features and development of a tropical storm. [4]

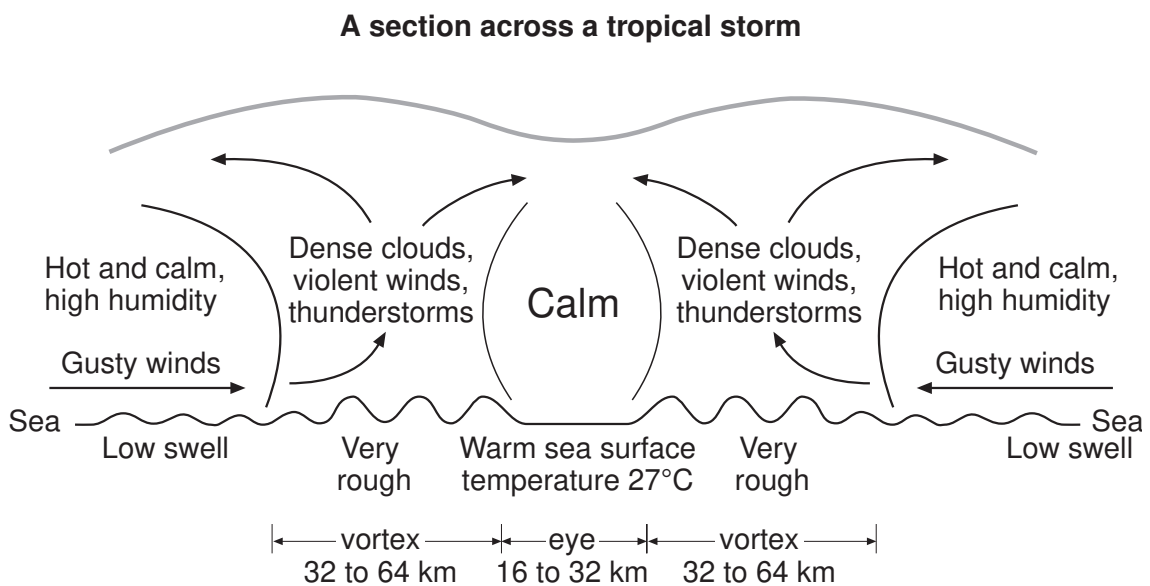


Fig. 8

- (ii) Fig. 9 provides information on the devastating river floods which affected large parts of Mozambique in southern Africa during February 2000.



Fig. 9

Give reasons why serious river flooding, such as that seen in Mozambique, occurs from time to time in various parts of the world. [5]

- (c) What measures might be taken to prevent or reduce the effects of **either** tropical storms **or** river flooding? [6]
- (d) Why are tropical storms and river flooding on the scale seen in Mozambique both difficult to prepare for and so serious for the people living in the area concerned? [5]

- 5 (a) (i) Fig. 10 gives information about oil production and use in certain regions of the world.

Region I North America,
South America, Europe

USED

51

PRODUCED

45

DEFICIT

6

Region II The Middle East

USED

4

PRODUCED

22

SURPLUS

18

Region III Asia
(excluding the
Middle East)

USED

21

PRODUCED

8

DEFICIT

13

Key Figures in million barrels per day

Fig. 10

Use this information and other facts you may know to explain why oil is the major commodity in world trade. [6]

- (ii) Why is oil still the major energy source used in the world in spite of the increasing competition from other forms of energy? [6]

- (b) On the same day (July 19th 2000), two reports appeared in a British newspaper relating to energy production in France and Brazil. Details are given in Fig. 11 (opposite).

- (i) Why is there international concern over protecting the environment from problems such as those illustrated by Fig. 11? [6]

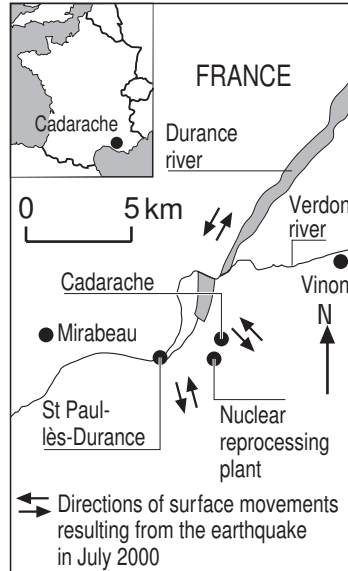
- (ii) Why is it necessary to increase the production of energy?
Explain how you think it might be possible to increase energy production while at the same time protecting the environment. [7]

Earthquake fear for nuclear plant

David Hearst in Paris

The French nuclear safety inspectorate has demanded the closure of a nuclear reprocessing plant in the south of the country because it is built on an earthquake zone which seismologists fear could soon become active.

The last big earthquake in the area was in 1913, but there could be a major earthquake once every hundred years



Brazil battles to hold back oil spill

Alex Bellos in Rio de Janeiro

Workers in southern Brazil were placing barriers across the Iguacu river and digging runoff channels to stop the country's worst river oil spill from reaching cities and the scenic Iguacu falls. About 4 million litres of crude oil spilled from a burst oil refinery pipe into a tributary of the Iguacu endangering drinking water, farm land and animal life.

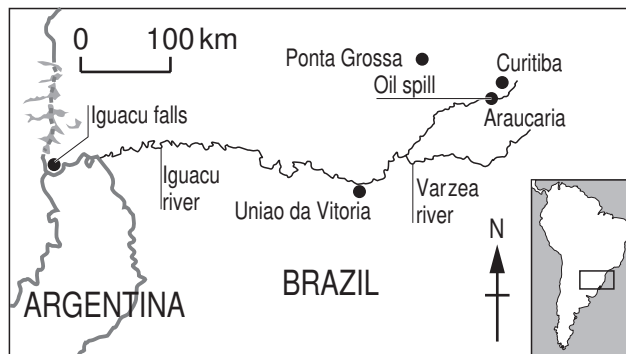
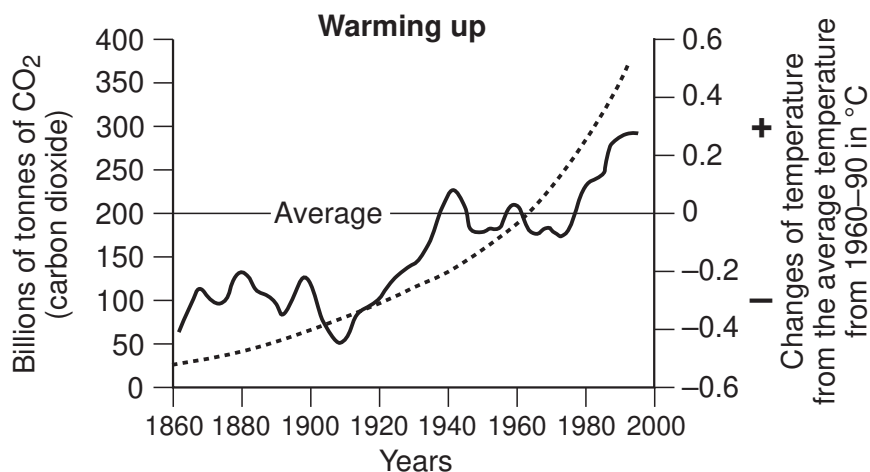


Fig. 11

6 Global warming is one of the most serious problems facing the world both now and in the future.

- (a) (i) What do you understand by the term ‘global warming’? [2]
- (ii) With the help of Fig. 12A, describe the increase in the problem of global warming over the time shown. [3]
- (iii) What does Fig. 12B suggest about the main cause and areas contributing to global warming? [5]



Key
 Buildup of CO₂ in the atmosphere (billions of tonnes) — World temperature changes from the 1960–90 average (°C)

Fig. 12A

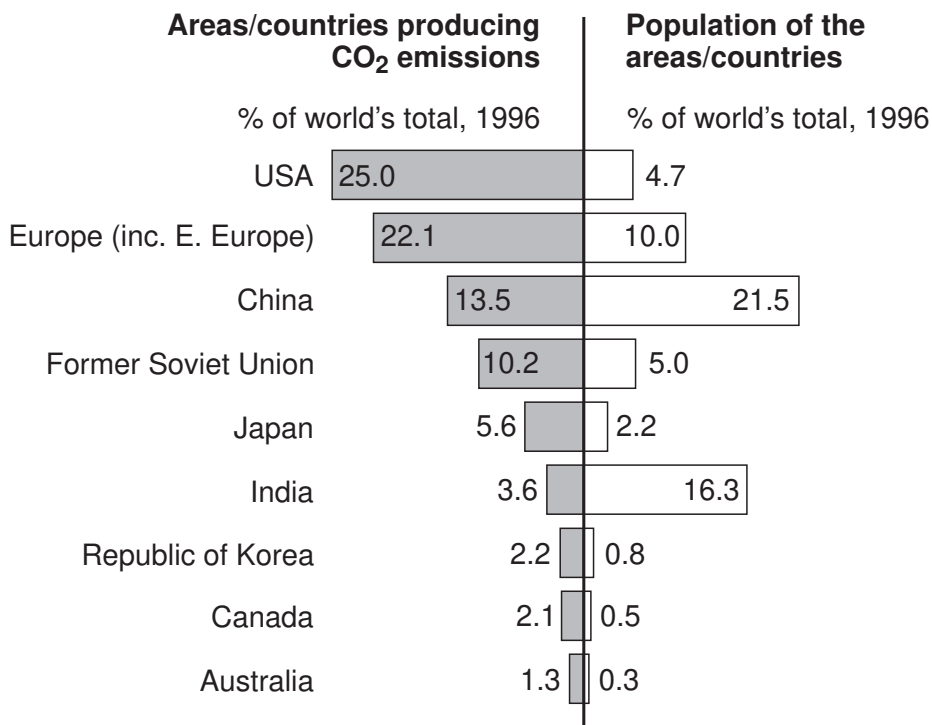
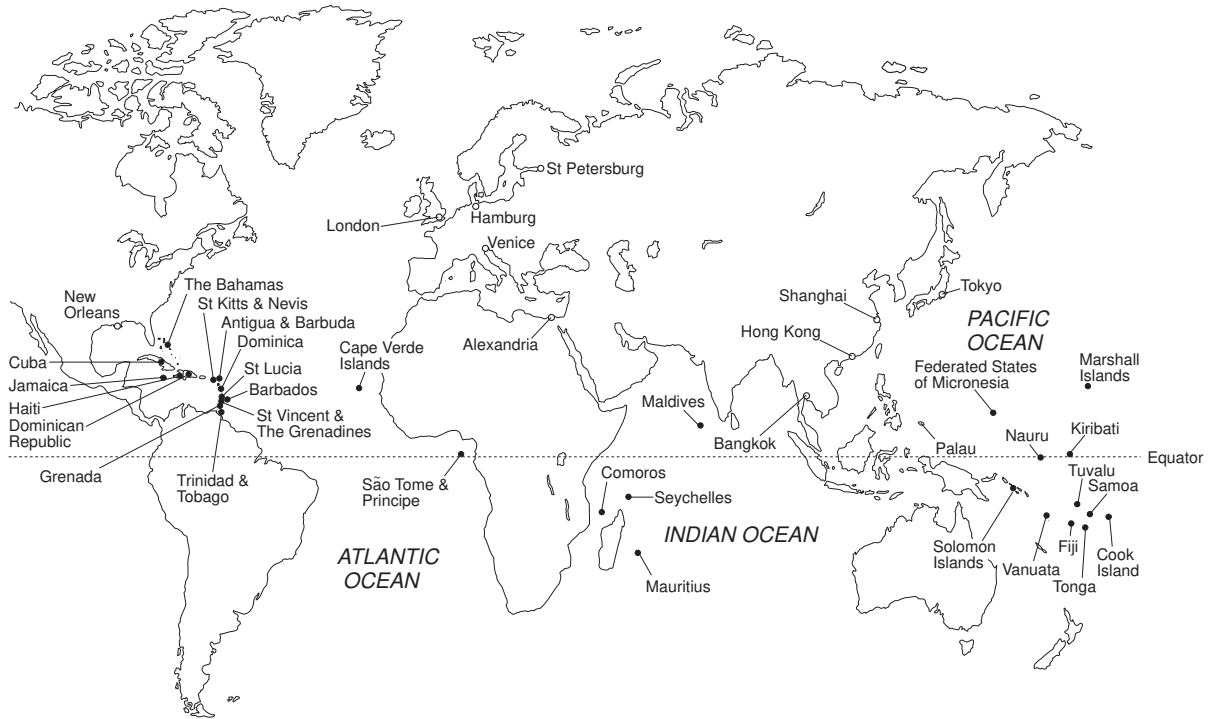


Fig. 12B

(b) Some of the major effects of global warming are given in Fig. 13.

- (i) Why are the problems illustrated so serious? [4]
- (ii) What can be done to reduce the problem of global warming? [5]
- (iii) Explain why measures proposed to reduce global warming are difficult to achieve. [6]

How global warming threatens some major world cities and island nations



Key

- Members of the Alliance of Small Island States in danger of flooding from a rise in sea level
- Cities in danger of flooding from a rise in sea level

Stages in the flooding of Island States as a result of a rise in sea level

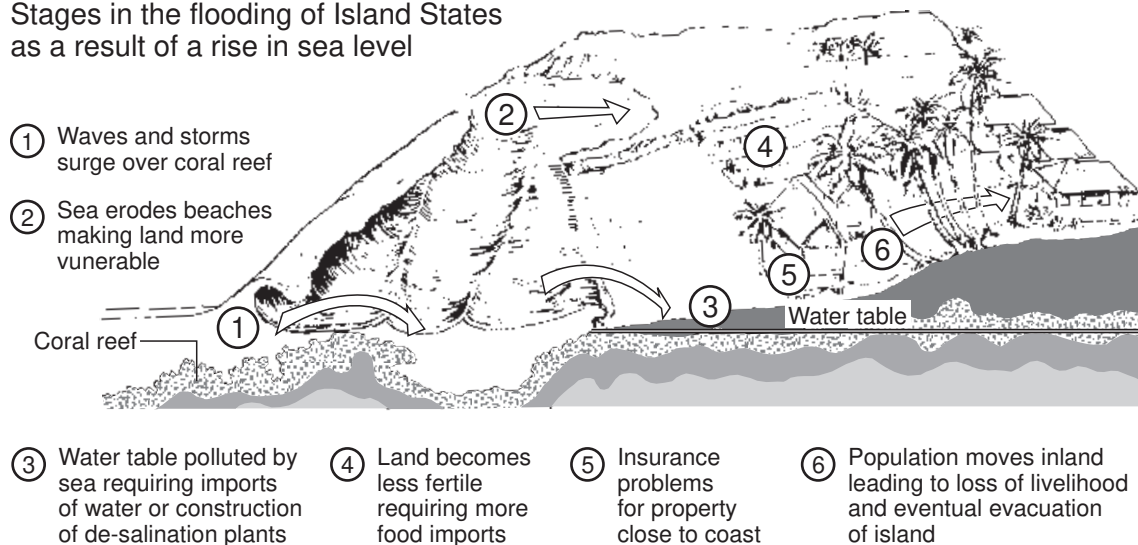


Fig. 13

Copyright Acknowledgements:

- Question 1 World and Country Population Charts, published by The Telegraph Group.
Question 2 '© The Economist Newspaper Limited, London. 5 September 1998'
Question 4a '© The Economist Newspaper Limited, London. 6 September 1997'
Question 4b Fig. 8 Chart by R Bunnett. Physical Geography. Longman Group UK Limited 1973, 1988, reprinted by permission of Pearson Education Limited.
Question 5a Three Regional Charts of America. Published by The Observer, 3rd September 2000.
Question 5c Earthquake fear for Nuclear Plant by David Hearst. Published by The Guardian, 19th July 2000.
Question 6 Charts of Global Warming and CO² emissions. Published by The Guardian, 10th October 1997.

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