

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
General Certificate of Education
Advanced Subsidiary Level and Advanced Level

GEOGRAPHY

9696/02, 9696/03

Papers 2 and 3

May/June 2005

3 hours

Additional Materials: Answer Booklet/Paper

READ THESE INSTRUCTIONS FIRST

If you have been given an Answer Booklet, follow the instructions on the front cover of the Booklet. Write your Centre number, candidate number and name on all the work you hand in. Write in dark blue or black pen on both sides of the paper. You may use a soft pencil for any diagrams, graphs or rough working. Do not use staples, paper clips, highlighters, glue or correction fluid.

Each paper must be answered on separate answer papers/answer booklets.

Answer **two** questions from Paper 2, Advanced Physical Geography Options. Each question answered must be from a different topic.

Answer **two** questions from Paper 3, Advanced Human Geography Options. Each question answered must be from a different topic.

At the end of the examination hand in your answers to Paper 2 and Paper 3 separately.

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

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.

You should make reference to appropriate examples studied in the field or the classroom, even where such examples are not specifically requested by the question.

You are advised to spend no more than 1 hour 30 minutes on each paper.

All the Figures referred to in the questions are contained in the insert.

9696/02

PAPER 2: ADVANCED PHYSICAL GEOGRAPHY OPTIONS

Answer **two** questions, each from a different topic.

Start a new answer paper/answer booklet for answering questions from Paper 2.

Hand in the answer papers/answer booklets for Paper 2 separately from those for Paper 3.

You are advised to spend no more than 1 hour 30 minutes on this paper.

Tropical environments

Only **one** question may be answered from this topic.

- 1 (a) Describe and explain **the main characteristics** of the climates experienced in the humid tropics, the seasonally humid tropics and the monsoonal tropics. [10]
- (b) To what extent have human activities affected the natural processes operating in **one** tropical ecosystem? [15]
- 2 (a) Figs 1A and 1B show the relationships between soil fertility, the cycle of slash and burn (shifting) cultivation and population density in the tropical rainforest.
- Explain why an increase in the frequency of clearance results in a loss of soil fertility. What impact is this likely to have upon vegetation? [10]
- (b) Using examples, describe the weathering processes that are found in the humid tropics. Explain how these have influenced the development of landforms. [15]

Coastal environments

Only **one** question may be answered from this topic.

- 3 (a) How do waves influence the shape of beaches? [10]
- (b) (i) Explain the operation of the marine processes of hydraulic action, wave quarrying and abrasion (corrasion). [15]
- (ii) Briefly describe the factors, other than marine erosion, that can affect the shape of rocky coastlines.
- 4 (a) Fig. 2 shows a theory of the development of a coral atoll. Describe the coral reefs shown in the diagrams and give an explanation of the theory shown. [10]
- (b) Using examples, describe the threats that may affect coastlines and evaluate the actions that are being taken to protect coasts from them. [15]

Hazardous environments

Only **one** question may be answered from this topic.

- 5 (a) Explain the methods used in attempts to predict the occurrence of **one** type of natural hazard. [10]
- (b) Using examples, explain the hazards that may result from tropical storms and tornadoes. [15]
- 6 (a) Why are many of the world's volcanoes located in well defined belts? [10]
- (b) Fig. 3 shows material erupted from a volcano. Describe the nature of the erupted materials and explain how they may be hazardous. [15]

Arid environments

Only **one** question may be answered from this topic.

- 7 (a) Describe the types of dune found in hot sandy deserts (erg) and explain their formation. [10]
- (b) Describe the rock landforms that characterise hot deserts. How far can their formation be explained by processes that are operating today? [15]
- 8 (a) Fig. 4 shows the global distribution of major world deserts and some associated climatic influences. Explain the location of these deserts in terms of the climatic influences shown in Fig. 4. [10]
- (b) What is the effect of aridity on the development of soils and vegetation in hot arid and semi-arid environments? How have human activities been affected by soils, vegetation and aridity in these environments? [15]

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PAPER 3: ADVANCED HUMAN GEOGRAPHY OPTIONS

Answer **two** questions, each from a different topic.

Start a new answer paper/answer booklet for answering the questions from Paper 3.

Hand in the answer papers/answer booklets for Paper 3 separately from those for Paper 2.

You are advised not to spend more than 1 hour 30 minutes on this paper.

Production, location and change

Only **one** question may be answered from this topic.

- 9 (a)** Table 1 gives the results from three surveys to find out why peasant farmers did not want to move to newly irrigated land in a desert area of Rajasthan, India. Fig. 5 shows the location of the state of Rajasthan.
- (i) Using Table 1, identify,
- A two** physical factors,
- B two** economic factors,
- that farmers gave as reasons for not wanting to move. [2]
- (ii) How important was distance to the farmers questioned? [3]
- (iii) What other information would you require for a fuller understanding of irrigation in this area of Rajasthan? [5]
- (b)** To what extent is debt a major obstacle to increasing food production in one or more countries you have studied? [15]
- 10 (a)** Fig. 6 shows how costs and revenue (income) may vary across space for a manufacturing or service company. Using the figure,
- (i) identify what the shaded areas represent, [2]
- (ii) compare how costs and revenue vary across space, [3]
- (iii) suggest reasons for the existence of the low cost production zone (X). [5]
- (b)** Using examples, assess the potential advantages and disadvantages of industrial agglomeration for companies considering a change of location. [15]

Environmental management

Only **one** question may be answered from this topic.

- 11 (a) Fig. 7A shows wind resource potential measured in 1995 in Mexico, a LEDC in Central America. The location of Mexico is shown in Fig. 7B.
- Suggest reasons why countries like Mexico, with excellent potential for developing wind as an energy resource, may not have yet done so. [10]
- (b) Using examples, assess the environmental impacts at the **local** scale of the continued production and use of fossil fuels. [15]
- 12 (a) Table 2 gives information by state about deforestation and logging in the 1990s for the Amazonian rainforest of Brazil, a LEDC in South America. Fig. 8A shows the location of the states and Fig. 8B shows the location of Brazil.
- (i) Given the meaning of the term *deforestation*. [2]
- (ii) Supporting your answer with data from Table 2, identify the state which was the most affected by deforestation and logging and the state which was the least affected by these activities in the period shown. [3]
- (iii) Suggest reasons for the variation in the number of logging centres in the different states. [5]
- (b) Choose **one** degraded environment which you have studied. Explain the attitudes of different groups of people **either** during its degradation **or** during attempts to improve it and analyse the conflicts of interest which occurred. [15]

Global interdependence

Only **one** question may be answered from this topic.

- 13 (a) (i) Give the meaning of the term *locational advantage*. [2]
- (ii) Using examples, explain the operation of locational advantage in international trade. [8]
- (b) To what extent is international trade a more secure basis for a country's economic development than international tourism? Support your answer with examples. [15]
- 14 (a) What social and economic factors help to explain the demand for new types of tourism (such as eco-tourism and adventure, wilderness or sports tourism)? [10]
- (b) Fig. 9 lists ten principles for sustainable tourism.
- Using some of the principles in Fig. 9, assess the extent to which tourism in **one** destination you have studied can be considered sustainable. [15]

Economic transition

Only **one** question may be answered from this topic.

- 15 (a)** In 2003, the Dr. Martens company moved production of its boots from the UK where a worker was paid \$490 a week, to China where the weekly wage was \$25.

What other advantages may a location in **LEDCs** offer to manufacturers, apart from low labour costs? [10]

- (b)** Assess the importance of **MEDC** location in the global organisation and operation of **one** transnational corporation (TNC) you have studied. [15]

- 16 (a)** Fig. 10 shows the downward spiral (vicious circle) which may occur in a peripheral region from which there is outmigration of labour.

Using examples, explain the upward spiral (virtuous circle) which, by contrast, a core region may experience from the inward migration of labour. [10]

- (b)** Under what circumstances may capital, resources and labour move **from** the core **to** the periphery? Support your answer with examples. [15]

Copyright Acknowledgements:

- Question 9 Table 1; 'Reasons for Farmers not settling in Rajasthan Canal area'; © Rakesh Hooja, 'Command Area Development and Motivating Settlers' in *Desert, Drought & Development: Studies in Resource Management and Sustainability*, edited by Rakesh Hooja and Rajendra Joshi.
- Question 11 Fig. 7A; Reprinted with permission from Mukund R. Patel; *Renewable Power Systems*; CRC Press; 1998. © Copyright CRC Press, Boca Raton, Florida.
- Question 12 Table 2 (adapted from Nepstad *et al.*, 1999), Fig. 8A, Fig. 8B © A. M. Mannion (2002) *Dynamic World, Land-cover and Land-use Change*, Arnold.
- Question 14 Fig. 9; '10 Principles for Sustaining Tourism'; *The Encyclopedia of Ecotourism*; © Copyright Roehampton University.
- Question 16 Fig. 10; © Copyright Oxford University Press, from *Human Geography: Theories and their Application, Book 5, Science in Geography* by M G Bradford and W A Kent (OUP, 1977), reprinted by permission of Oxford University Press.

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GEOGRAPHY

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INSERT

3 hours

READ THESE INSTRUCTIONS FIRST

This insert contains all the Figures referred to in the questions.

Figs 1A and 1B for Question 2

The Tropics

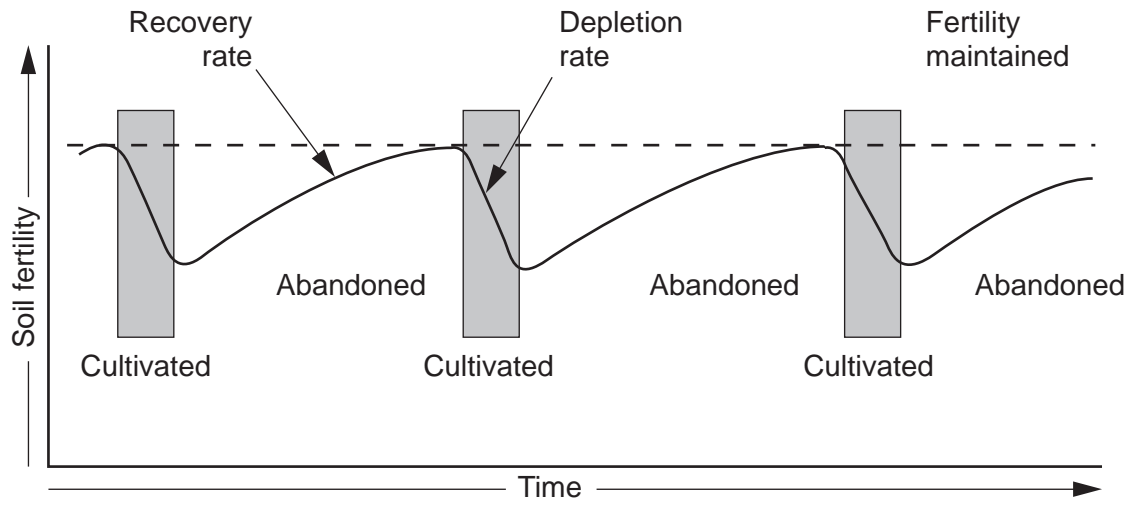


Fig. 1A: Cycles of slash and burn cultivation under low density populations

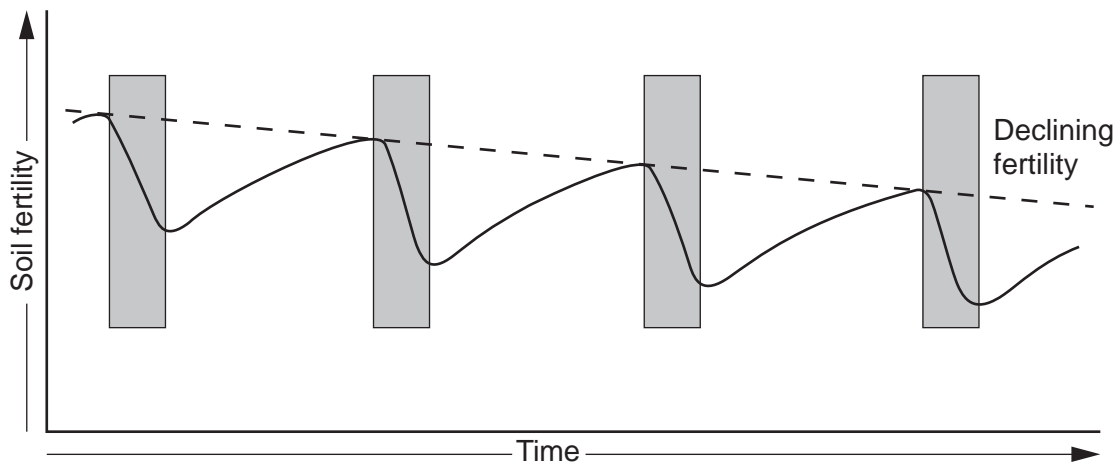


Fig. 1B: Cycles of slash and burn cultivation under increasing population densities

Fig. 2 for Question 4

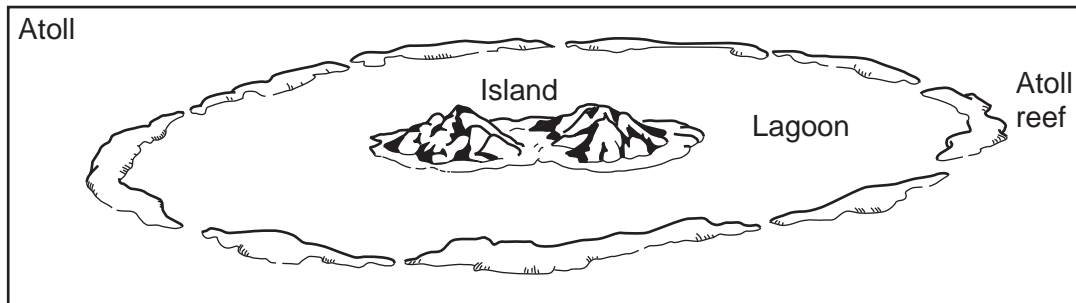
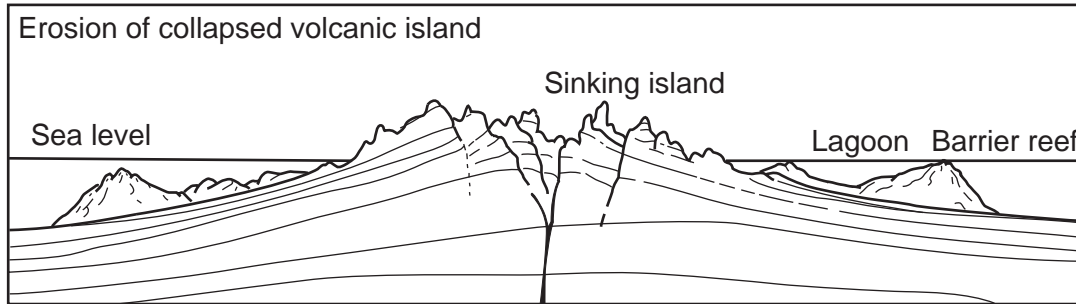
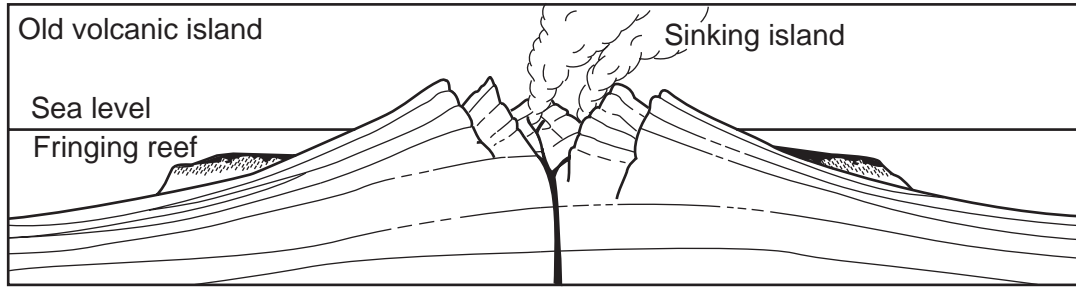
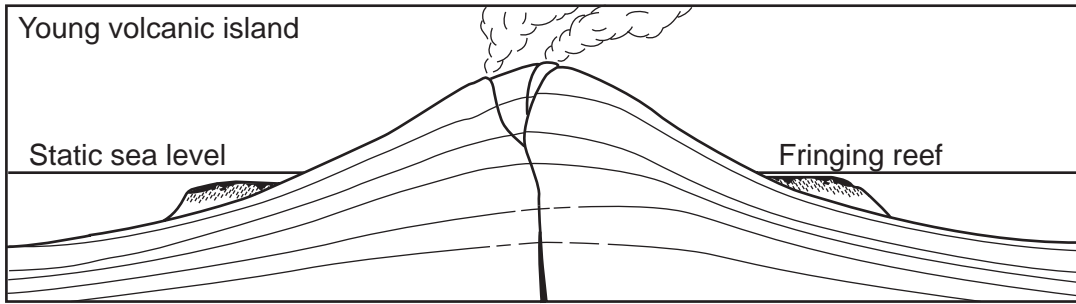


Fig. 3 for Question 6

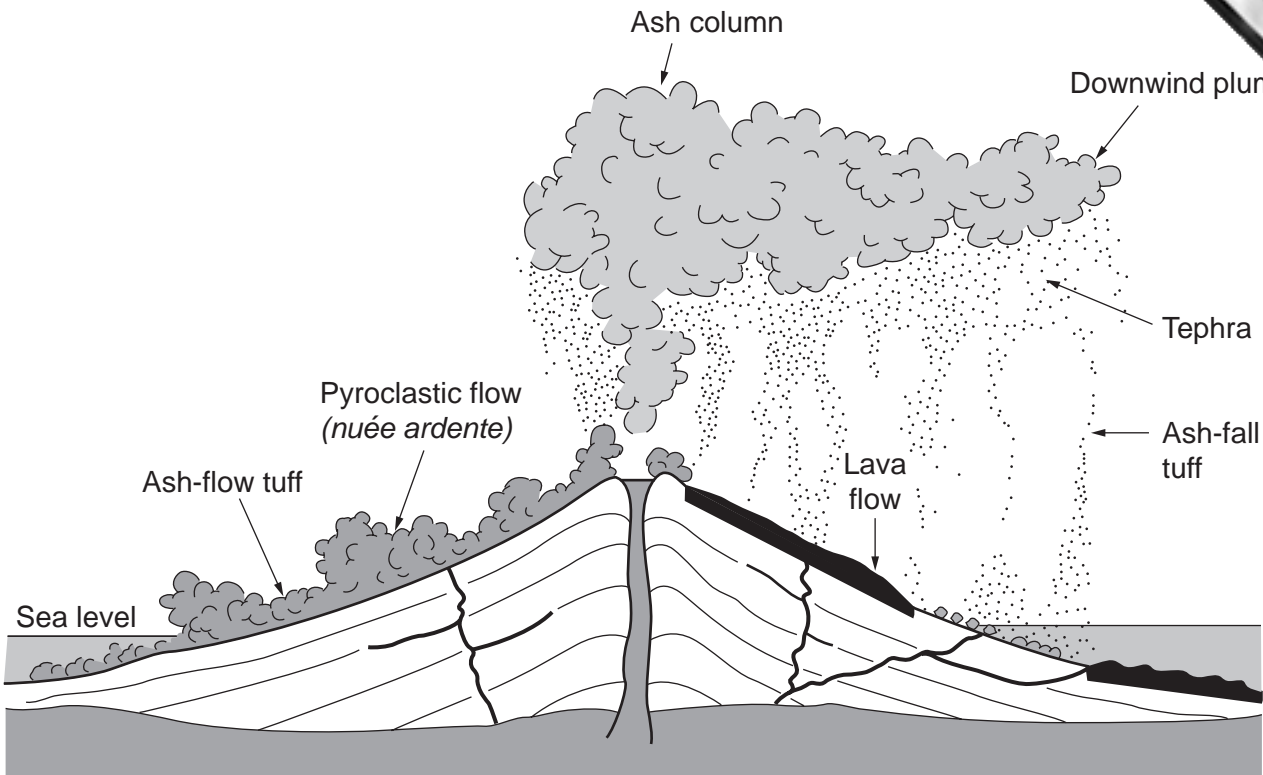


Fig. 4 for Question 8

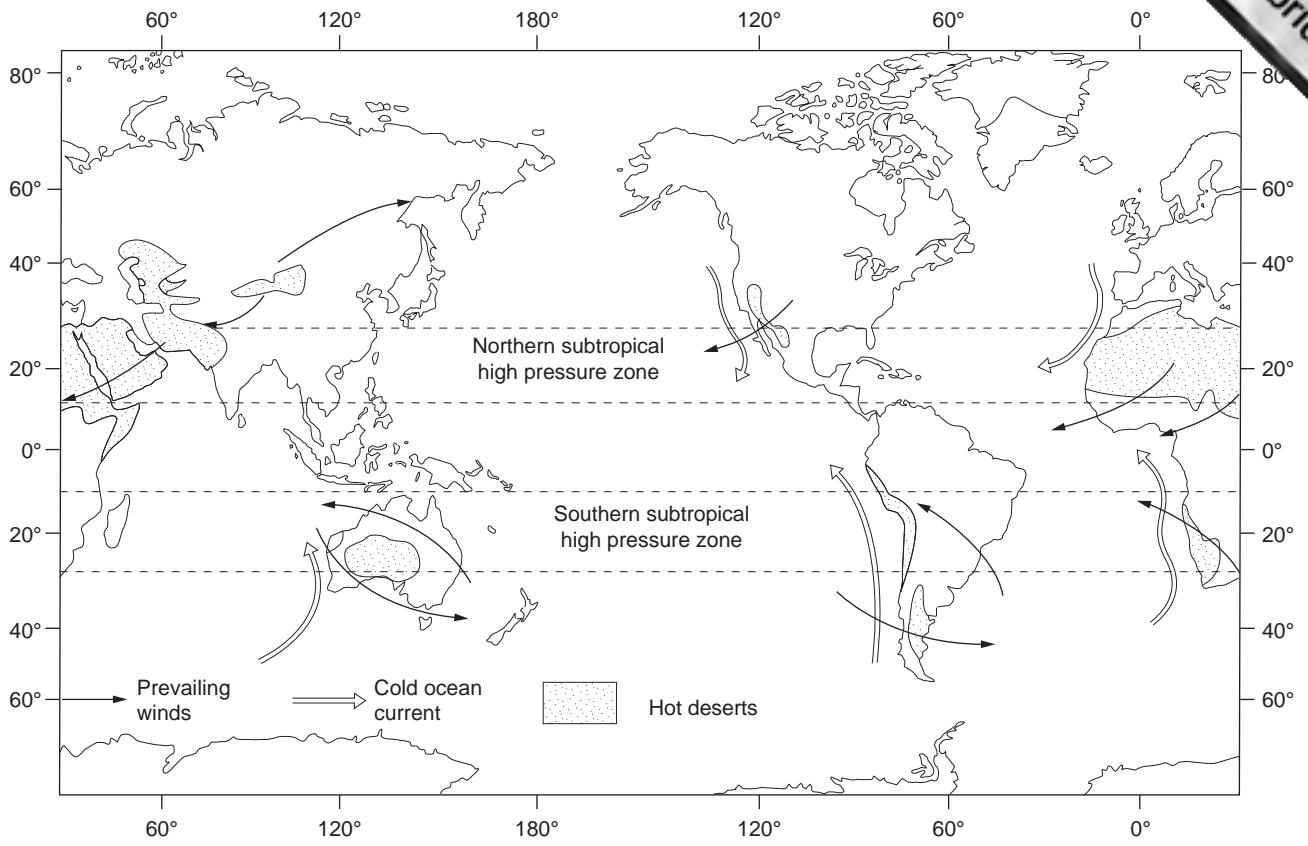


Table 1 for Question 9

Reasons why peasant farmers did not want to move to newly irrigated land in a desert area of Rajasthan, India

<i>reason</i>	<i>survey X</i>	<i>survey Y</i>	<i>survey Z</i>
1 Uncertainty of receiving water	Yes		Yes
2 Less availability of water	Yes		Yes
3 Sand blocking canal or ditch			Yes
4 Allotted land fragmented into many plots	Yes		Yes
5 Lack of loan facilities	Yes	Yes	Yes
6 Problems obtaining seeds and fertilisers		Yes	Yes
7 Lack of tractor to hire	Yes	Yes	Yes
8 Lack of labourers to hire			Yes
9 Problems of drinking water	Yes	Yes	Yes
10 Allotted land too small for worthwhile cultivation	Yes	Yes	Yes
11 Low productivity of land	Yes		Yes
12 Settlers from same village allocated land far apart	Yes	Yes	
13 Distance of land from water body	Yes		
14 Distance of land from road	No		
15 Distance of land from house	No		
16 Distance of land from daily market			Yes
17 Distance of land from school		Yes	Yes
18 Lack of medical facilities		Yes	Yes
19 Difficulty in selling produce		Yes	Yes
20 Lack of co-ordination between Government departments	Yes		

key

- X Indian Institute of Management Study
 Y World Food Programme Mission Report
 Z National Council of Applied Economic Research Study, Delhi

Fig. 5 for Question 9

The location of the state of Rajasthan



Fig. 6 for Question 10

Diagram to show how costs and revenue may vary across space for a manufacturing service company

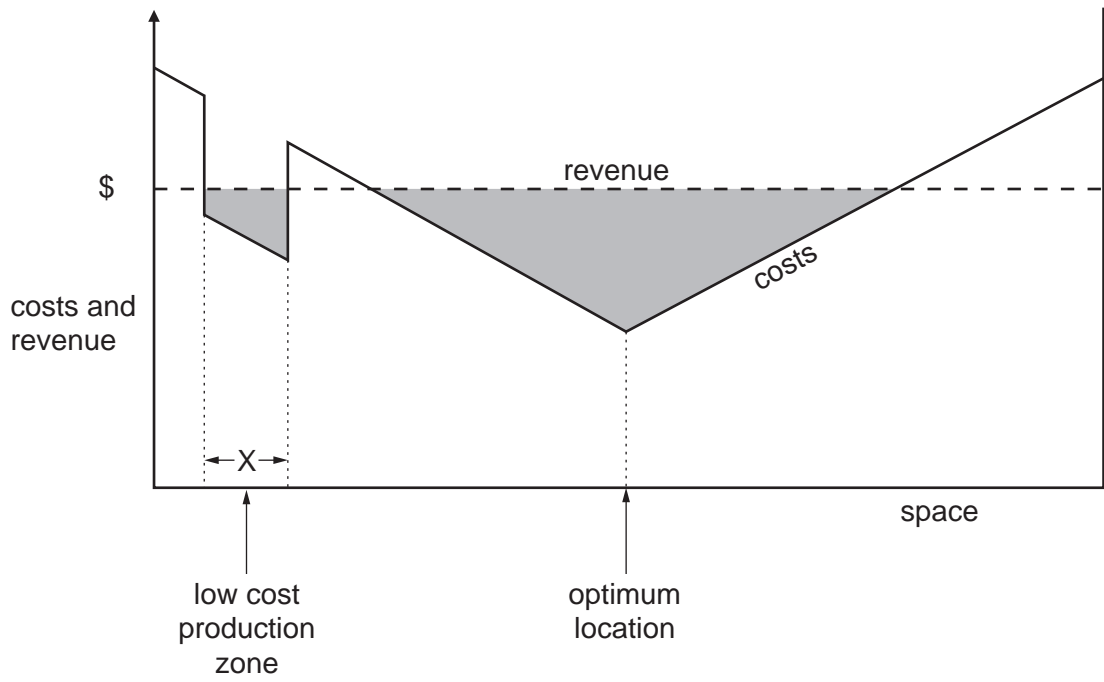


Fig. 7A for Question 11

Wind resource potential in Mexico, 1995

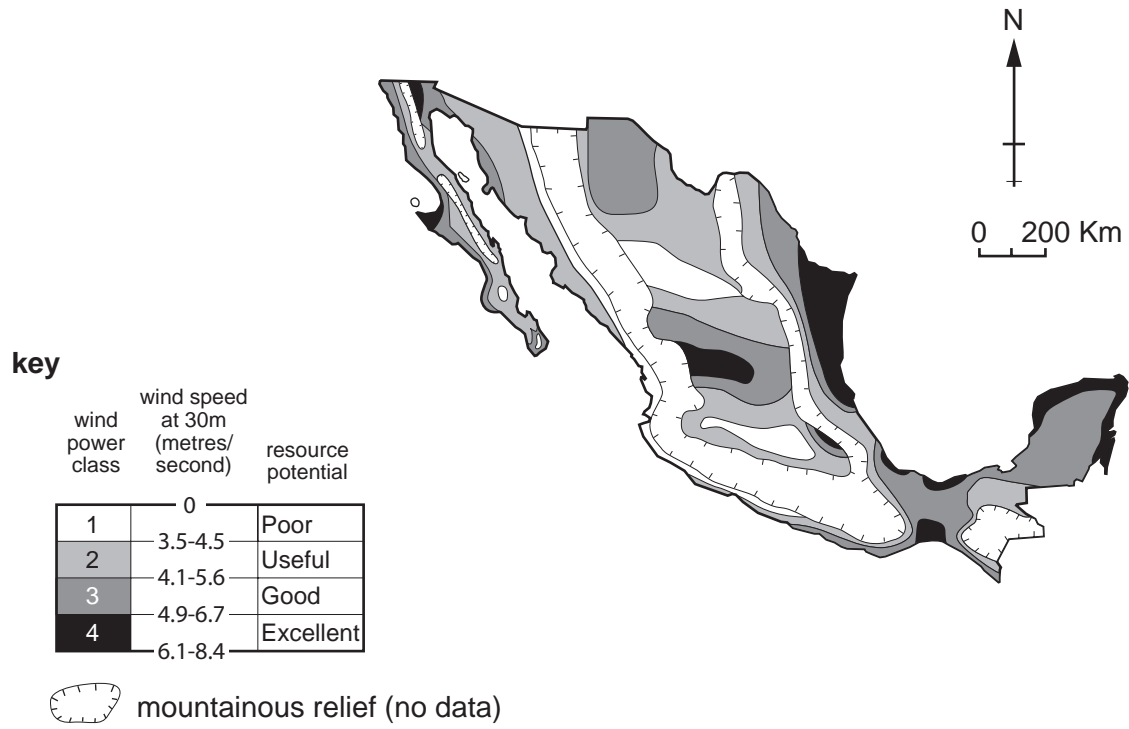


Fig. 7B for Question 11

The location of Mexico



Table 2 and Figs 8A and 8B for Question 12

Deforestation and logging in the Amazonian rainforest of Brazil in the 1990s

state	original forest area (km ²)	number of logging centres	forest area affected (km ² year)			
			deforestation		logging	
			1993–5	1996	1996	1997
Acre	152,394	1	720	430	120	210
Amapá	137,444	2	0	0	80	140
Amazonas	1,531,122	3	950	1,020	290	500
Maranhão	145,766	2	830	1,060	160	120
Mato Grosso	527,570	22	7,610	6,540	4,080	7,000
Pará	1,183,571	24	5,470	6,130	3,560	4,910
Rondônia	212,214	19	3,310	2,430	1,320	1,920
Roraima	172,425	1	230	210	80	140
Tocantins	30,325	1	490	320	40	70
total	4,092,831	75	19,610	18,140	9,730	15,090

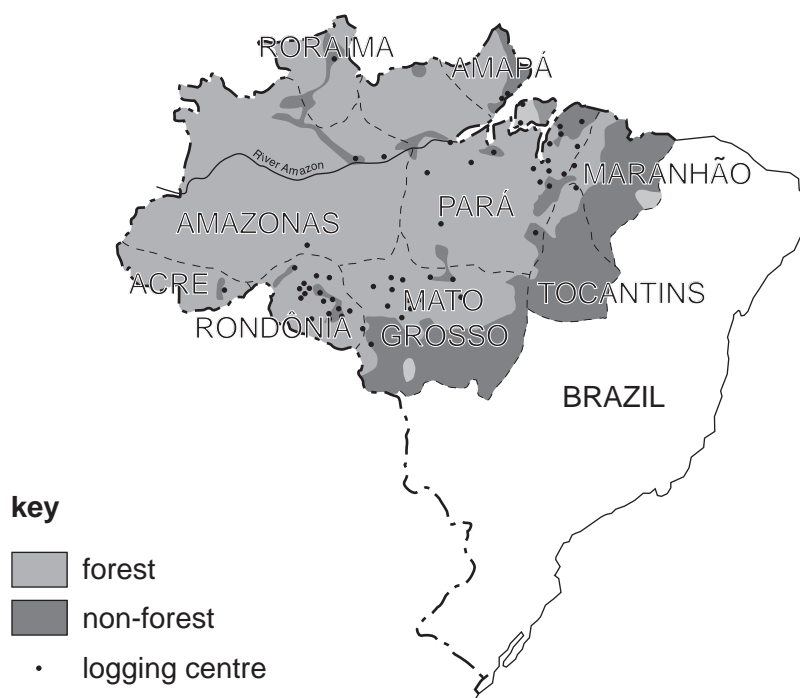


Fig. 9 for Question 14**Principles for sustainable tourism**

- 1 Using resources sustainably
- 2 Reducing over-consumption and waste
- 3 Maintaining biodiversity
- 4 Involving local communities
- 5 Supporting local economies
- 6 Avoiding conflicts of interest
- 7 Training staff
- 8 Marketing tourism responsibly
- 9 Making sure planning includes tourism
- 10 Undertaking research

Developed by Tourism Concern and the Worldwide Fund for Nature, 1991 (adapted).

Fig. 10 for Question 16

Downward spiral in a peripheral region resulting from labour outmigration