Cambridge International AS Level

Cambridge International Examinations
Cambridge International Advanced Subsidiary Level

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CANDIDATE NUMBER | | | | |

0274049683

ENVIRONMENTAL MANAGEMENT **8291/21**

Paper 2 Hydrosphere and Biosphere **May/June 2014**

1 hour 30 minutes

Additional Materials: Answer Booklet/Paper

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY BARCODES.

Electronic calculators may be used.
You may lose marks if you do not show your working or if you do not use appropriate units.

Section A
Answer **all** questions.
Write your answers in the spaces provided on the question paper.

Section B
Answer **one** question from this section.
Answer the question on the separate answer paper provided.

At the end of the examination,
1. fasten all separate answer paper securely to the question paper;
2. enter the question number from Section B in the grid opposite.

	For Examiner's Use
Section A	
1	
2	
Section B	
Total	

This document consists of **11** printed pages and **1** blank page.

CAMBRIDGE International Examinations

Section A

Answer **all** questions in this section.

Write your answers in the spaces provided.

1 **(a)** Fig. 1.1 shows the former area of coastal forest in East Africa. Coastal forest is now limited to a few small areas, of which the Arabuko-Sokoke Forest is the largest remnant. The golden rumped elephant shrew, in Fig. 1.2, is only found in these remaining coastal forests.

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Fig. 1.2

Fig. 1.1

(i) Suggest **two** abiotic factors that have confined the coastal forest to the narrow band shown in Fig. 1.1.

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.....[2]

(ii) State **two** biotic factors that may have limited the golden rumped elepha[illegible] the remaining small areas of coastal forest, such as the Arabuko-Sokoke For[illegible] in Fig. 1.1.

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.....[2]

(iii) Describe **two** human activities that could have led to the reduction in area covered by coastal forest.

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(iv) Explain why conserving the remaining areas of coastal forest is important.

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(b) Fig. 1.3 shows the management plan for the sustainable use of the Arabuko-Se[illegible]t (Kenya).

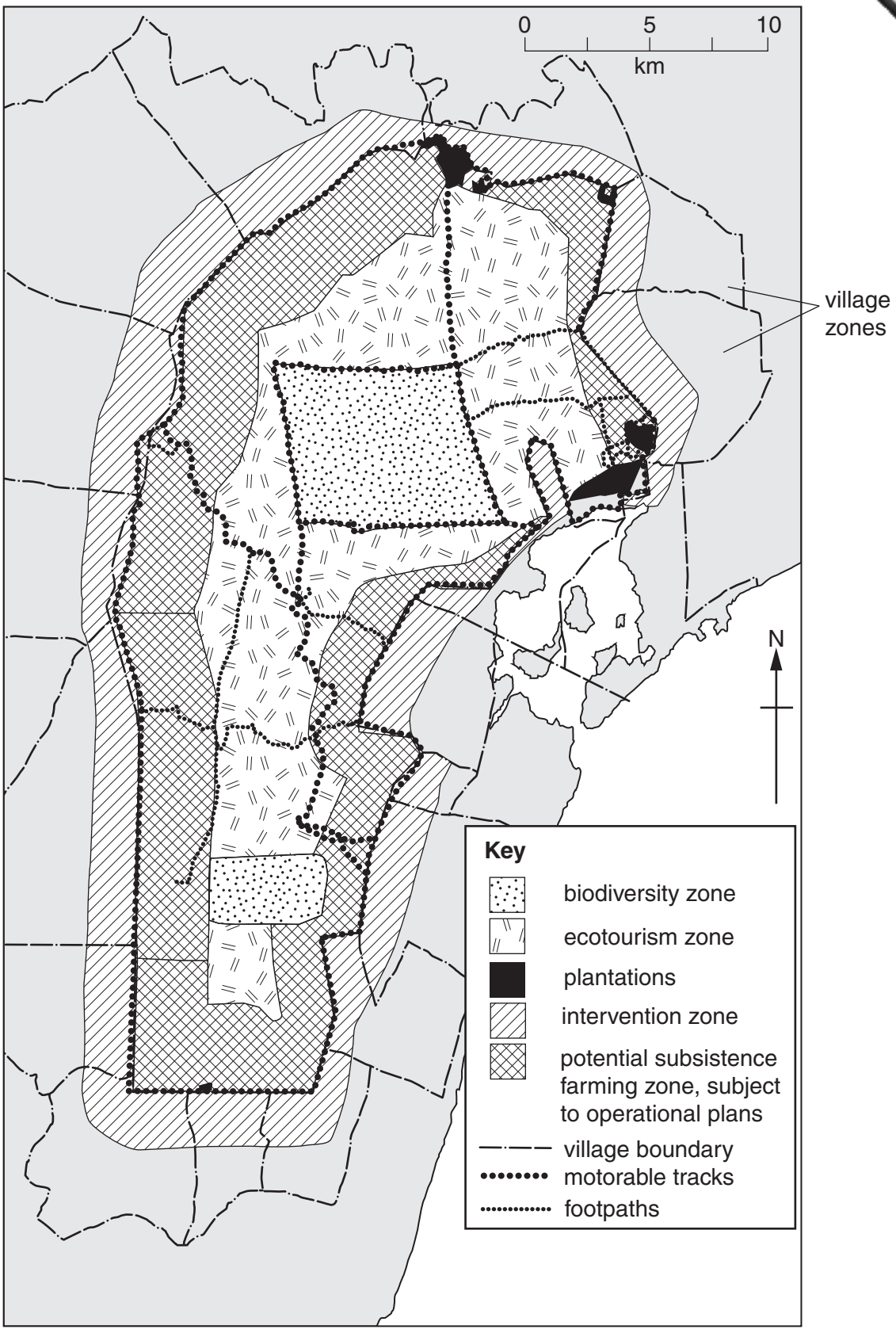

Fig. 1.3

With reference to Fig. 1.3, describe how the management plan could achieve a [illegible] use of this forest.

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[Total: 20]

2 Fig. 2.1 shows details of the Three Gorges Dam in China, which has displaced 1 m[illegible] and caused 1300 settlements to be submerged.

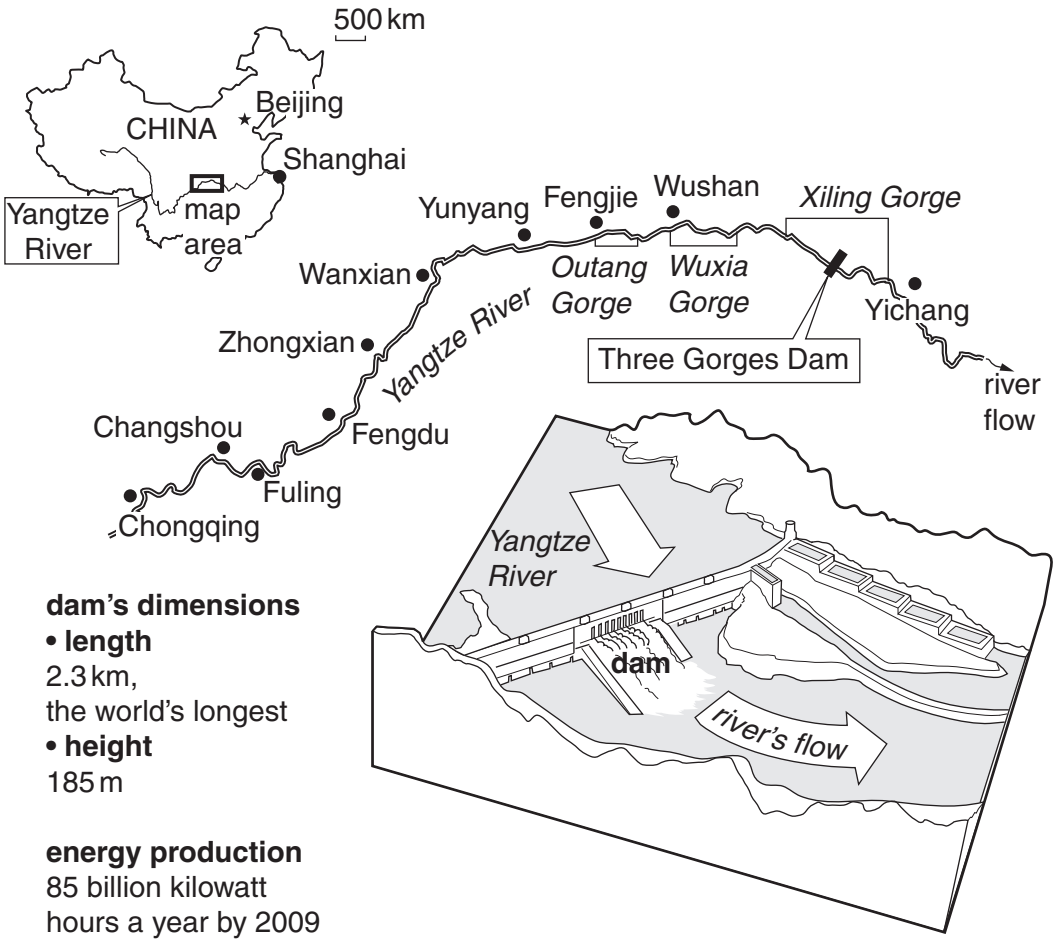

Fig. 2.1

(a) Suggest which natural features shown in Fig. 2.1 made this a suitable site for a dam.

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(b) Briefly describe and explain **two** disadvantages associated with the construct
such as that shown in Fig. 2.1.

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(c) Describe **three** benefits of dam construction, such as that shown in Fig. 2.1, or sim

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[Total: 20]

Section B

Answer **one** question from this section.

3 Fig. 3.1 shows a food web for an ecosystem in a tundra biome.

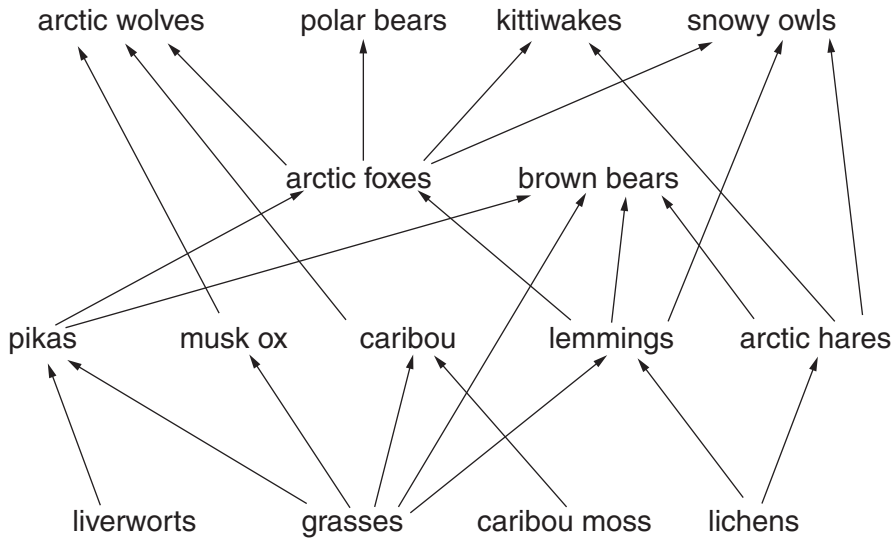

Fig. 3.1

(a) Describe the inter-relationships between the organisms in the food web shown in Fig. 3.1. [10]

(b) With reference to a biome with which you are familiar, describe the influence of human activity on its ecosystems and the effectiveness of conservation measures. [30]

[Total: 40]

4 Fig. 4.1 shows part of the water cycle in an area where a pumping well has been dug.

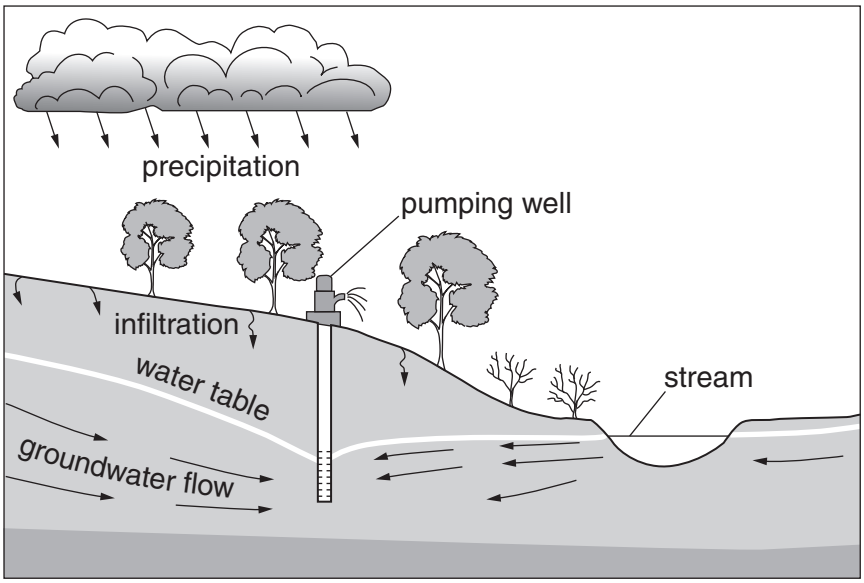

Fig. 4.1

(a) With reference to Fig. 4.1, describe and explain the effect of the pumping well on the groundwater and water table. [10]

(b) With reference to examples with which you are familiar, discuss how efforts to achieve a sustainable supply of water can have both positive and negative effects on human activity and the environment. [30]

[Total: 40]

5 Fig. 5.1 shows the extent to which shrimp farms have extended into a mangrove [illegible] between 1989 and 1999.

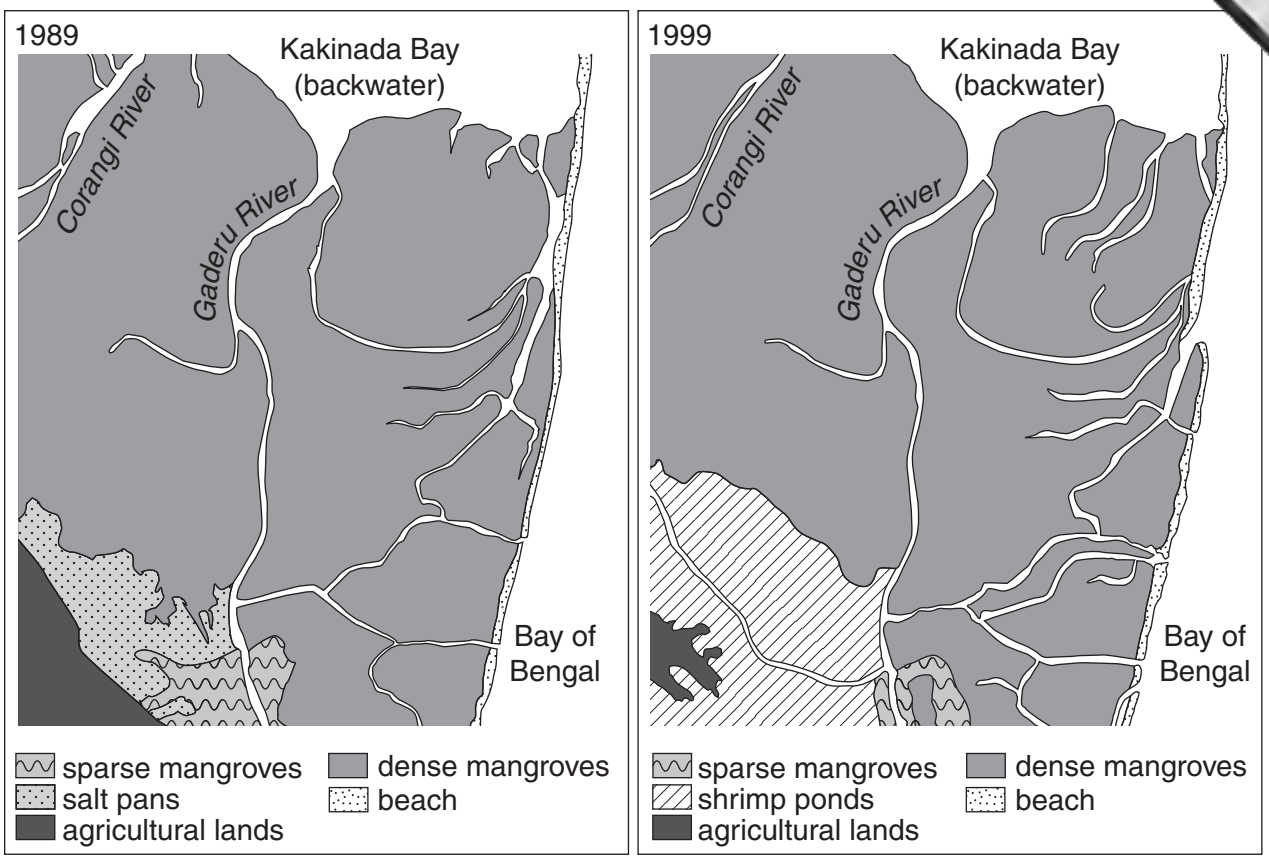

Fig. 5.1

(a) With reference to Fig. 5.1, suggest and explain **three** effects that human activity is having on the environment. [10]

(b) With reference to a threatened ecosystem with which you are familiar, assess the measures that have been adopted to conserve its flora and fauna. [30]

[Total: 40]

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