UNIVERSITY OF CAMBRIDGE INTERNATIONAL EX
International General Certificate of Secondary Educati

CANDIDATE NAME

CENTRE NUMBER | | | | | |

CAN NUMBER

9327936651

ENVIRONMENTAL MANAGEMENT **0680/13**

Paper 1 **May/June 2013**

1 hour 30 minutes

Candidates answer on the Question Paper.

Additional Materials: Ruler

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 a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.
Electronic calculators may be used.
DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.
At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [ ] at the end of each question or part question.

For Examiner's Use	
1	
2	
3	
4	
5	
6	
Total	

This document consists of **15** printed pages and **1** blank page.

© UCLES 2013

1 **(a)** An ecosystem consists of all the living (**biotic**) and n (components) in an area and their **interactions**.

(i) Arrange the following ecosystem components and intera in the table.

soil **climate** **animals** **co**

plants **producers** **consumers**

biotic component	abiotic component	

[3]

(ii) Humans are part of ecosystems, for example hunter-gatherers, nomadic pastoralists and crop farmers.

Which of these three groups do you think has the greatest impact on the environment? Explain your choice.

.....

.....

.....

.....

.....

.....[3]

© UCLES 2013

(b) In developed countries such as the UK there is much concern and of the decline of insects such as bees.

Explain why these concerns exist.

woodland

.....

.....

.....

.....

bees

.....

.....

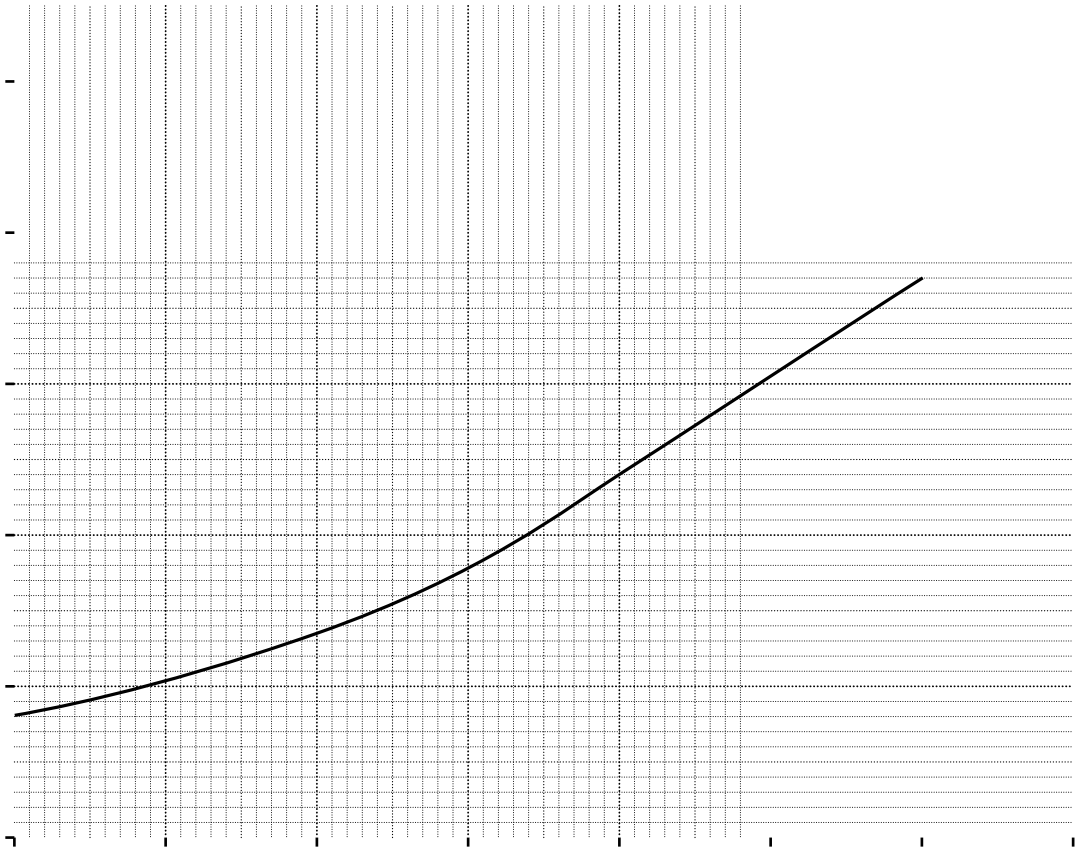
.....

.....[4]

[Total: 10]

© UCLES 2013

2 **(a)** The graph shows the population of Pakistan from soon aft present day.



Three predictions for the total population 2020 have been made:

Key
225 million - - - - -
235 million _____
270 million ……...

(i) Plot these figures on the graph above using the lines in the key.

Put your three lines on the graph. [1]

(ii) Suggest reasons why it is difficult to predict population growth.

.....

.....

.....

.....

.....

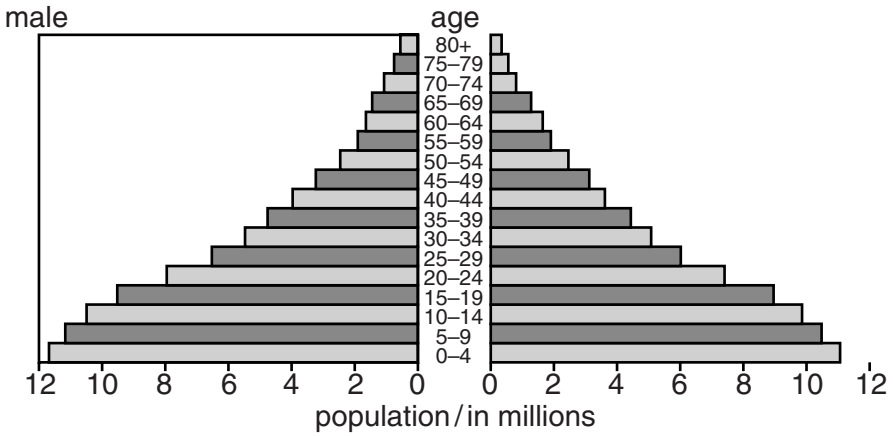
.....[3]

© UCLES 2013

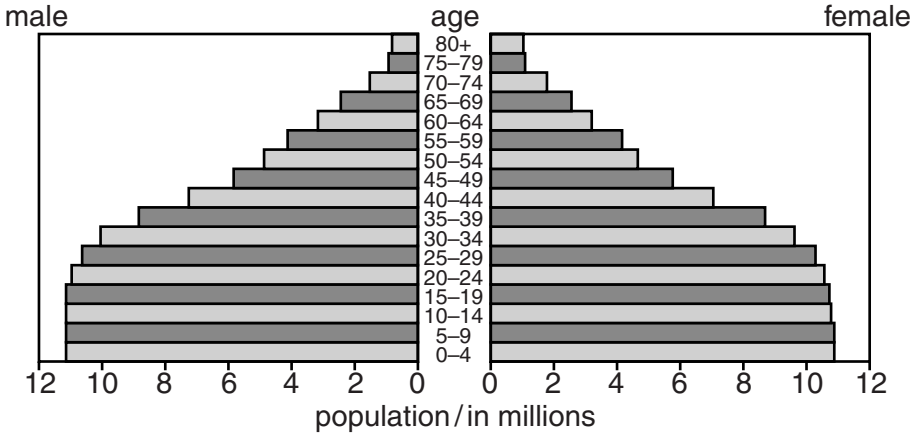
(b) Predictions have also been made about the age structure of t

The diagrams below show the population pyramid for 2005 a pyramid for 2020 for Pakistan.

actual population pyramid for Pakistan 20



predicted population pyramid for Pakistan 2020



(i) Compare what each pyramid shows.

.....

.....

.....

.....

.....

.....[3]

© UCLES 2013

(ii) Suggest what the government of Pakistan might do to pr
may occur by 2020.

.....

.....

.....

.....

.....

.....[3]

[Total: 10]

© UCLES 2013

3 **(a)** Crop farming can only take place in areas where certain c is a plant, therefore it has certain requirements. Fill in the g summarising the requirements of a crop for growth.

Use words from the list below. Words may be used once, mor

heat **carbon dioxide** **nitrate**

water **light** **salinity**

(i) In order to make sugars, plants need ……

soil and …… from the atmosphere. The energy for the process is provided by …… from the sun. The temperature of the area must also be suitable for growth.

To convert these sugars into other materials, such as proteins and chlorophyll, the plants also need various nutrients such as …… , also obtained from the soil. [2]

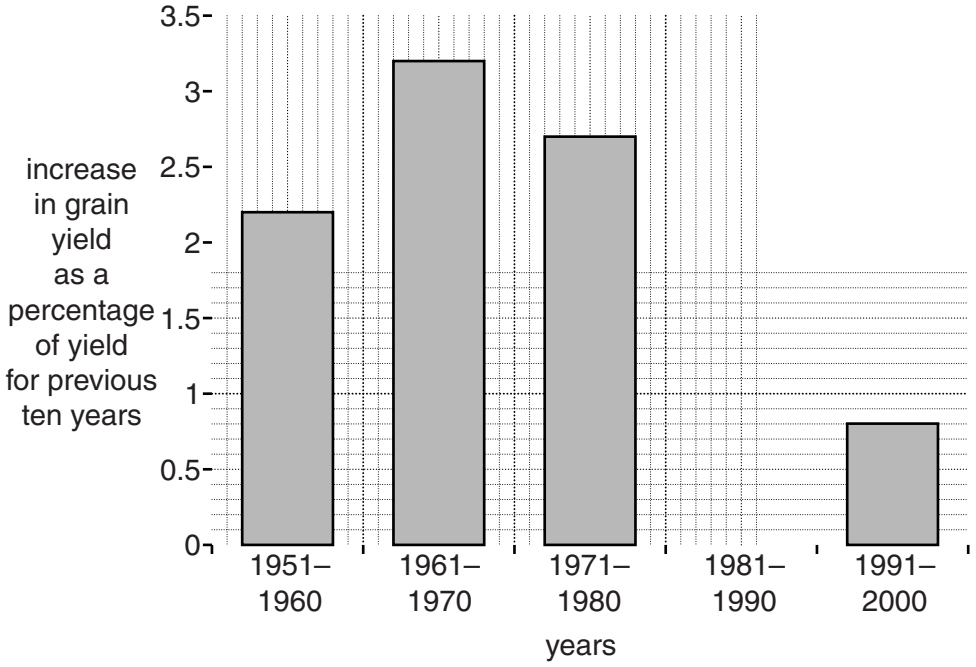
(ii) Which is the main factor in part **(i)** that limits crop growth in

desert, ……

tundra? …… [2]

© UCLES 2013

(b) The graph shows the changes in the improvement in world gr
century.



(i) Describe and explain the changes in the improvement in grain yields shown by the graph.

.....

.....

.....

.....

.....

.....

.....

.....[4]

(ii) Despite overall improvements in crop yields, the average yield of crops on many small farms in developing countries is still low. Explain why yields remain low.

.....

.....

.....

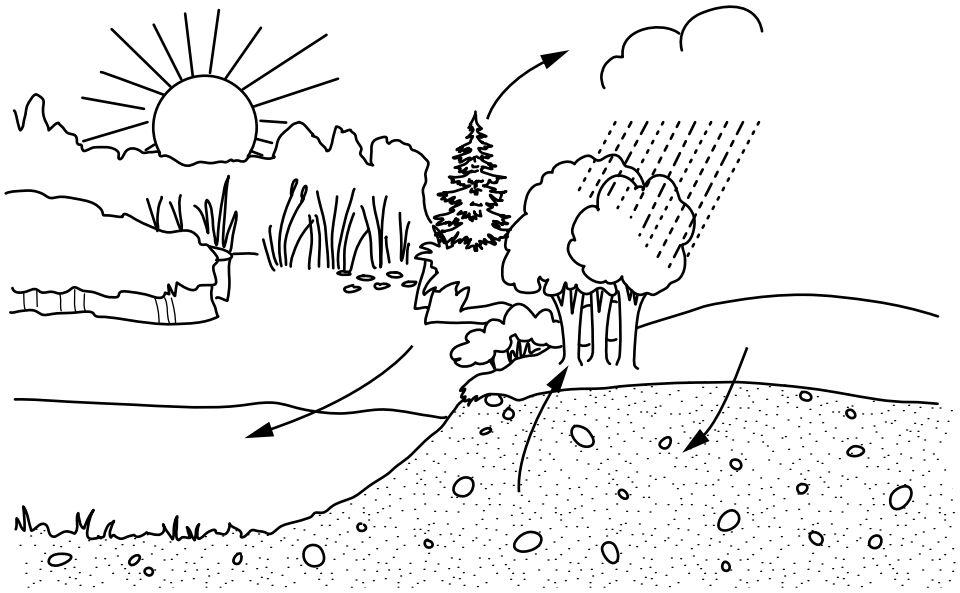
.....

.....[2]

[Total: 10]

© UCLES 2013

4 **(a)** The diagram shows parts of the water cycle. Some processe



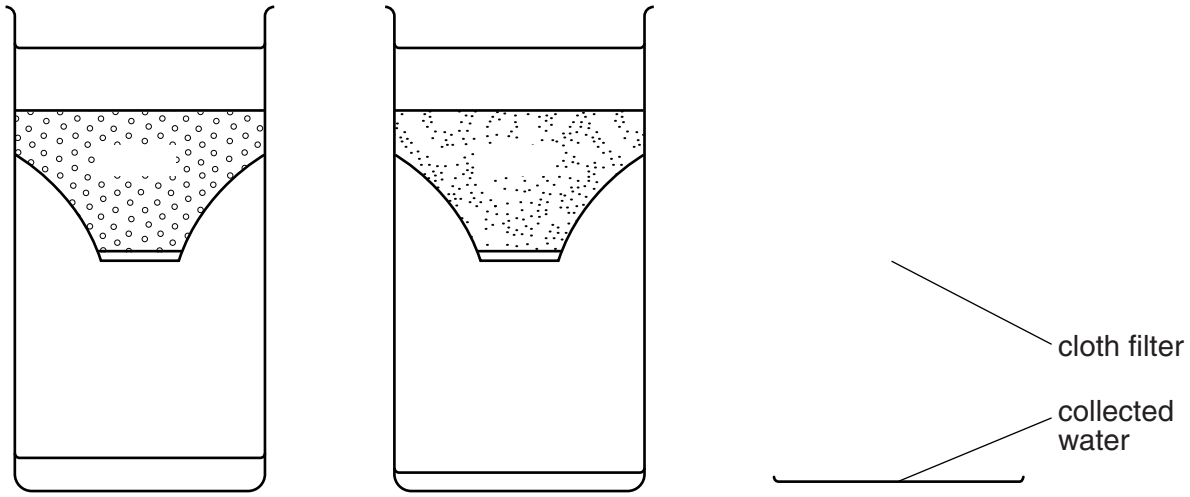
The table shows ways in which the removal of vegetation, can affect some of the water cycle processes.

letter	name of process	change on removal of vegetation	reasons for change
D	interception	decreases	foliage blocks falling rain
E	....	....	....
F	....	....	....

Complete the table by filling in the gaps, using your own knowledge and the water cycle diagram. The first line has been done for you. [3]

© UCLES 2013

(b) Some of the properties of soils important for plant growth laboratory. The following apparatus was set up. The soils wer



(i) Which soil property is being measured?

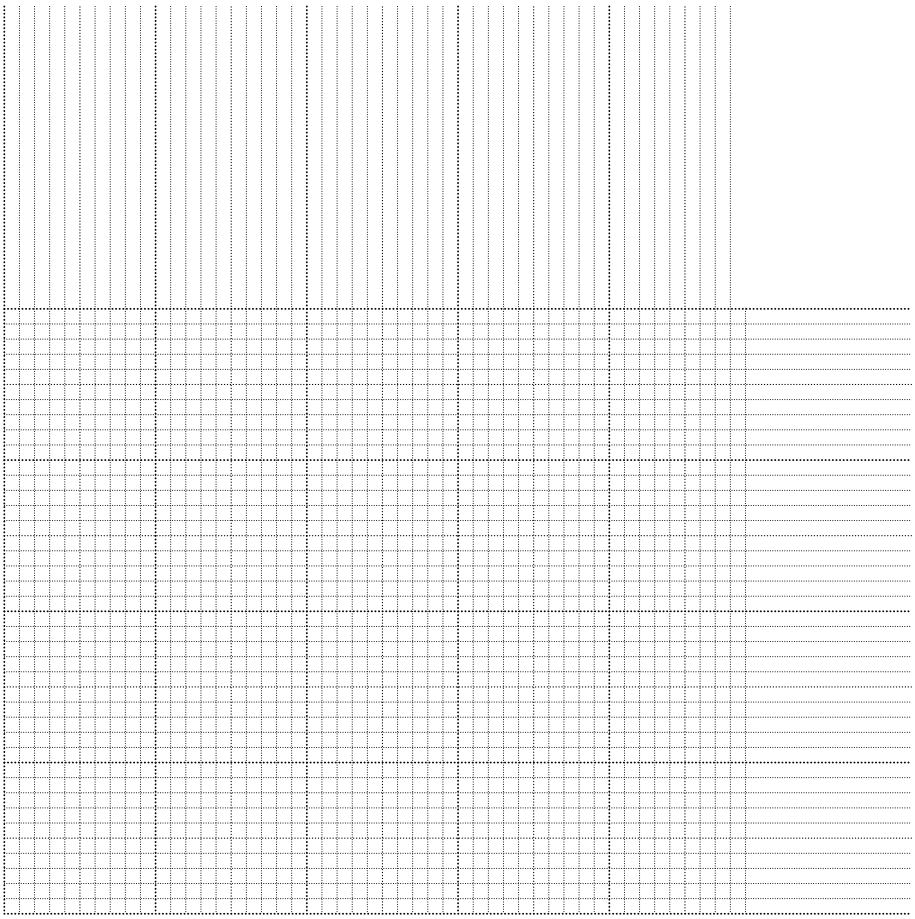
.....[1]

The following data were obtained from the experiment above.

soil type	height of water collected after one hr / cm
1	5.0
2	1.5
3	0.6

© UCLES 2013

(ii) Plot the data as a graph on the grid below and label the



[2]

(iii) Explain why a soil with equal amounts of sand, silt and clay is better for farming than a soil that is mostly sand or mostly clay.

Soil that has equal amounts of sand, silt and clay compared with:

soil that is mostly sand .....

.....

.....

.....

soil that is mostly clay .....

.....

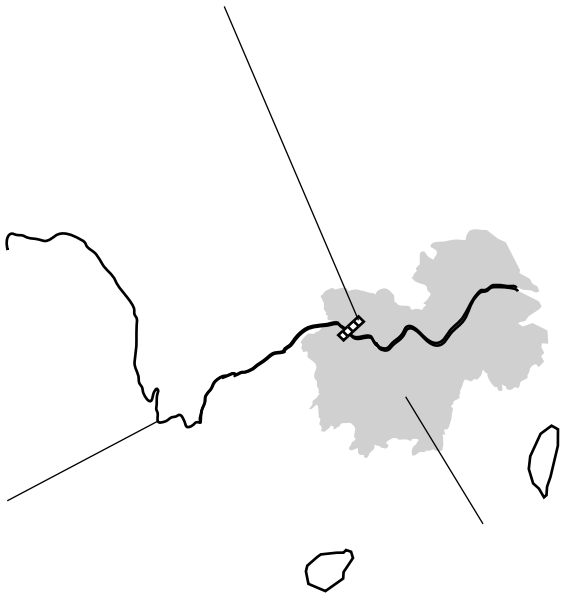
.....

.....[4]

[Total: 10]

© UCLES 2013

5 **(a)** The map below shows the location of the Three Gorges da
China.



(i) This dam is the biggest in the world. State **two** reasons why very large dams such as this are built.

.....

.....

.....

.....[2]

(ii) Building large dams may cause problems for people living in the area.

Describe these problems.

.....

.....

.....

.....

.....

.....[3]

© UCLES 2013

(iii) The dam was completed in 2006 and since then a sever area shaded on the map. Some farmers in this area bla

Are they right or wrong? Give your views on this.

.....

.....

.....

.....

.....

.....[3]

(b) More recently, the same areas of China have experienced severe flooding. Suggest reasons for this flooding.

.....

.....

.....

.....[2]

[Total: 10]

© UCLES 2013

6 **(a)** Modern human society relies on the generation of electricity. energy from a variety of sources such as:

coal **solar** **gas** **wind** **wave**

geothermal **hydro-electric** **biomass**

Sustainable energy is the provision of energy that meets without affecting the ability of future generations to meet their

(i) Place the energy sources in the list above under the c below.

unsustainable	sustainable

[3]

(ii) The length of time for which the unsustainable sources of energy can be exploited could be increased.

Suggest ways in which this could be achieved.

.....

.....

.....

.....

.....

.....[3]

© UCLES 2013

(b) The table below shows the average costs of generating el using gas, oil and coal and nuclear power stations in a selecti

	average cost of electricity from power stations using gas, oil and coal $ per MWh	**averag from nuc**
construction	6.5	
operation	3.4	
fuel	22.0	5.3

Taking into account these costs, and other factors, state what arguments there might be for and against **A** a power station using coal, oil or gas and **B** a nuclear power station.

A .....

.....

.....

.....

B .....

.....

.....

.....[4]

[Total: 10]

© UCLES 2013

BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

University of Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.

© UCLES 2013