Cambridge IGCSE™

CANDIDATE NAME

CENTRE NUMBER

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DEVELOPMENT STUDIES **0453/02**

Paper 2 **October/November 2020**

2 hours

You must answer on the question paper.

You will need: Ruler

INSTRUCTIONS

- Answer **all** questions.
- 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.
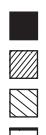
INFORMATION
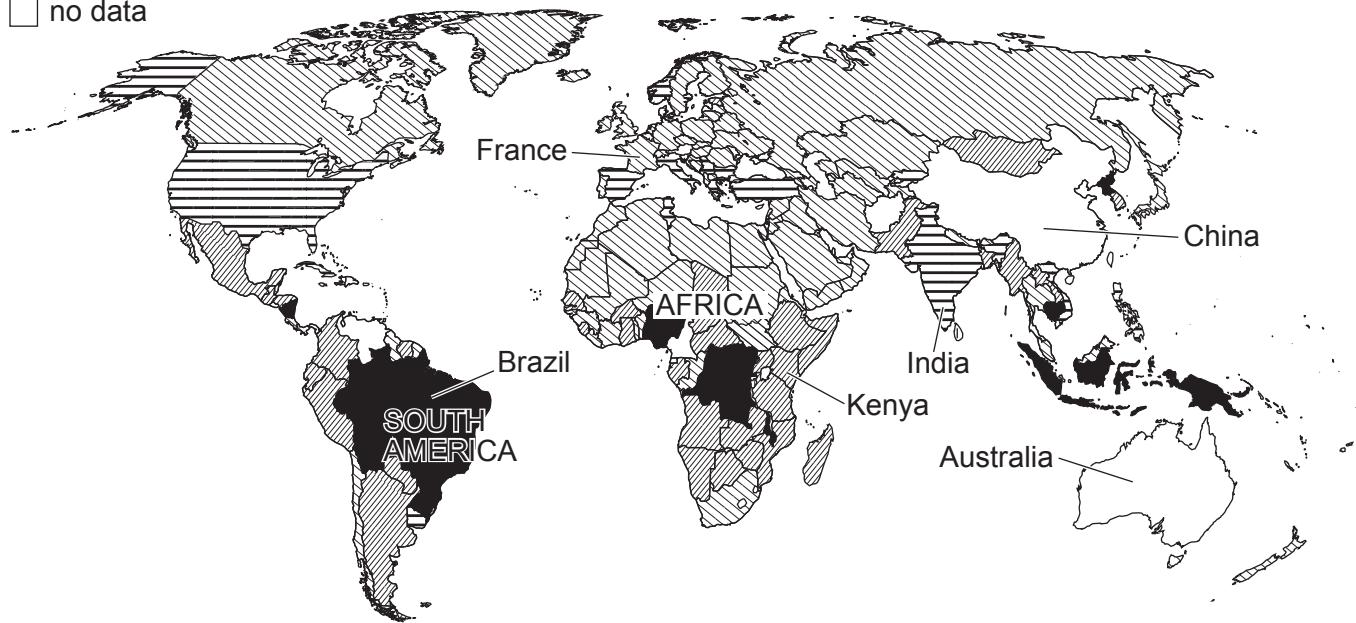
- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **20** pages. Blank pages are indicated.

1 (a) Study Fig. 1.1, a map which shows the risk of deforestation (loss of forest) in different areas of the world.

■ extreme risk
▨ high risk
▧ medium risk
▤ low risk
☐ no data

Fig. 1.1 Risk of deforestation

(i) Complete the map by plotting the following information.

Australia: high risk

China: low risk [2]

(ii) Using Fig. 1.1, put the following countries in rank order according to their risk of deforestation. You should rank the countries from highest to lowest.

India   Kenya   Brazil   France

....   highest risk

....

....

....   lowest risk   [2]

(iii) Compare the risks of deforestation in South America and Africa.

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....

.... [3]

(b) One of the Sustainable Development Goals is to 'promote sustained, inclusive and sustainable economic growth'.

What is meant by *sustainable economic growth*?

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.... [2]

(c) Explain how deforestation may affect global climate.

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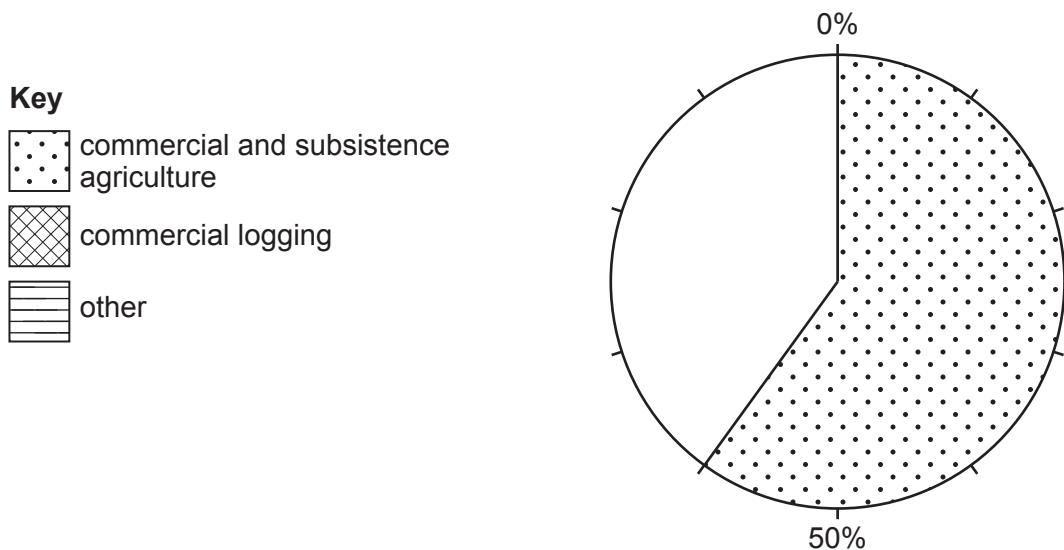
.... [5]

(d) Study Table 1.1, information about the main causes of deforestation in Africa.

Table 1.1

	%
Commercial and subsistence agriculture	60
Commercial logging	25
Other	15

(i) Complete the pie graph below using the information in Table 1.1.

Key

commercial and subsistence agriculture

commercial logging

other

[2]

(ii) Define

commercial agriculture

....

....
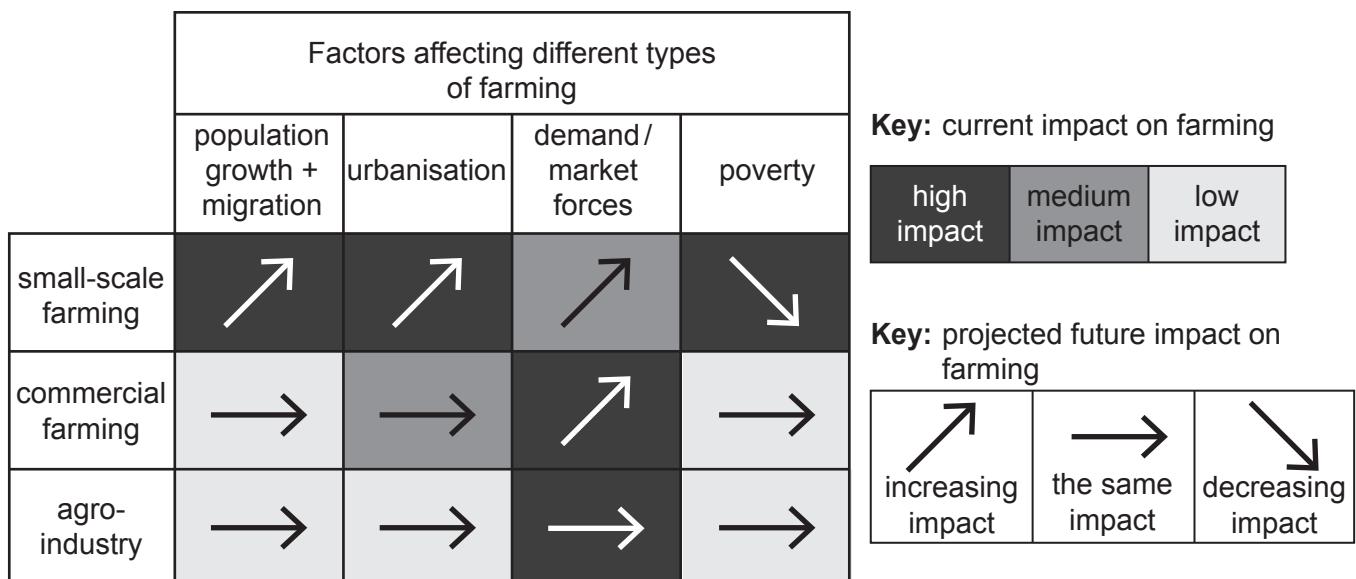
subsistence agriculture.

....

....

[2]

(e) Study Fig. 1.2, which shows factors affecting different types of farming.

Factors affecting different types of farming				Key: current impact on farming

Fig. 1.2 contains a table with rows: small-scale farming, commercial farming, agro-industry; and columns: population growth + migration, urbanisation, demand/market forces, poverty.

Key: current impact on farming — high impact, medium impact, low impact

Key: projected future impact on farming — increasing impact (↗), the same impact (→), decreasing impact (↘)

Fig. 1.2 Factors affecting farming

(i) Using Fig. 1.2, identify

• the factor which has the highest impact on agro-industry

....

• the factor which is projected to have a decreasing impact on small-scale farming.

....

[2]

(ii) Identify the farming type most likely to be affected by these four factors. Circle your answer in the list below.

small-scale farming   commercial farming   agro-industry

Explain your choice, using evidence from Fig. 1.2.

....

....

....

.... [3]

(iii) Suggest **two** natural factors that cause problems for farmers.

1 ....

....

2 ....

....

[2]

[Total: 25]

2 (a) Study Fig. 2.1, a photograph showing the natural vegetation in the Mau forest.

Fig. 2.1

Describe the natural vegetation using the photograph **only**.

....

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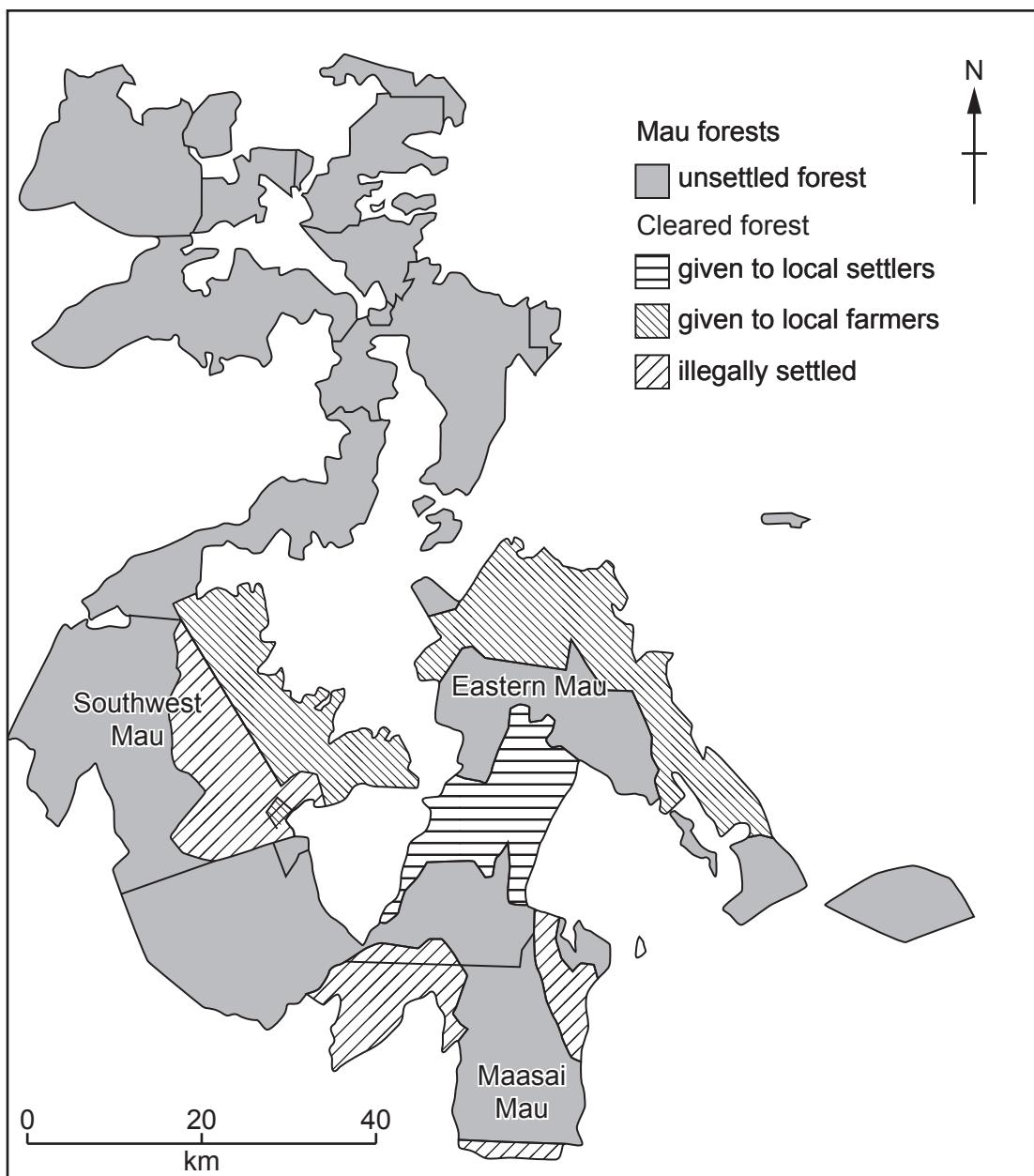
.... [3]

(b) Study Fig. 2.2, which shows the clearance of the Mau forest in Kenya.

Fig. 2.2 Mau forest (shaded)

(i) Estimate the percentage of total forest which has been cleared.
Circle your answer from the list below.

10%   25%   50%   75%   [1]

(ii) Describe the distribution of the land given to local farmers in Fig. 2.2.

....

....

....

.... [2]

(iii) Suggest **two** secondary data collection methods which could be used to research the amount of forest lost.

1 ....

....

2 ....

....

[2]

(c) Study Fig. 2.3, which is a news article about deforestation in the Mau forest.

High in the hills of Kenya's Mau forest, some 20 000 families are facing eviction from their farms – accused of contributing to an environmental disaster including soil erosion and loss of biodiversity.
The authorities are to start the process of removing them any day now. Farmers will be asked to provide their title deeds for inspection. If their documents are genuine, they have a chance of being resettled elsewhere or they might be given money to compensate them. If not, they will simply be told to go.
"We are afraid. Not only me, but all of us here," says a teacher and father of six, from a local village. "They call us squatters – a very bad name. But this is my land. It is not illegal."

Fig. 2.3

(i) How can the farmer prove that this is his land?

....

.... [1]

(ii) Explain how deforestation causes soil erosion and loss of biodiversity.

Soil erosion ....

....

....

....

....

....

Loss of biodiversity ....

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[5]

(iii) Describe **two** primary data collection methods which could be used to research the impact of deforestation on the natural ecosystem.

Method 1 ....

....

....

....

Method 2 ....

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....

[4]

(d) Study Fig. 2.4 and Fig. 2.5, which show information about four possible options being considered to reduce the problems caused by deforestation in the Mau forest.

We must act now before the natural ecosystem is destroyed.

Fig. 2.4

option A	remove the farming families from the forest
option B	replant 100 million trees
option C	enforce laws to reduce the amount of illegal deforestation
option D	import timber from other countries

Fig. 2.5

(i) Explain why option A will **not** be effective in reducing the problems in the Mau forest.

....

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.... [3]

(ii) Which option, B, C or D, do you think will be most effective in reducing the problems in the Mau Forest?

Explain your reasons for choosing this option. You should do this by describing the advantages of the option you have chosen and the disadvantages of the two options you have rejected.

Option chosen: ....

....

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.... [6]

[Total: 27]

3 Study Fig. 3.1, information about a research investigation to find out how the Mau forest is used by local people.

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Fig. 3.1

(a) (i) The 367 households were selected using a random sample. Describe how this sample could have been selected.

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....

....

.... [2]

(ii) Suggest **two** advantages and **two** disadvantages of using local research assistants to conduct the questionnaire.

advantages

1 ....

....

2 ....

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disadvantages

1 ....

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2 ....

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[4]

(iii) The research assistants used a structured questionnaire.

Write an introduction to be read out by the research assistants **before** people answer the questionnaire.

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.... [2]

(iv) Write the **first three questions** for the questionnaire. The questions should find out details about the people in that household.

Question One

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Question Two

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Question Three

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....
[3]

(b) Study Table 3.1, information about the sources of forest products of the people who answered the questionnaire.

Table 3.1
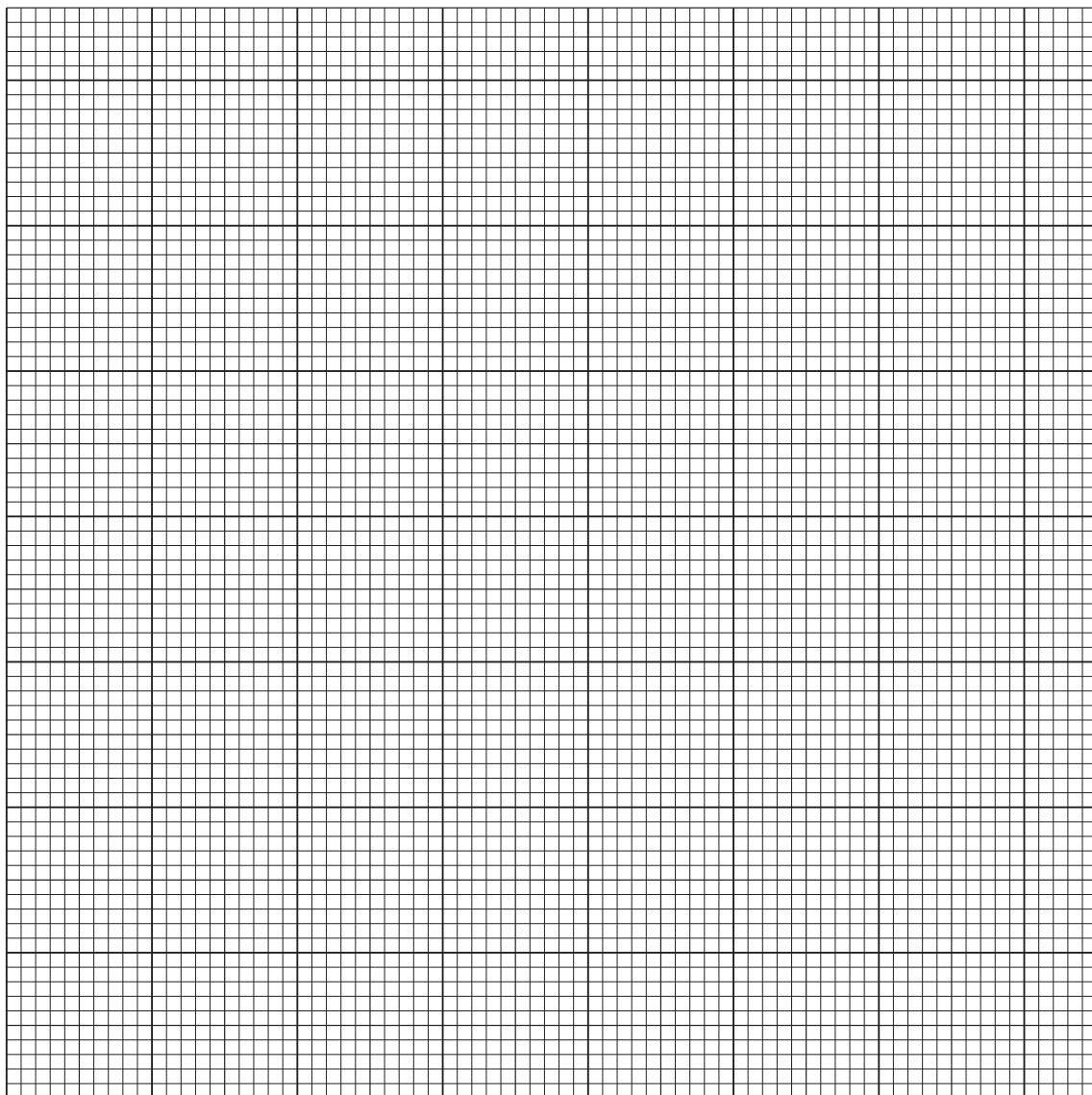
	Source of products (%)			
Product	**Public forest**	**Own farm**	**Neighbours**	**Market**
Firewood	72	22	3	3
Timber	58	17	6	19
Charcoal	68	8	7	17
Honey	52	13	9	26
Medicine	50	19	5	26

(i) Suggest **three** products, other than those in Table 3.1, which might have been collected from the forest.

1 ....

2 ....

3 ....
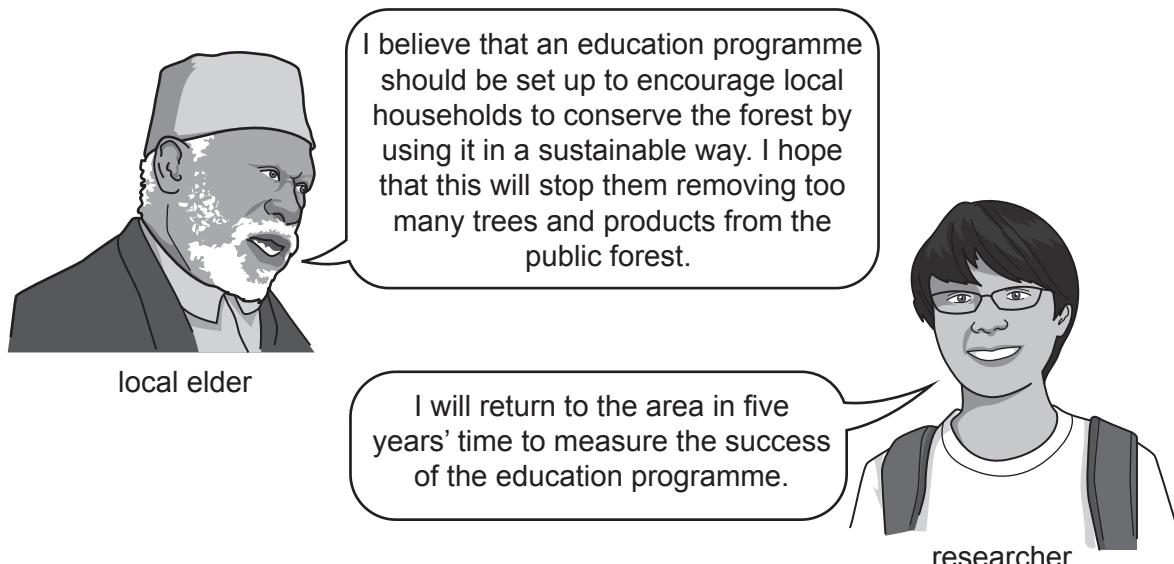
[3]

(ii) Draw a bar graph which shows the sources of **honey** of the people who answered the questionnaire.

[4]

(c) A local elder suggests a way to improve conservation of the Mau forest.

I believe that an education programme should be set up to encourage local households to conserve the forest by using it in a sustainable way. I hope that this will stop them removing too many trees and products from the public forest.

local elder

I will return to the area in five years' time to measure the success of the education programme.

researcher

(i) Design an education programme to encourage local households to conserve the forest.

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.... [6]

(ii) Explain how the researcher could measure the success of the education programme.

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.... [4]

[Total: 28]

19

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