Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel Level 1/Level 2 GCSE (9–1)

Centre Number | Candidate Number

Time 1 hour 30 minutes

Paper reference **1GB0/03**

Geography B

PAPER 3: People and Environment Issues – Making Geographical Decisions

You must have:
Resource Booklet (enclosed)
Calculator

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- Where asked you must **show all your working out** with **your answer clearly identified** at the **end of your solution**.

Information

- The total mark for this paper is 64.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*
- The marks available for spelling, punctuation, grammar and use of specialist terminology are clearly indicated.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.
- Good luck with your examination.

Turn over

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SECTION A

People and the Biosphere

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 Read Section A (pages 2 and 3) of the Resource Booklet before answering this question.

(a) Study Figure 1.

Identify **two** ways in which vegetation affects the movement of water through the hydrological cycle.

(2)

1 .....

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2 .....

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(b) (i) Name **one** major biome where precipitation falls as snow for several months of the year.

(1)

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(ii) Explain **one** way in which vegetation regulates the composition (make-up) of the atmosphere.

(2)

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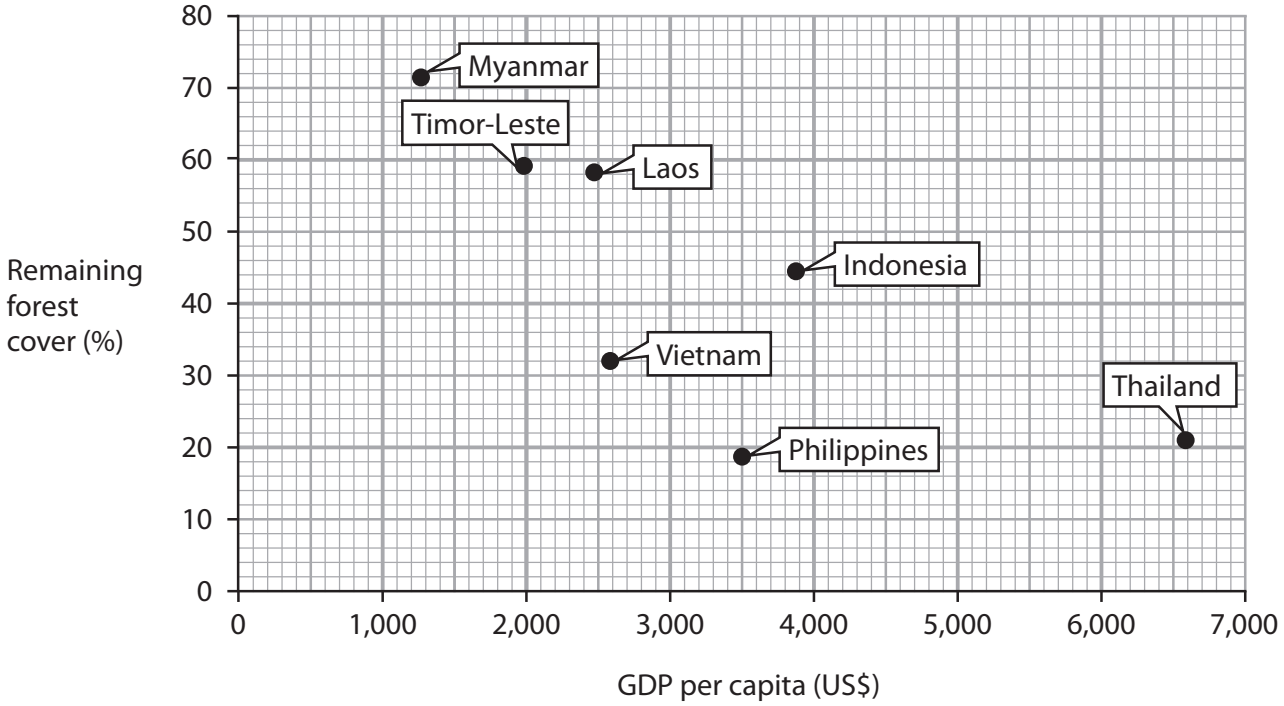
(c) Study Figure 2 in the Resource Booklet.

(i) Plot the data for Cambodia on the graph below.

(1)



(ii) Suggest **one** possible relationship between economic development and environmental exploitation which is shown by the graph above.

(2)

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(Total for Question 1 = 8 marks)

TOTAL FOR SECTION A = 8 MARKS

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SECTION B

Forests under Threat

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

2 Use Section B (pages 4 and 5) in the Resource Booklet to answer this question.

(a) Study Figures 3 and 4.

(i) Identify **one** adaptation of tropical rainforest trees to the climate of countries such as Cambodia.

(1)

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(ii) State **one** piece of evidence from Figure 3 which shows that the ban on cutting endangered tree species is not working.

(1)

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(iii) Using Figure 4, identify the best estimate of the distance between point A and point B.

(1)

☒	**A** 500 km
☒	**B** 700 km
☒	**C** 1,100 km
☒	**D** 1,400 km

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(b) Explain **two** ways in which Chinese demand for rainforest resources has led to reduced biodiversity in Cambodia.

(4)

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(c) Study Figure 5 in the Resource Booklet.

Explain **one** way in which ecotourism contributes to sustainable forest management in the Cardamom Mountains.

(2)

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(Total for Question 2 = 9 marks)

TOTAL FOR SECTION B = 9 MARKS

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SECTION C

Consuming Energy Resources

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

3 Use Section C (pages 6–9) in the Resource Booklet to answer this question.

(a) Study Figure 6.

(i) Define the term **fossil fuel**.

(1)

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(ii) Name **one** fossil fuel which energy resource X might be.

(1)

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(iii) Between 2010 and 2016, biofuel use increased from 1,700 Ktoe to 2,200 Ktoe.

Calculate the percentage change in biofuel use between 2010 and 2016.

Answer to one decimal place.

You must show your working in the space below.

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(iv) Explain why biofuels are classified as a **recyclable** form of energy.

(2)

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(b) Study Figures 7 and 8 in the Resource Booklet.

(i) Using Figure 7, explain **one** reason why wood is processed to make charcoal.

(2)

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(ii) Using Figure 8, identify when industrial use of firewood increased by the greatest amount.

(1)

☒	**A** 2014 – 2015
☒	**B** 2015 – 2016
☒	**C** 2016 – 2017
☒	**D** 2017 – 2018

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(iii) Using Figures 7 and 8, explain why the use of traditional biofuels is a cause of worsening environmental problems for Cambodia's national parks and cities.

(4)

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cities

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(c) Study Figures 8 and 9 in the Resource Booklet.

Using evidence from Figures 8 and 9, assess the reasons why traditional biofuels are still widely used as a source of energy in Cambodia.

(8)

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(d) Explain **one** way in which biofuel use can improve the **energy security** of a country.

(2)

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(e) Study Figure 10 in the Resource Booklet.

Using evidence from Figure 10, assess how successfully these groups and organisations are protecting Cambodia's forests.

(8)

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(Total for Question 3 = 31 marks)

TOTAL FOR SECTION C = 31 MARKS

SECTION D

Making a Geographical Decision

Answer Question 4. Write your answer in the space provided.

In this question, 4 of the marks awarded will be for your spelling, punctuation, grammar and use of specialist terminology.

4 Study the three options below for how Cambodia's government might try to deal with the challenge of deforestation.

Option 1: Fund more replanting schemes in areas which have been deforested for firewood and charcoal.

Option 2: Introduce and enforce stronger laws to prevent further illegal deforestation.

Option 3: Provide funding to support further development of ecotourism in rainforest areas.

Select the option that you think should be the main priority for Cambodia's government in the next 10 years.

Justify your choice.

Use information from the Resource Booklet and knowledge and understanding from the rest of your geography course to support your answer.

(12)

Chosen option .....

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(Spelling, punctuation, grammar and use of specialist terminology = 4 marks)
(Total for Question 4 = 16 marks)

TOTAL FOR SECTION D = 16 MARKS
TOTAL FOR PAPER = 64 MARKS

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Pearson Edexcel Level 1/Level 2 GCSE (9–1)

Time 1 hour 30 minutes

Paper reference **1GB0/03**

Geography B

PAPER 3: People and Environment Issues – Making Geographical Decisions

Resource Booklet

Do not return this Booklet with the question paper.

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SECTION A

People and the Biosphere

The issue: Saving Cambodia's tropical rainforest

- Cambodia is a Southeast Asian country with an equatorial climate. It has one of the world's highest rates of deforestation.
- 90% of people in Cambodia still use wood as an energy source.
- Cambodia has lost over one third of its 150,000 km^2 of tropical rainforest since 1980. Forest species such as the Clouded Leopard and Asian Elephant are critically endangered due to habitat loss and hunting.
- Cambodia's government, businesses and people face the challenge of finding more sustainable ways of managing their forests.

Introduction

- Between 1987 and 2016, Cambodia's population doubled in size from 8 million to 16 million. The country is developing rapidly. Half of its gross domestic product (GDP) now comes from textile manufacturing and tourism.
- Logging of timber to supply export markets is one cause of deforestation. There is great demand in China for rosewood, a rare and valuable tree species.
- Also, most Cambodians still rely on firewood and charcoal (a wood product) for cooking and heating. As the population grows, demand for these traditional biofuels may rise further.
- Although some rainforest is protected, new agricultural and industrial development is allowed in many forested areas, even inside national parks. The worst problems occur near roads.
- The removal of rainforest in Cambodia's Cardamom Mountains is a major concern. This is because these forests play a key role in the water cycle. The forest canopy regulates the flow of 4,000 mm of annual rainfall into 22 rivers – helping to prevent floods and droughts in other parts of Cambodia and some neighbouring countries.

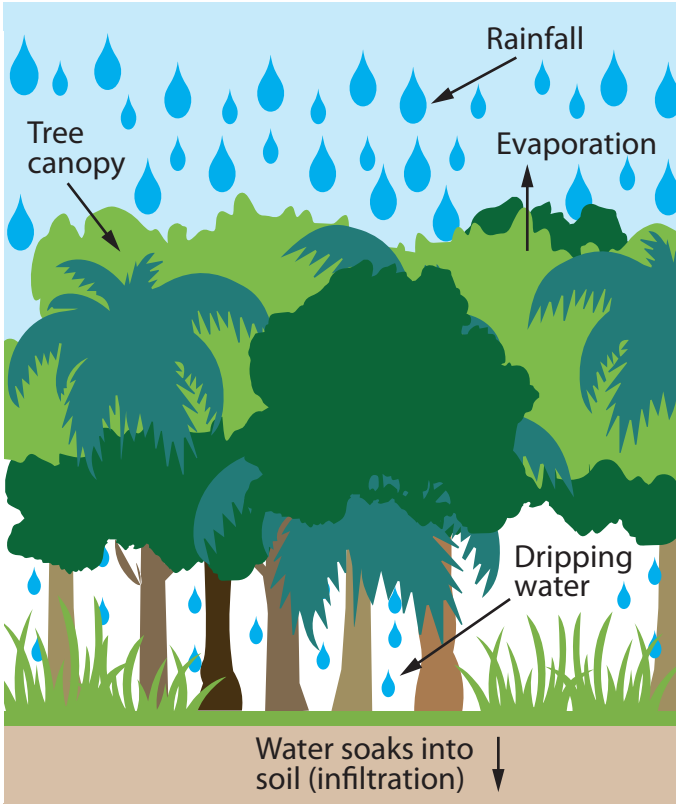

Figure 1

Vegetation helps regulate the hydrological (water) cycle

Country	GDP per capita (US$)	Percentage (%) of original forest cover remaining
Laos	2,500	58
Philippines	3,500	19
Thailand	6,600	21
Vietnam	2,600	32
Myanmar	1,300	71
Timor-Leste	2,000	59
Indonesia	3,900	44
Cambodia	1,600	50

Figure 2

GDP per capita (US$) and remaining forest cover (%) for selected countries in Southeast Asia, 2018

SECTION B

Forest Under Threat

- In 2013, Cambodia's government introduced a ban on cutting down endangered tree species.
- However, the law applies only to forested land owned by the government, not to land owned by private companies.

- Rosewood is an endangered tree species. Used to make luxury furniture in China, it is worth 80,000 US$ per tonne.
- Businessman Try Pheap is called 'the king of rosewood' by Cambodia's media. His firm has offices in China and Cambodia.
- An increasing amount of Cambodian rosewood is also smuggled illegally to China.

- Indochinese tigers, a rainforest species, have not been seen in Cambodia since 2007.
- In China, there is still demand for traditional medicines made from tiger bones.

Figure 3

Threats to tropical rainforest biodiversity in Cambodia

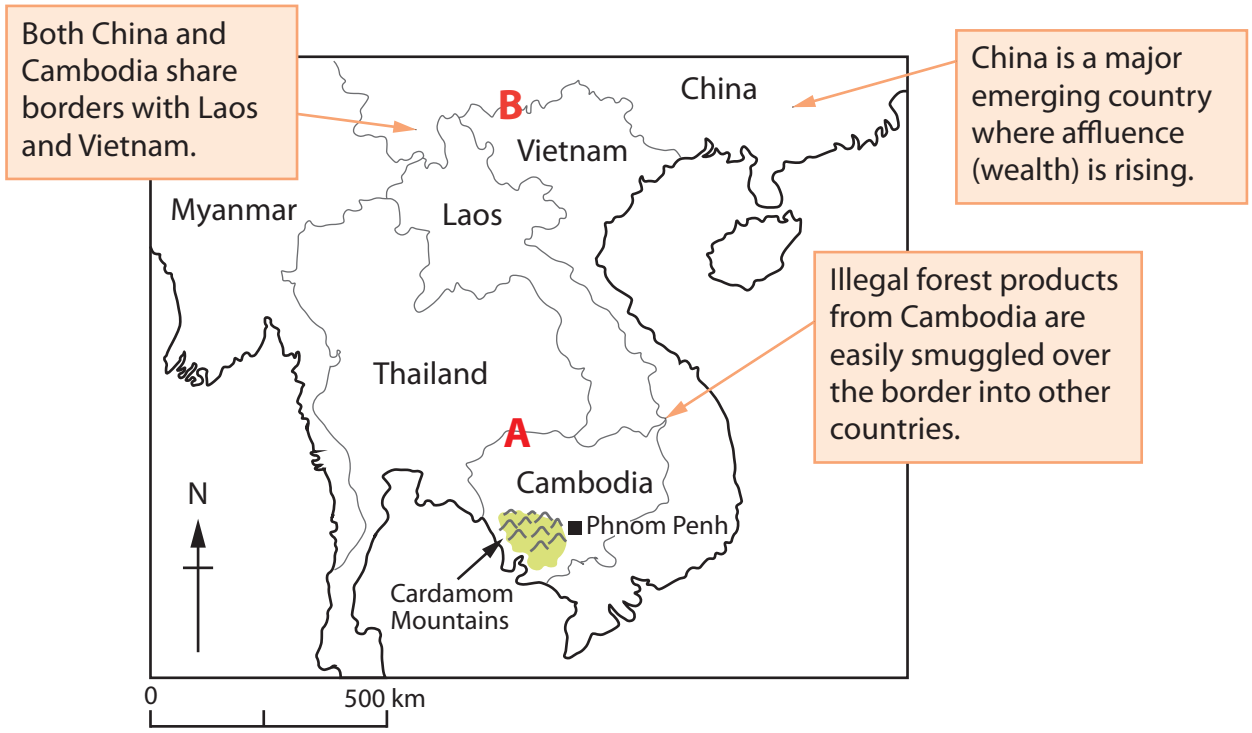

Figure 4

Cambodia and its neighbouring countries

- In 2016, 60,000 people visited 56 ecotourism sites spread across Cambodia. This was 1% of all tourist trips in Cambodia.
- Cardamom Tented Camp is one of these ecotourism sites. It is located in a national park in the Cardamom Mountains which was given Protected Area status in 2005.
- The profits from the Tented Camp are used by the charity Wildlife Alliance to employ local people as park rangers who help protect the forest.
- The graph below shows deforestation rates inside and outside the Protected Area.

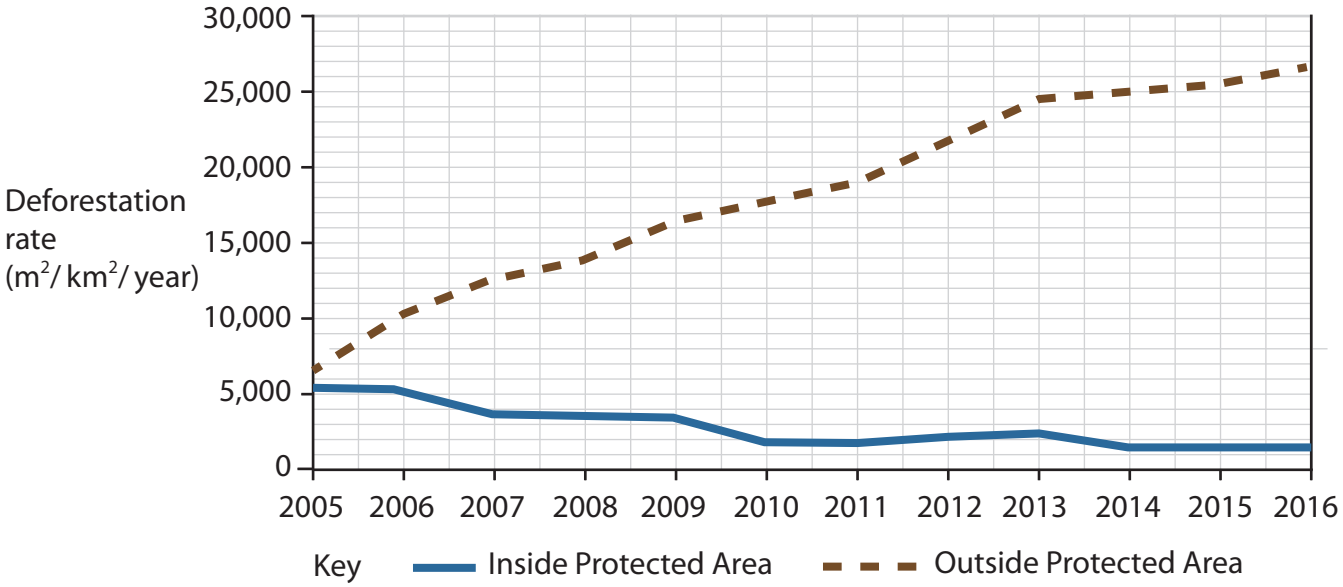

Figure 5

Facts about forest ecotourism in Cambodia

SECTION C

Consuming Energy Resources

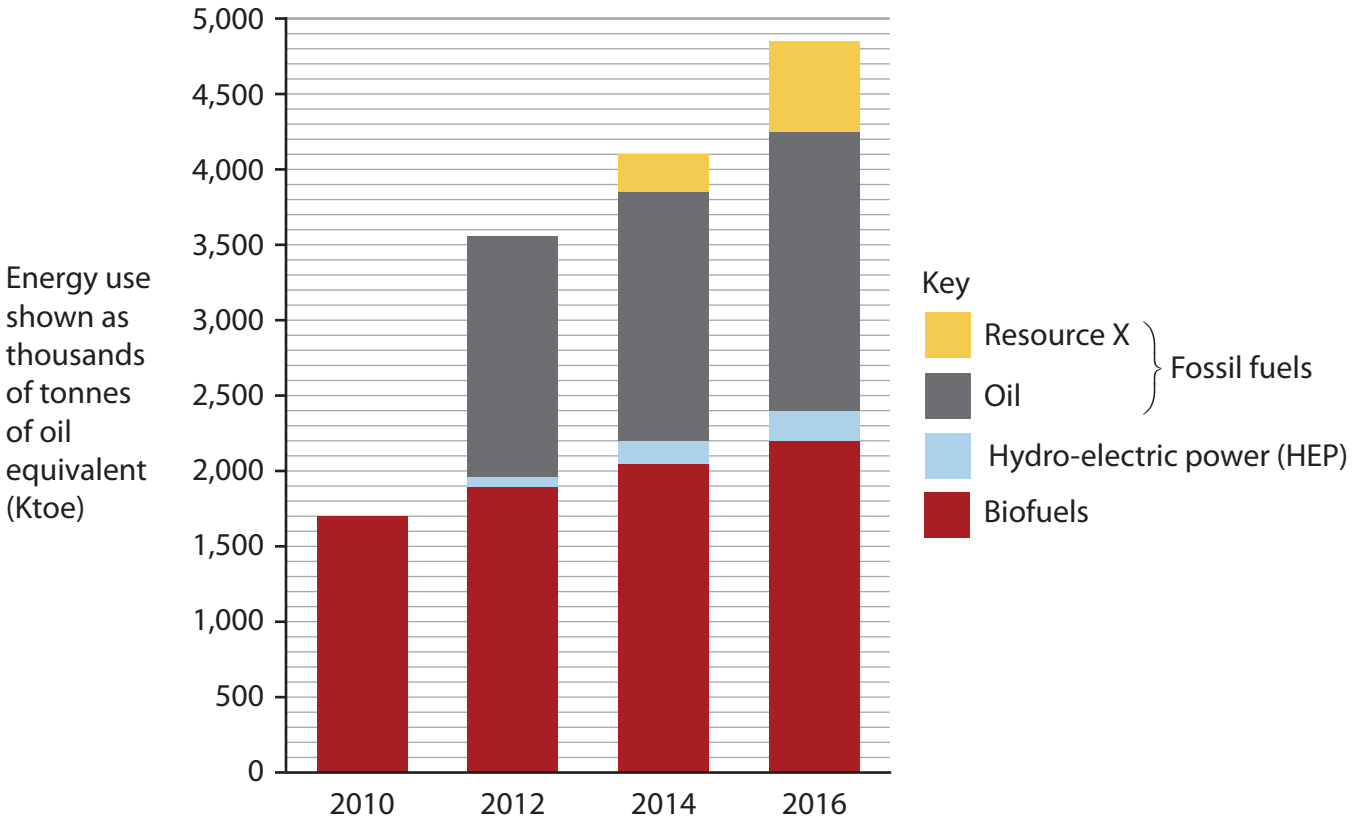

Figure 6

Energy resources used in Cambodia, 2010–2016 (all values are shown as 'thousands of tonnes of oil equivalent', or Ktoe, so comparisons can be made)

- Wood is widely used for cooking in Asia and Africa, and may be responsible for one-fifth of global greenhouse gas emissions.
- Since 2000, all of the forests closest to Cambodia's capital city, Phnom Penh, have been cleared to provide firewood.

- Charcoal bricks are a fuel source made from cut and dried wood. Some of this wood is taken illegally from national parks in the Cardamom Mountains.
- Charcoal is light and cheap to transport but when burned it emits poisonous carbon-rich smoke. This leads to urban air pollution and also global warming.

Figure 7

Environmental impacts of burning traditional biofuels (firewood and charcoal)

Year	Wood used as firewood (million tonnes)		Wood used to make charcoal (million tonnes)	Total wood used (million tonnes)
	Residential	Industrial		
2014	1.54	0.69	2.59	4.82
2015	1.63	0.71	2.69	5.03
2016	1.70	0.75	2.80	5.25
2017	1.78	0.78	2.94	5.50
2018	1.81	0.85	2.98	5.64

- Five million Cambodians use charcoal and that number is increasing.
- Charcoal is cheaper than fossil fuels.
- Over 600 textile factories in Phnom Penh use firewood or charcoal as their energy source while making clothes for global markets.

Figure 8

Trends in firewood and charcoal use in Cambodia, 2014–2018

United Nations (UN) spokesperson	"The biggest threat to the country's forests is still land grabbing by local businessmen, often aided by local authorities. Cambodia ranks as one of the world's most corrupt countries."
Spokesperson for a major charity	"The timber gangs are winning this nasty war. They are going to destroy these forests, one species at a time. Look what happened to Chut Wutty, the forest protection campaigner. He was shot dead in the Cardamom Mountains in 2012."
Cardamom Mountains resident	"I moved here from Phnom Penh to get rich by gathering and selling wood to charcoal merchants. But most of the trees near my home are now gone."
BBC journalist	"Only 25% of charcoal comes from sustainable sources, where trees have been replanted. The remaining 75% comes from unprotected rainforest, some of which is inside national parks."

Figure 9

Issues surrounding the continued use of traditional biofuels as an energy source in Cambodia

Who is trying to help?	*How are they trying to help?*
Local businesses *Some Cambodian businesses are trying to deliver more sustainable energy supplies.*	• Sustainable Green Fuel Enterprise (SGFE) is a company in Phnom Penh. • It uses vegetable waste to make cheap, sustainable biomass fuel bricks. SGFE says this saves about 10,000 trees a year. • SGFE provides people with more efficient cooking stoves, so even less energy is needed.
Local communities *People replant trees in areas where charcoal gangs have destroyed the rainforest.*	• Many communities get involved during the country's annual "Arbor Day" holiday each July. • Children are taught to plant seeds in school. • Each year, around 10 km^2 of tropical rainforest is replanted this way.
The United Nations *In 2008, the UN launched a programme called Reducing Emissions from Deforestation and Forest Degradation (REDD).*	• A proposed REDD project aims to provide money to protect rainforest in the Cardamom Mountains where charcoal gangs operate. • Cambodia's government will be paid money if it succeeds in slowing or stopping deforestation.
International charities *Wildlife Alliance is an international charity based in New York. It works in partnership with national governments.*	• 100 Wildlife Alliance rangers take part in the Cardamom Forest Protection Program. In 2016, they discovered 665 illegal logging camps, seized 755 chainsaws and helped jail 7 people. • However, each ranger must patrol a forest area the size of several hundred football pitches. • As soon as the rangers have gone, the charcoal companies re-equip the gangs with new chainsaws.

Figure 10

Ways in which different groups and organisations are working to protect Cambodia's forests

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Acknowledgements:

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Figure 5: copyright Guardian News & Media Ltd 2020

Figure 6: sourced from https://www.eria.org/RPR_FY2015_08.pdf

Figure 7a: © UNDP Bhutan

Figure 7b: © Tetiana Kovalenko / Alamy Stock Photo

Figure 8: sourced from https://green.blogs.nytimes.com/2009/10/15/cambodian-charcoal-market-is-booming

Figure 9: sourced from https://www.ft.com/content/5134ca48-bd41-11e4-b523-00144feab7de