

Question 1 (1 mark)

Source A

Recently, a group of researchers investigated global historical trends of land used for farming. They came to the following conclusions:

1. Globally, the production of crops requires 65 % less land than it did in 1960. This is due to fertilizers, pesticides, wider use of technology and better varieties of crops.
2. Despite the fact that the production of crops requires less land than it did in 1960, the overall land used for farming has actually increased due to:
 - population growth
 - increasing wealth (as people get wealthier, they consume more meat, which requires more land to produce).

State one reason given in **Source A** for why the overall amount of land used for farming has increased.

Scroll down to continue

- population growth
- increasing wealth (as people get wealthier, they consume more meat, which requires more land to produce).

State one reason given in **Source A** for why the overall amount of land used for farming has increased.

B *I* | ← → | x₂ x² | ☰ ☷ | Ω Σ | Styles ▾ | 📄 ↕

Question 2 (5 marks)

The group of researchers mentioned in **Source A** summarized their findings and predictions in the following graph:

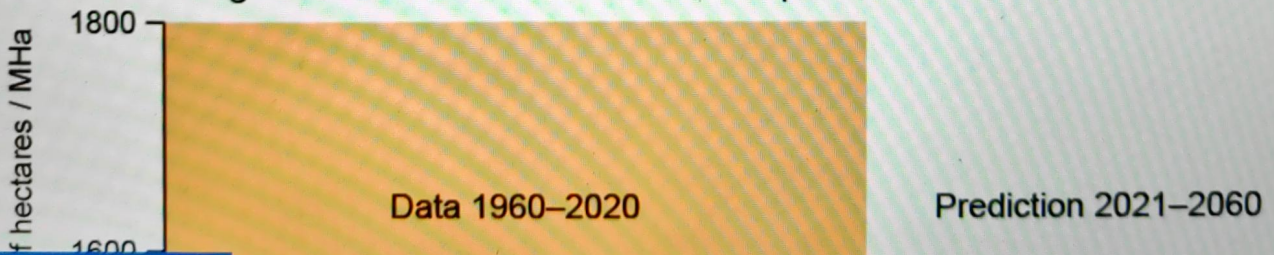
Source B

Source A

This media is interactive

Hover over the graph points for more detail.

Rising and falling farmland:
global farmland 1960–2020 and prediction for 2021–2060



Scroll down to continue

Source B

Source A

This media is interactive

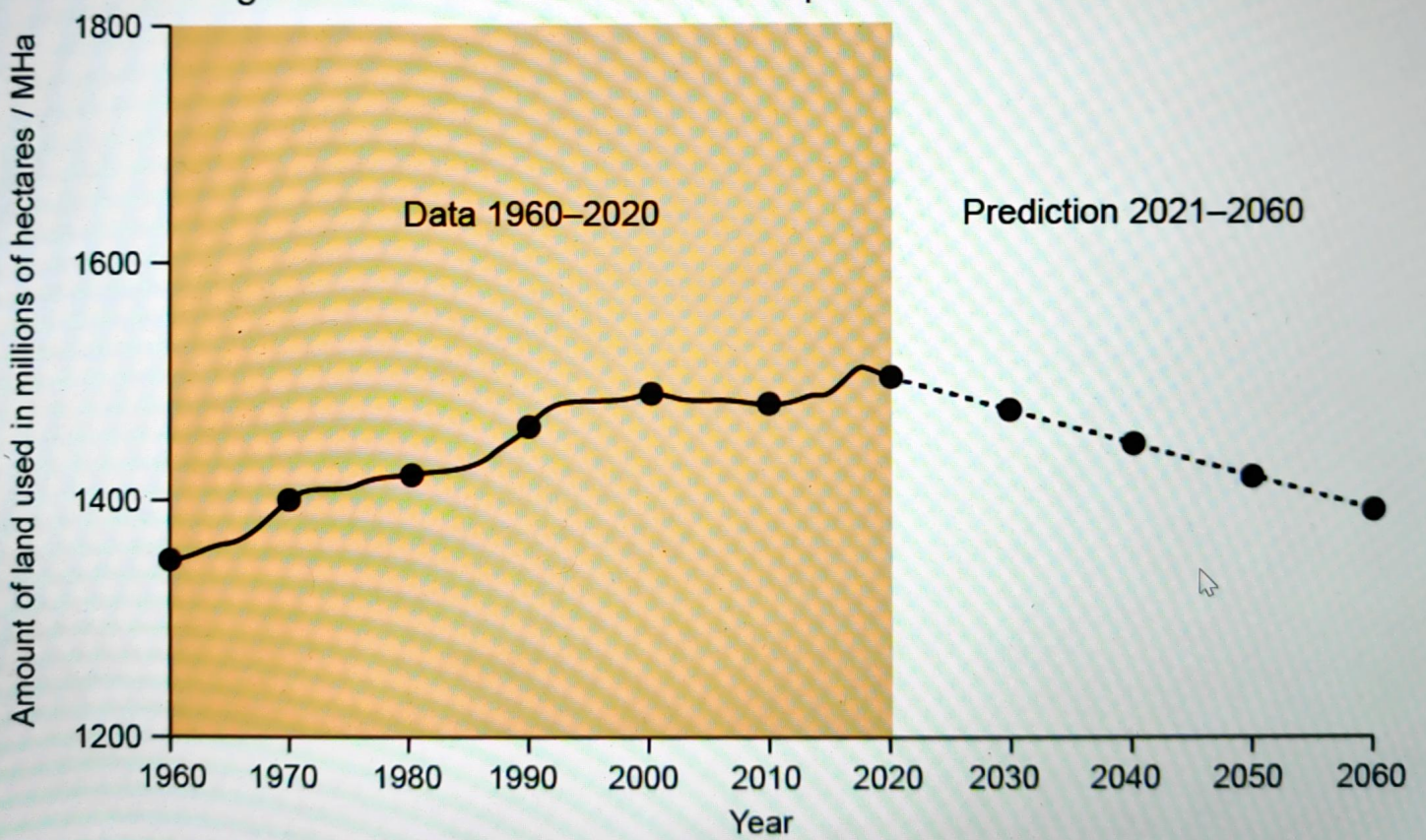
Hover over the graph points for more detail.

Rising and falling farmland: global farmland 1960–2020 and prediction for 2021–2060



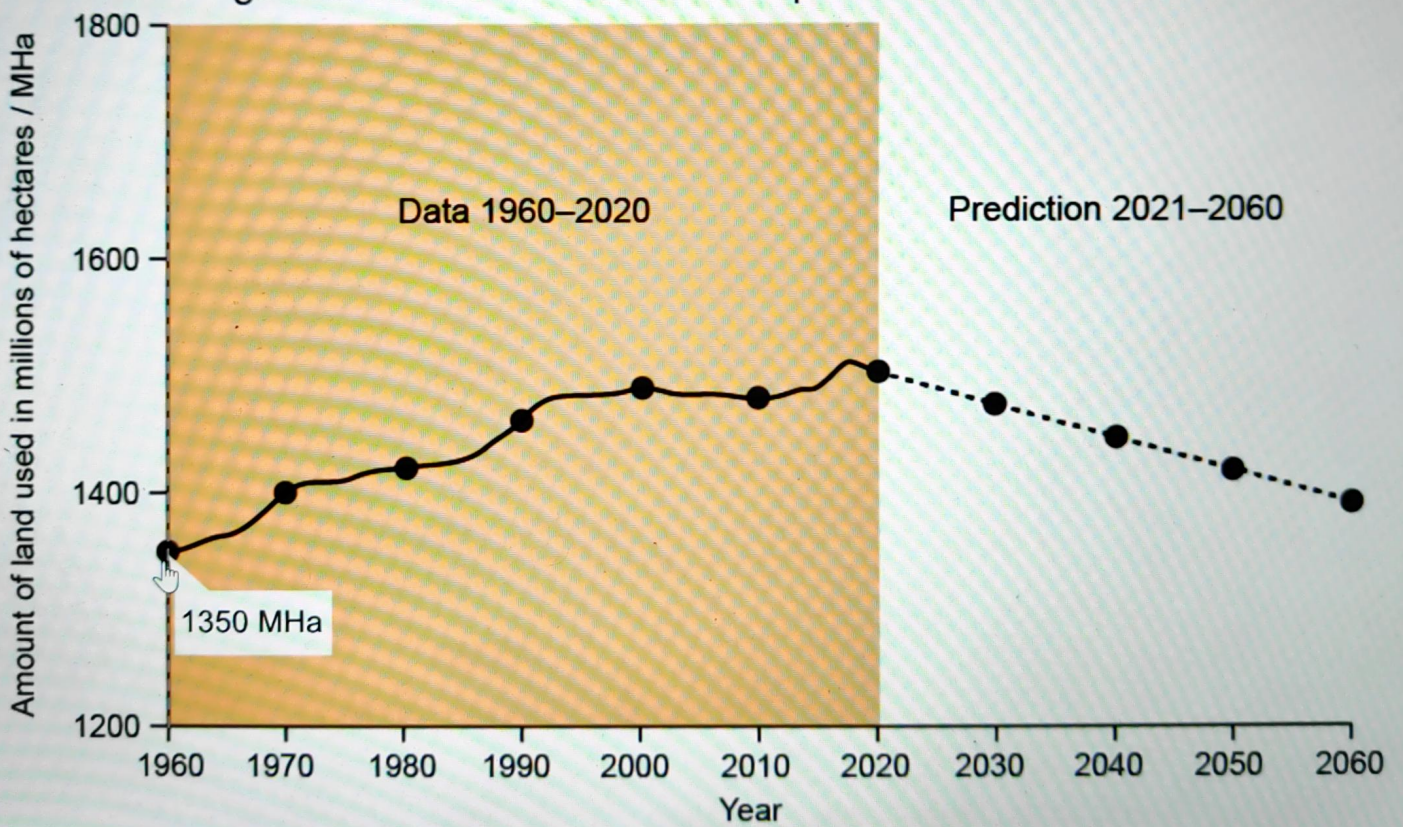
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Rising and falling farmland:
global farmland 1960–2020 and prediction for 2021–2060



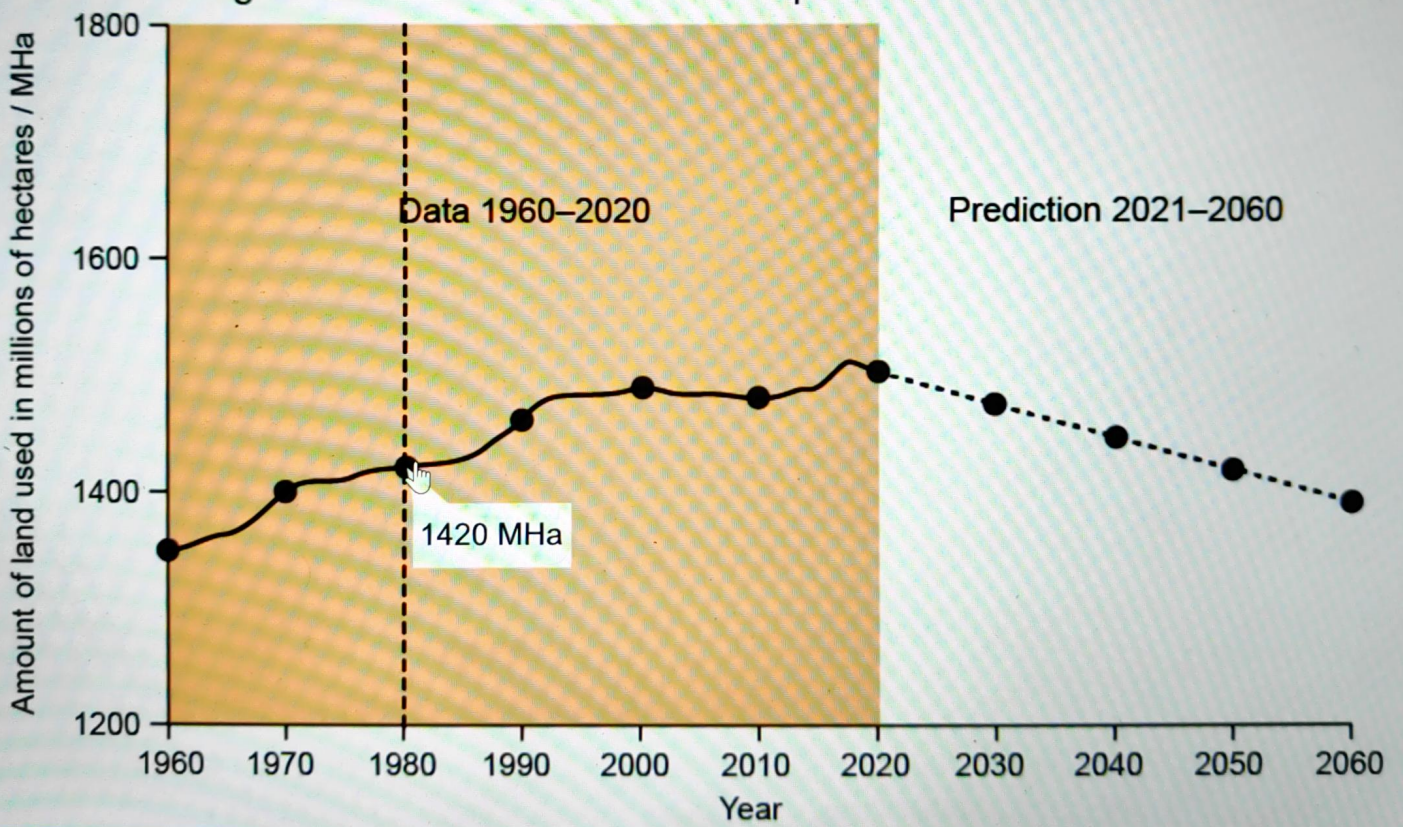
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Rising and falling farmland: global farmland 1960–2020 and prediction for 2021–2060



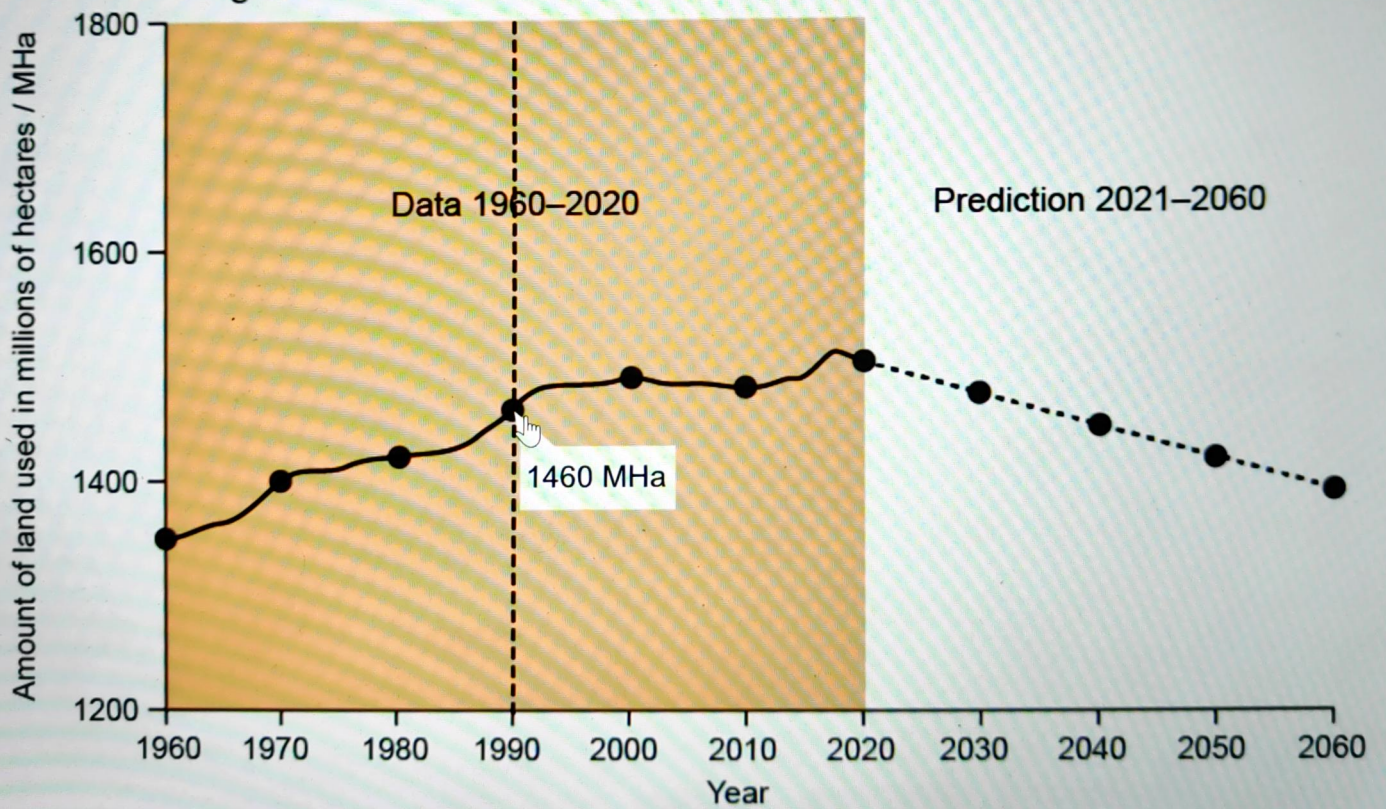
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Rising and falling farmland: global farmland 1960–2020 and prediction for 2021–2060



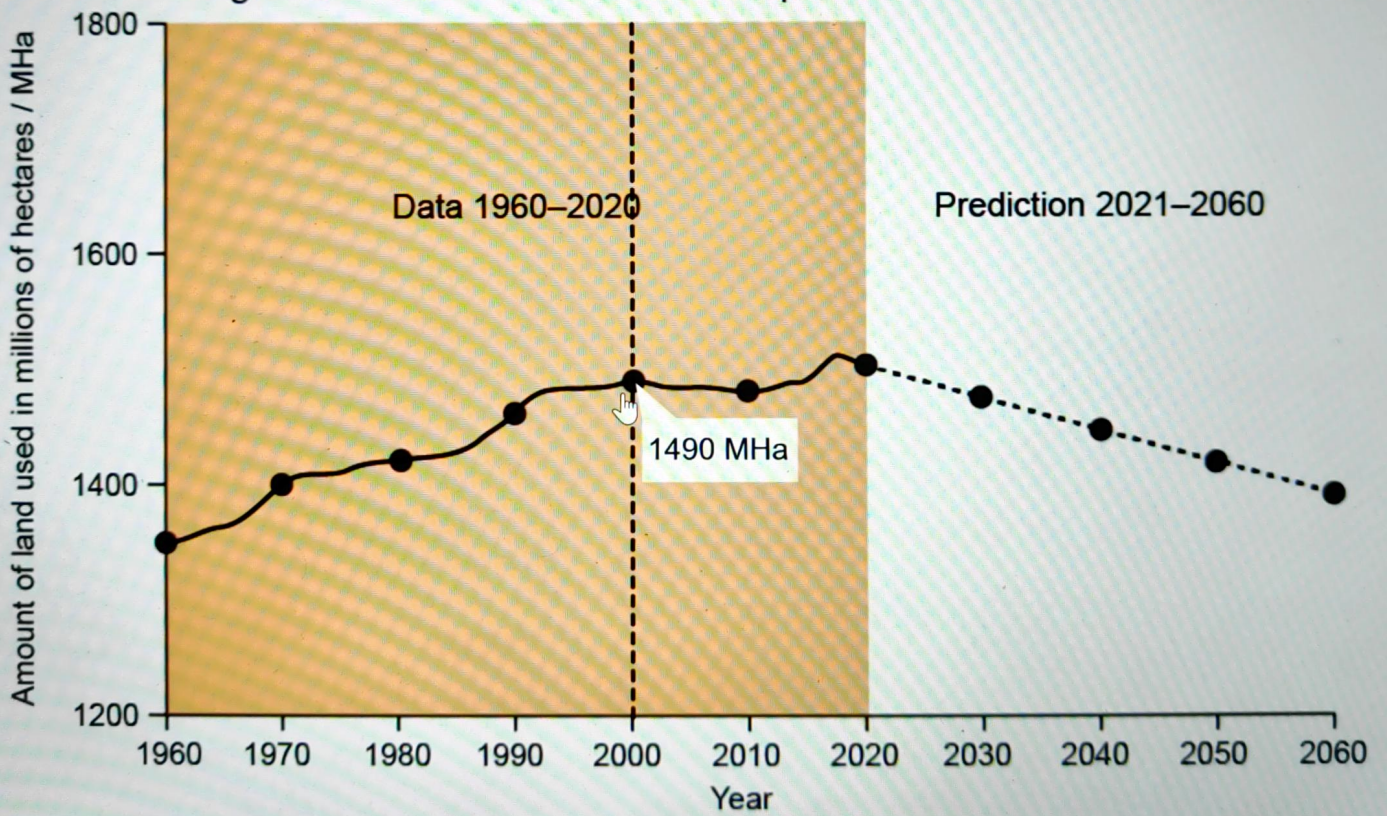
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Rising and falling farmland: global farmland 1960–2020 and prediction for 2021–2060



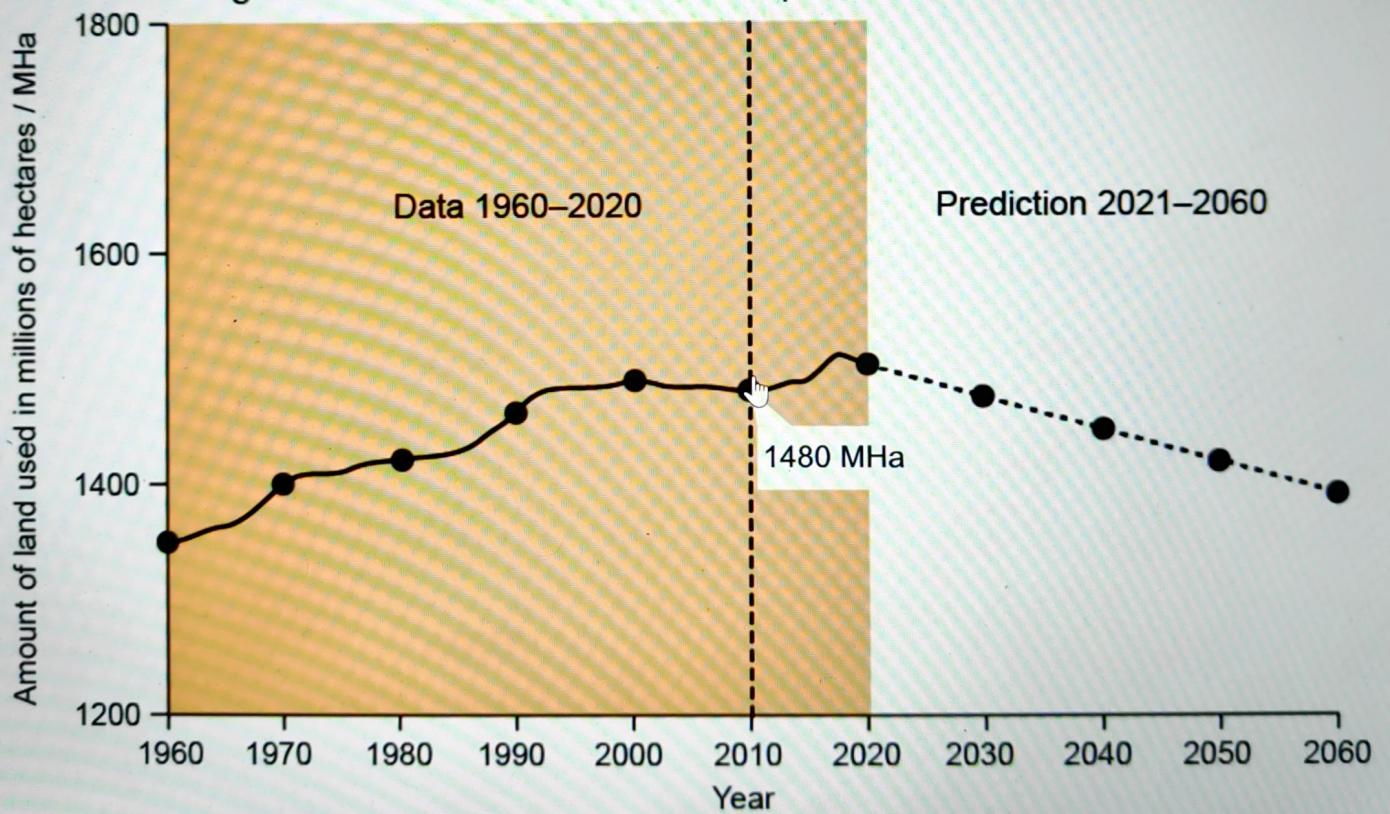
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Rising and falling farmland:
global farmland 1960–2020 and prediction for 2021–2060



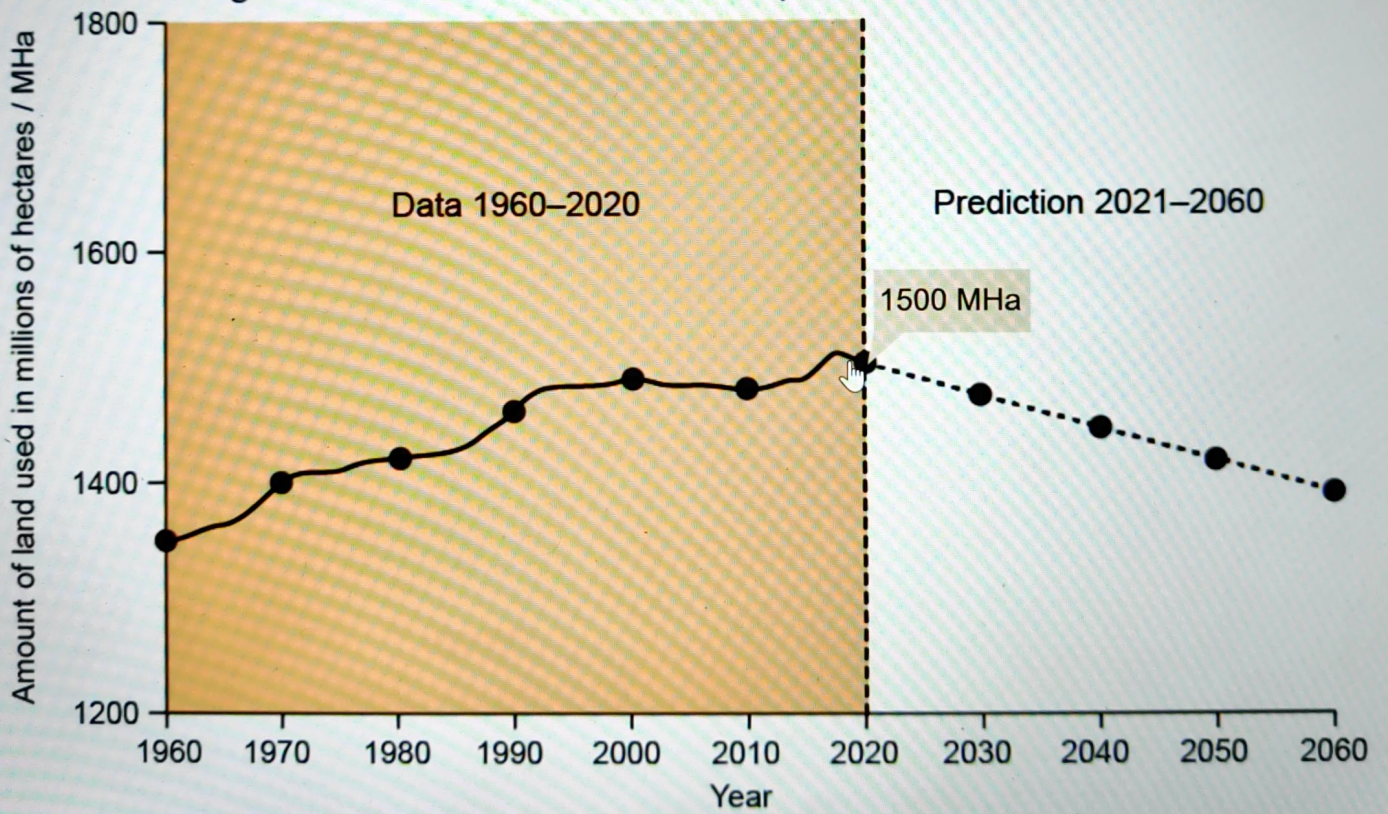
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Rising and falling farmland: global farmland 1960–2020 and prediction for 2021–2060



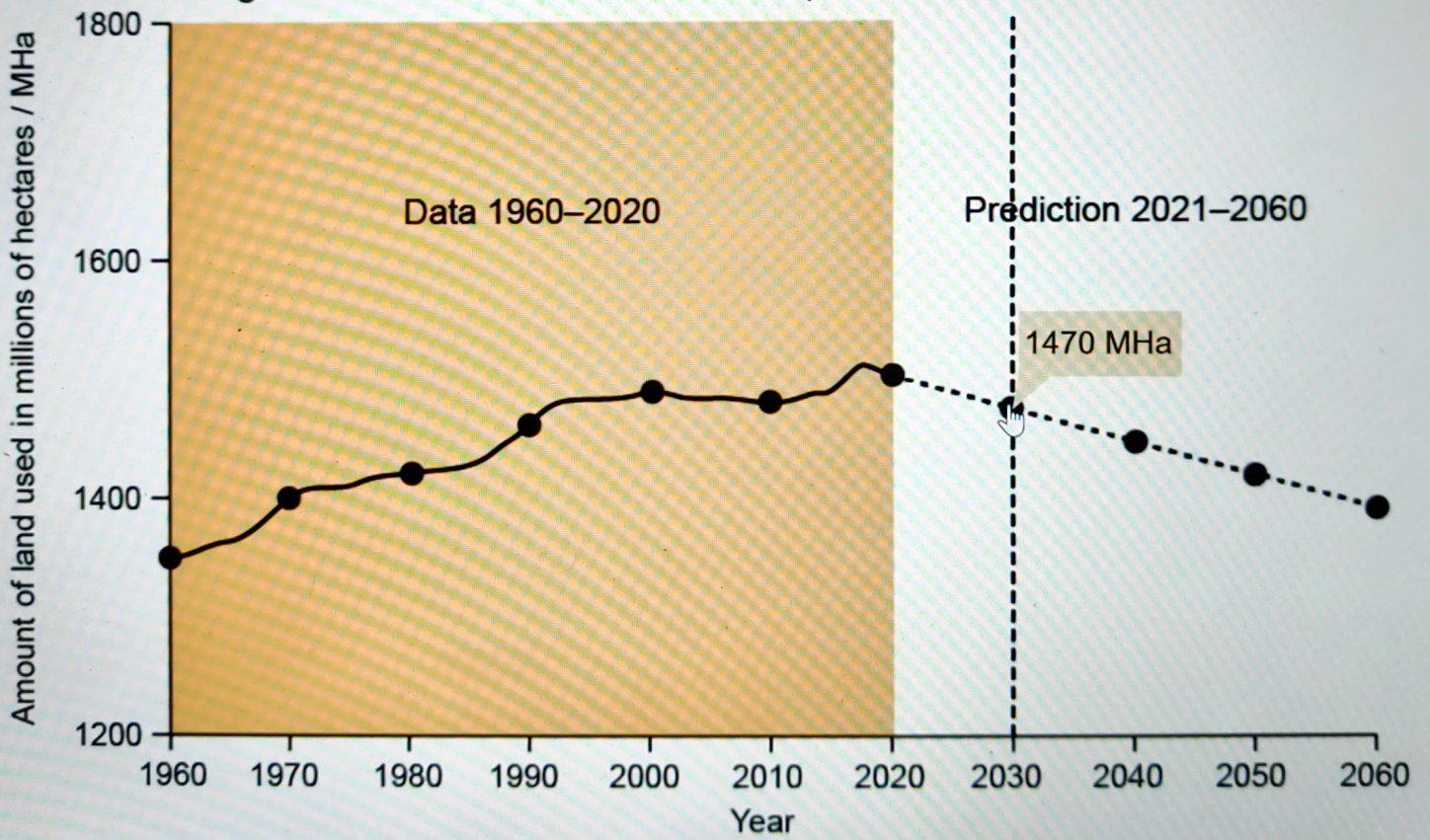
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Rising and falling farmland:
global farmland 1960–2020 and prediction for 2021–2060



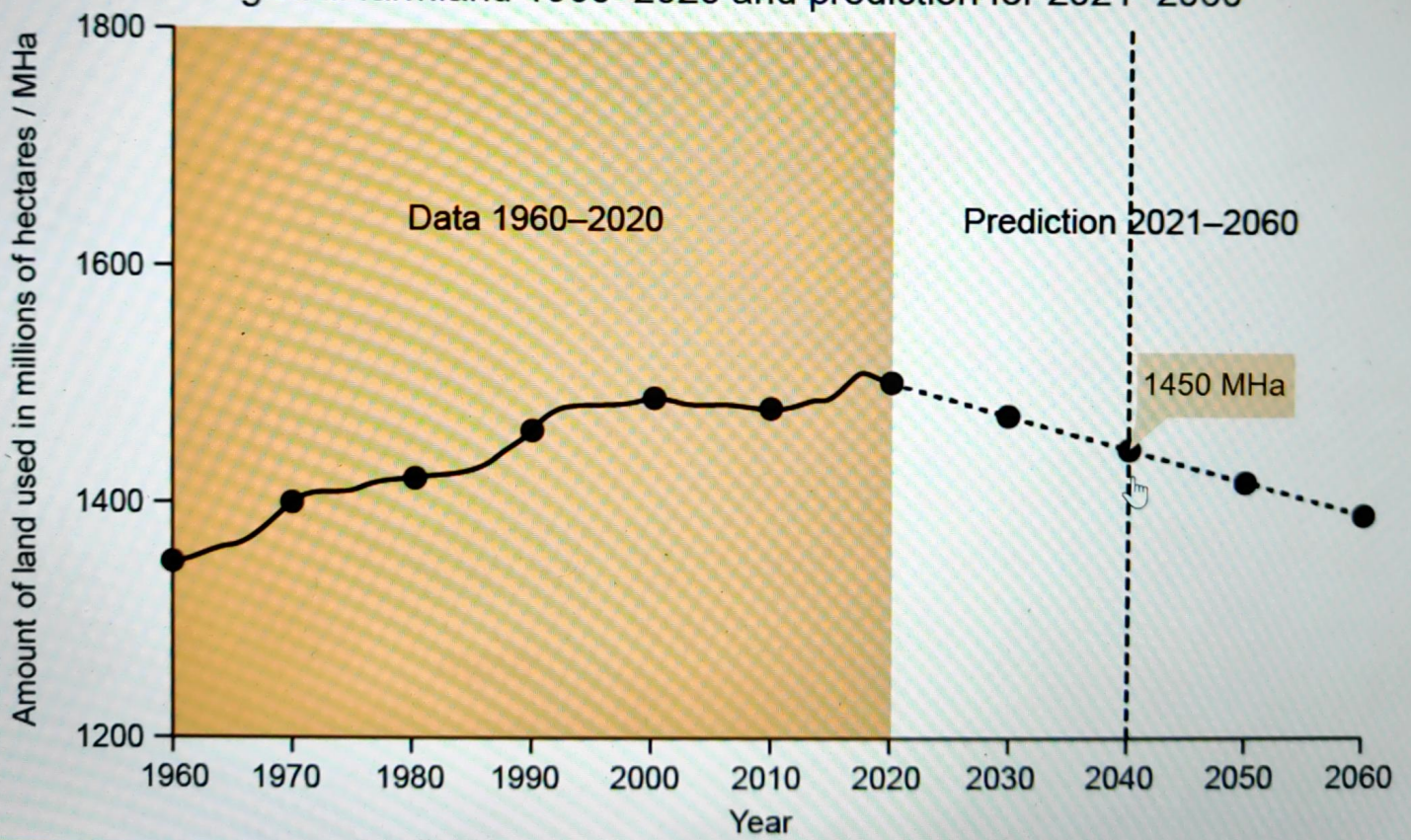
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Rising and falling farmland: global farmland 1960–2020 and prediction for 2021–2060



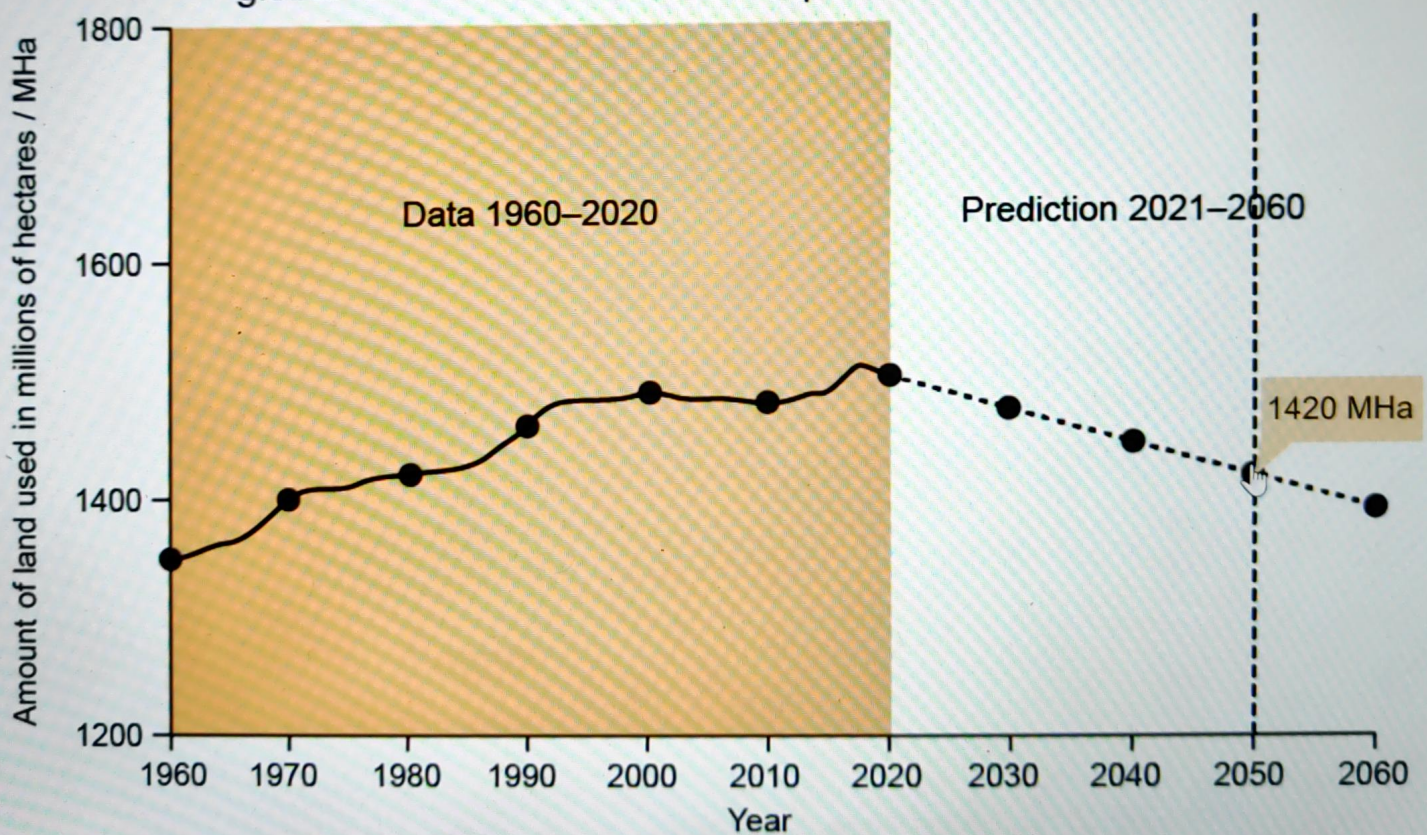
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Rising and falling farmland:
global farmland 1960–2020 and prediction for 2021–2060



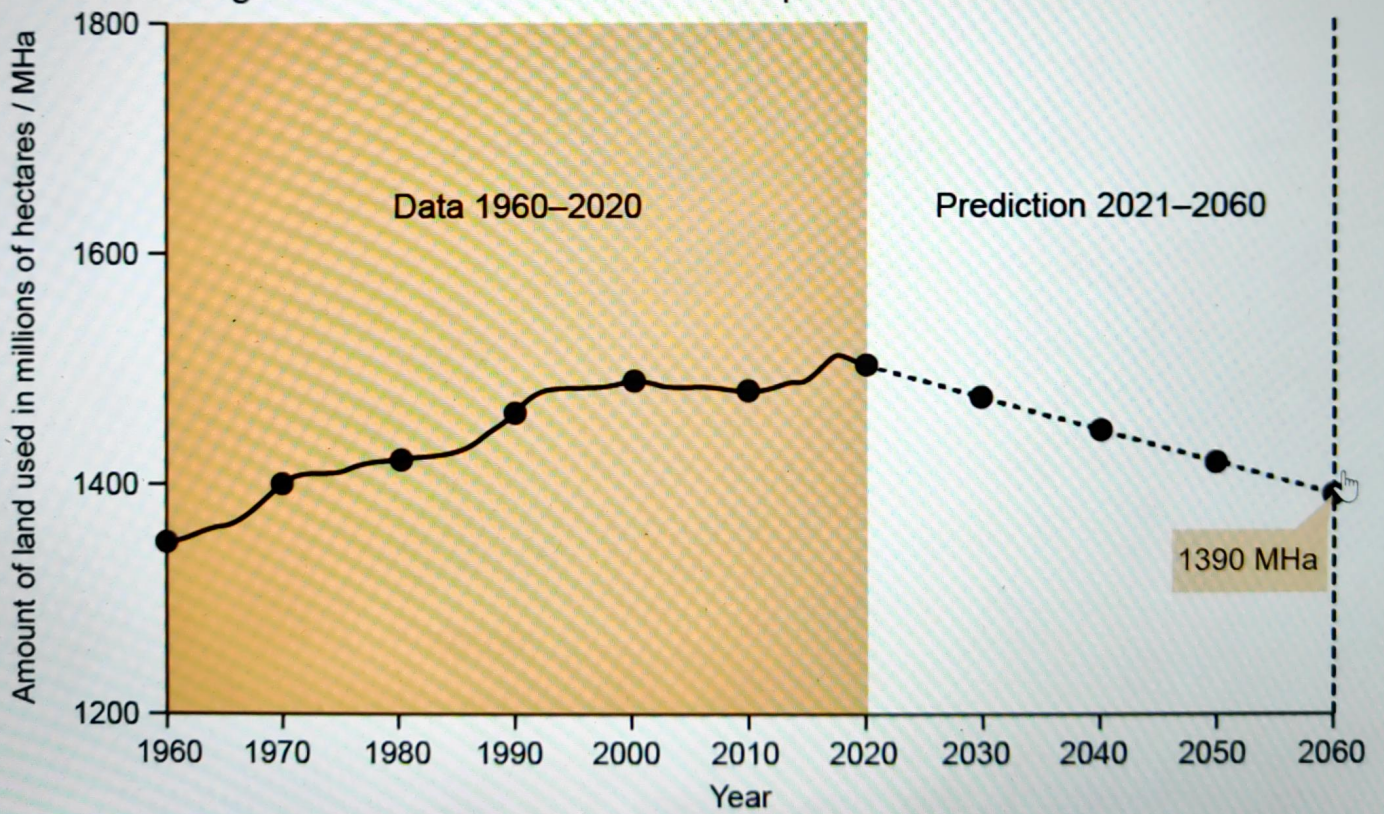
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Rising and falling farmland:
global farmland 1960–2020 and prediction for 2021–2060



Scroll down to continue

Rising and falling farmland: global farmland 1960–2020 and prediction for 2021–2060



Scroll down to continue



Question 2a (1 mark)

Using **Source B**, **state** how many millions of hectares of land are predicted to be used in the year 2050.

B *I* | ← → | U x_2 x^2 | \int \sum | Ω Σ | Styles |





Question 2b (4 marks)

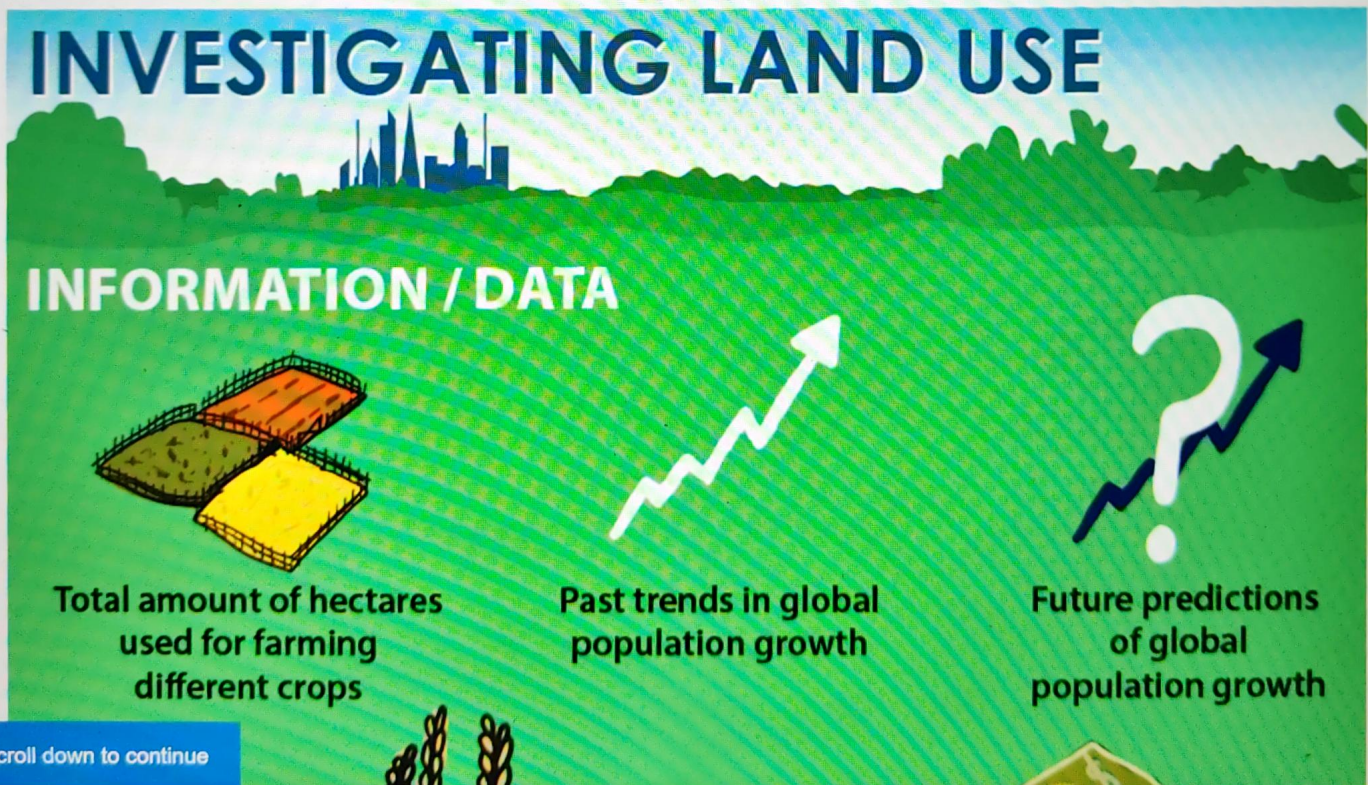
Assuming the prediction of land use from 2021–2060 is accurate, **explain** the possible impact on **one** of the following biomes:

- aquatic
- desert
- forest
- grassland.

B I | | x_2 x^E | | Ω Σ | Styles |

Question 3 (8 marks)

The researchers investigating land use produced the following infographic to demonstrate their investigation. You will be asked to evaluate the process and results of their investigation.



INFORMATION / DATA



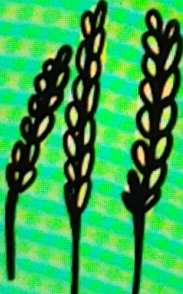
Total amount of hectares used for farming different crops



Past trends in global population growth



Future predictions of global population growth



Amount of corn, wheat and rice harvested per year



Global gross domestic product (GDP) per capita

SOURCES



Government ministries in India, China and the United States



International Fertilizer Association



International Organization of Pesticide Producers



UN Food and Agriculture Organization



A reference book called International Historical Statistics, published in 1992



UN Department of Economic and Social Affairs



International Organization of Farm Machinery Producers



Scroll down to continue

Agriculture
Organization



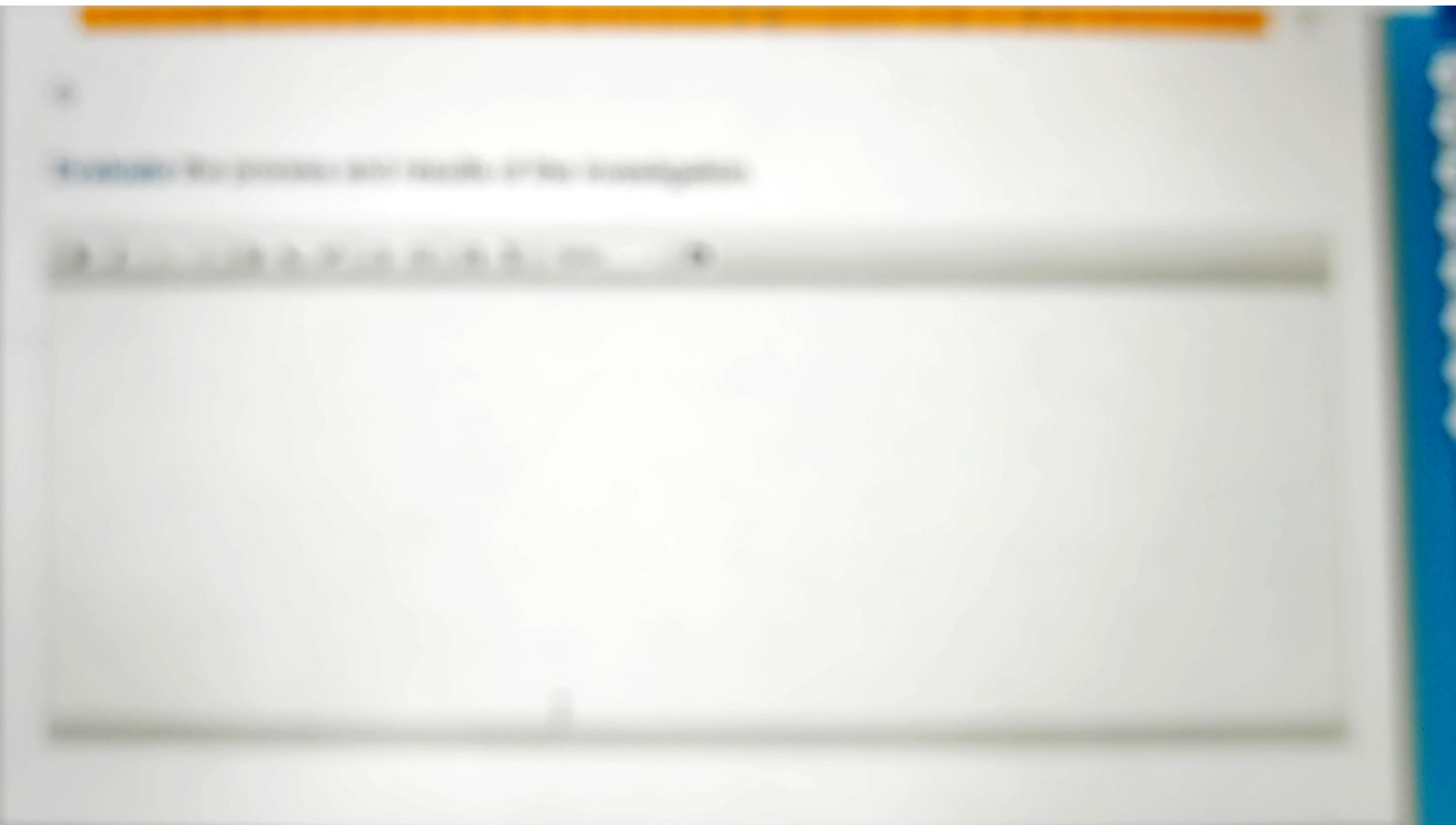
UN Department of
Economic and
Social Affairs

International
Organization of Farm
Machinery Producers

CONCLUSIONS

1. Globally, the production of crops requires 65 % less land than it did in 1960. This is due to fertilizers, pesticides, wider use of technology and better varieties of crops.
2. Despite the fact that the production of crops requires less land than it did in 1960, the overall land used for farming has actually increased due to:
 - population growth
 - increasing wealth (as people get wealthier, they consume more meat, which requires more land to produce).

Scroll down to continue



Question 4 (12 marks)


Based on their conclusions, the researchers noted that it would be good to carry out further investigations into future trends that will impact on land use for farming. Their suggested future trends are:

- increased use of fertilizers, pesticides and technology in farming
- changing global population growth.

You will continue the investigation carried out by the researchers. You will need to develop an action plan by answering the following questions:

Question 4a (2 marks)

With reference to **one** of the areas for further investigation and its impact on land use for farming, **formulate** a clear and focused research question.

B **I** | ← → | x₂ x² | \int \sum | Ω Σ | Styles | 



Question 4a (2 marks)

With reference to **one** of the areas for further investigation and its impact on land use for farming, **formulate** a clear and focused research question.

B *I* | ← → | x₂ x² | $\frac{1}{2}$ $\frac{3}{4}$ | Ω Σ | Styles |





Question 4b (4 marks)

Justify the relevance of your research question to the issue of future trends in land use for farming.

The future trends suggested by the researchers are:

- increased use of fertilizers, pesticides and technology in farming
- changing global population growth

B I | ← → | x₂ x² | $\frac{1}{2}$ $\frac{3}{4}$ | Ω Σ | Styles |

As you develop your action plan for the research question above, you must answer the following questions:



Question 4c (4 marks)

Explain one challenge you would have to overcome when investigating future trends in land use for farming.

B *I* | ← → | x_2 x^e | \int \sum | Ω Σ | Styles ▾ |

[Empty text area for answer]



Question 4d (1 mark)

Identify one research method you will use to collect information for your research question.

B *I* | ↶ ↷ | U x_2 x^e | $\frac{1}{2}$ $\frac{3}{4}$ | Ω Σ | Styles ▾ | 📱





Question 4e (1 mark)

Identify **one** method you will use to record information for your research question.

B *I* | ← → U x_2 x^e $\frac{1}{2}$ $\frac{3}{4}$ Ω Σ Styles ▾



Question 5 (18 marks)

Your teacher has asked you to prepare a class presentation about the unit *Superpowers, empires and supranational institutions and organizations* that you have recently studied. Your teacher has given you the image below as inspiration for your presentation.

This media is interactive

Click on the flags for more information.

FAIRNESS AND DEVELOPMENT



Click on the flags for more information.

FAIRNESS AND DEVELOPMENT



FAIRNESS AND DEVELOPMENT



The US and USSR are examples of superpowers.



Scroll down to continue



FAIRNESS AND DEVELOPMENT

The graphic features a 3D-style layout. On the left, there are four stacked rectangular blocks with different flags and symbols: the top block shows the US and USSR flags; the second shows the Japanese sun flag and the Spanish coat of arms; the third shows the UN logo; and the bottom block shows the League of Nations logo. On the right, there is a stack of colored bars with the following words: Privilege (red), Conflict management (light blue), Security (green), Power (blue), Authority (orange), Difference (teal), Justice (purple), and Inequality (yellow). A central blue box contains the text: "Both Japan and Spain ruled over large empires." A blue bar at the bottom left contains a scroll icon and the text "Scroll down to continue".



The United Nations and League of Nations are examples of supranational institutions/organizations.

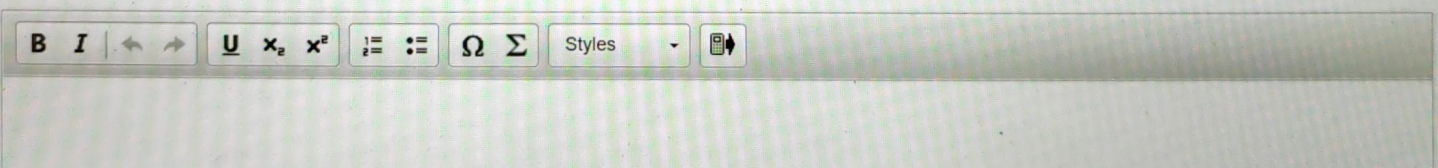
Using knowledge from your MYP studies, **explain** the positive **and** negative impacts that **one** of the following has had on fairness and development:

- superpowers
- empires
- supranational institutions/organizations.

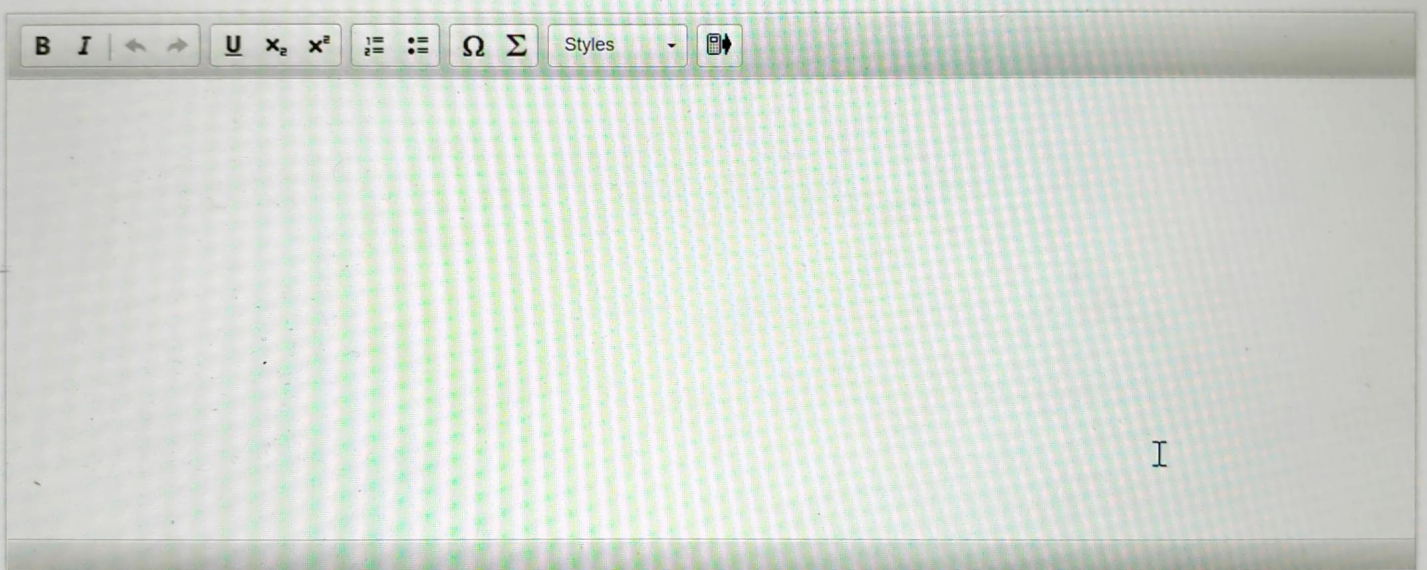
In your response, you must:

- focus on **one** superpower **or** empire **or** supranational institution/organization (from the image or your own knowledge)
- include a relevant title for your presentation
- create **one** presentation slide for positive impacts and **one** presentation slide for negative impacts. Your slides should be well-structured to communicate clearly to the audience.
- include a script to support each of your presentation slides.

Write the title of your presentation here:

A rich text editor toolbar with various icons for text formatting and editing. From left to right, the icons are: Bold (B), Italic (I), Undo (left arrow), Redo (right arrow), Underline (U), Subscript (x₂), Superscript (x²), Bulleted List (three horizontal lines with a dot), Numbered List (three horizontal lines with numbers), Omega symbol (Ω), Sigma symbol (Σ), a dropdown menu labeled 'Styles', and a mobile device icon.

Write the script for the positive impacts here:



A rich text editor toolbar with icons for Bold (B), Italic (I), Undo, Redo, Underline (U), subscript (x₂), superscript (x²), Bulleted list, Numbered list, Omega (Ω), Sigma (Σ), Styles dropdown, and a mobile device icon. Below the toolbar is a large, empty text area with a vertical cursor (I) on the right side.

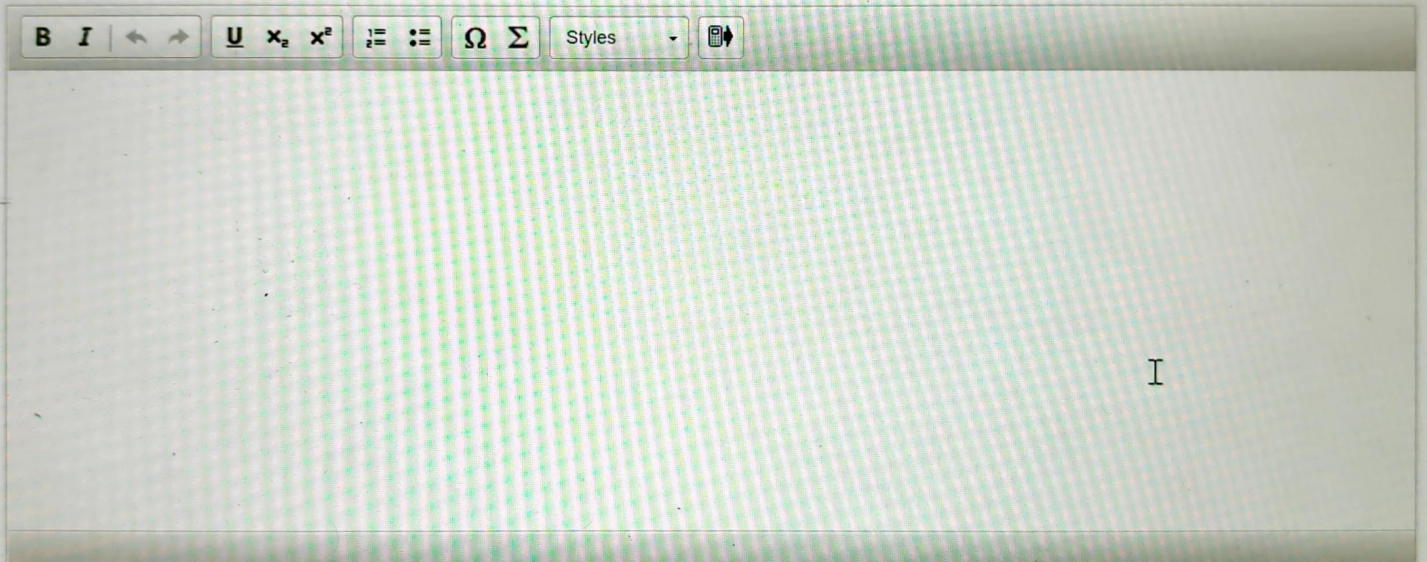
Create the slide to support your script for the positive impacts here:



A drawing toolbar with icons for a mouse cursor, eraser, rectangle, oval, circle, diamond, rounded rectangle, arrow, text (T), pencil, fountain pen, trash can, and undo/redo arrows.

Scroll down to continue

Write the script for the negative impacts here:



A rich text editor toolbar with the following icons from left to right: Bold (B), Italic (I), Undo (left arrow), Redo (right arrow), Underline (U), Subscript (x₂), Superscript (x^e), Bulleted List (three horizontal lines with a dot), Numbered List (three horizontal lines with numbers), Link (Ω), Unlink (Σ), Styles (a dropdown menu), and a Help icon (a question mark in a square).

Create the slide to support your script for the negative impacts here:

Question 6 (6 marks)

In Québec City in Canada, the local government has announced changes to public transportation that will be made in the near future. This is in response to the increase in demand for better transport. **Source C** below is a video made in 2018 by the government to present the project to the public. You will need to explain how these changes will have a positive impact on the city.

Watch the video and answer the question that follows.

Source C

Source C transcript

Québec City is changing its public transportation to make it more modern. In the near future, the bus system will be connected with a tramway service.

This service will increase mobility for everyone and connect the suburbs to the city via underground and outdoor stations.

Parking for cars and bikes will be available at the end of the lines.

the main power source for the tramway.

Scroll down to continue


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This service will increase mobility for everyone and connect the suburbs to the city via underground and outdoor stations.

Parking for cars and bikes will be available at the end of the lines.

Electricity will be the main power source for the tramway.

Explain how this change to Québec City's public transport system will have a positive effect on the city.



I

Question 7 (6 marks)

Source C is repeated below to help you answer the questions that follow.

Source C

Source C transcript

Québec City is changing its public transportation to make it more modern. In the near future, the bus system will be connected with a tramway service.

This service will increase mobility for everyone and connect the suburbs to the city via underground and outdoor stations.

Parking for cars and bikes will be available at the end of the lines.

Electricity will be the main power source for the tramway.



Question 7a (3 marks)

Describe the value of **Source C** to an MYP student researching how innovations impact urban environments.

B **I** **U** x_2 x^2 Ω Σ Styles





Question 7b (3 marks)

Describe the limitations of **Source C** to an MYP student researching how innovations impact urban environments.

B *I* | ← → | x_2 x^E | $\frac{1}{2}$ $\frac{3}{4}$ | Ω Σ | Styles ▾ |

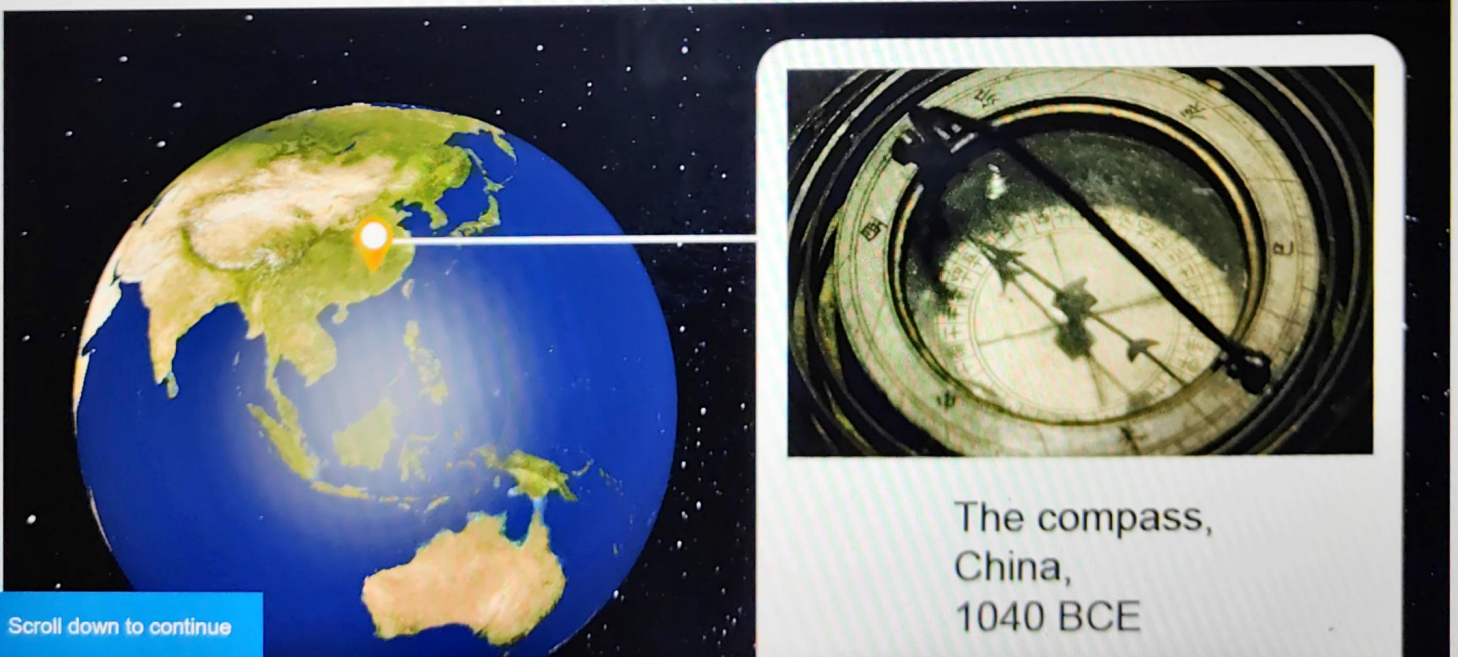


Question 8 (24 marks)

The timeline below shows examples of technological developments and innovations through time. Look at these and answer the question that follows.

This media is interactive

Click on the timeline to show more information.



The compass,
China,
1040 BCE

Scroll down to continue



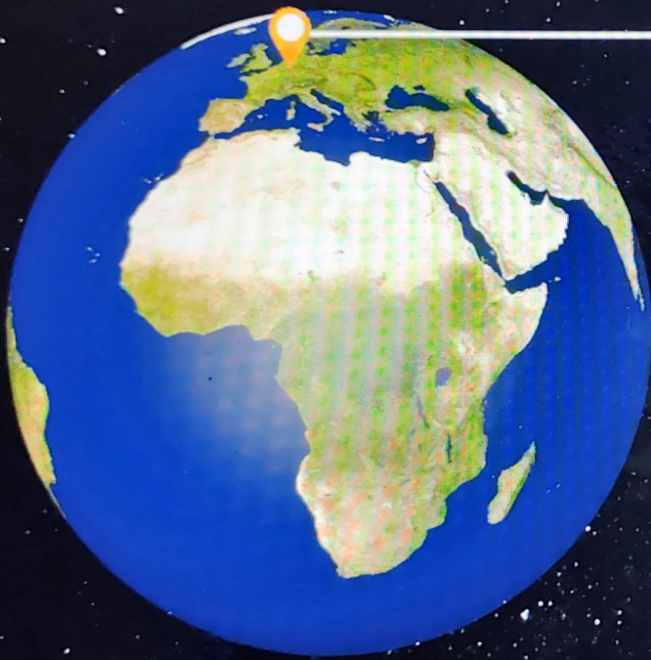
The compass,
China,
1040 BCE

The compass

Scroll down to continue

**The Gutenberg
printing press**

**The internal
combustion engine**



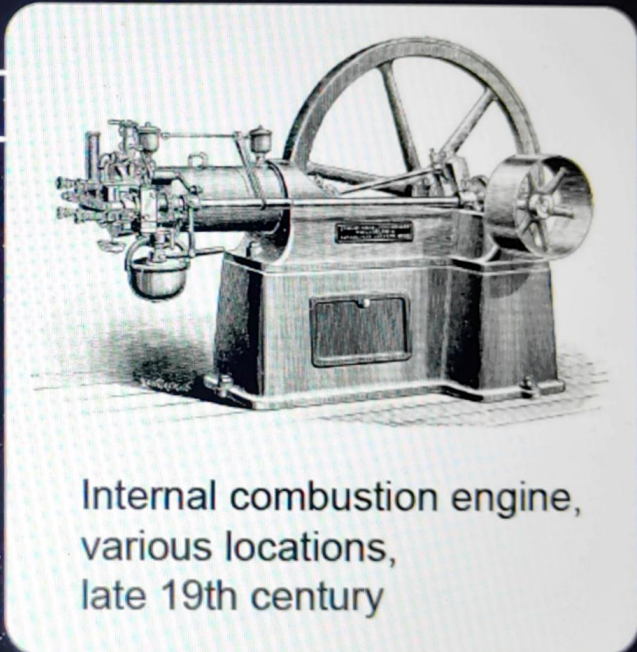
The Gutenberg printing press,
Germany,
1430s

The compass

**The Gutenberg
printing press**

**The internal
combustion engine**

Scroll down to continue



Internal combustion engine, various locations, late 19th century

The compass

The Gutenberg printing press

The internal combustion engine

Scroll down to continue

In a well-structured essay, **discuss** how **one** technological development/innovation has impacted quality of life.

In your response:

- you can use an example given in the timeline above or one from your own knowledge
- you must not discuss public transport or public transport systems as addressed in **Source C** (questions 6 and 7)
- you must include different perspectives about the impact of your chosen technological development/innovation.

B **I** | ← → **U** x_2 x^2 ☰ ☷ Ω Σ Styles - 📱

I