



ST ALBANS  
SCHOOL

# 13+ Entrance Examination

## Geography

60 minutes

Surname	First Name

Date of Birth	Score Total

### Instructions:

Candidates have **60 minutes** to complete the paper.

The total marks available are **34**.

Answer all of the question in this paper.

The number of marks is show in ( ) at the end of each question.

1 Study Section 1 (pages 2 and 3) of the Resource Booklet and answer the following questions.

(a) (i) Define the term **extinction**.

(1)

---

---

(ii) Outline the evidence that we are living in a sixth 'extinction event'.

(3)

---

---

---

---

---

---

---

---

(b) Study Figure 1a.

Explain why the extinction of plant species impacts on the survival of animal species.

(3)

---

---

---

---

---

---

---

---

**2** Study Section 2 (pages 4, 5 and 6) in the Resource Booklet and answer the following questions.

(a) Study Figure 2a.

Describe the main causes of animal extinctions since 1600.

(2)

---

---

---

---

---

(b) Study Figures 2a and 2b.

Explain why many natural habitats are likely to disappear by 2060.

(4)

---

---

---

---

---

---

---

---

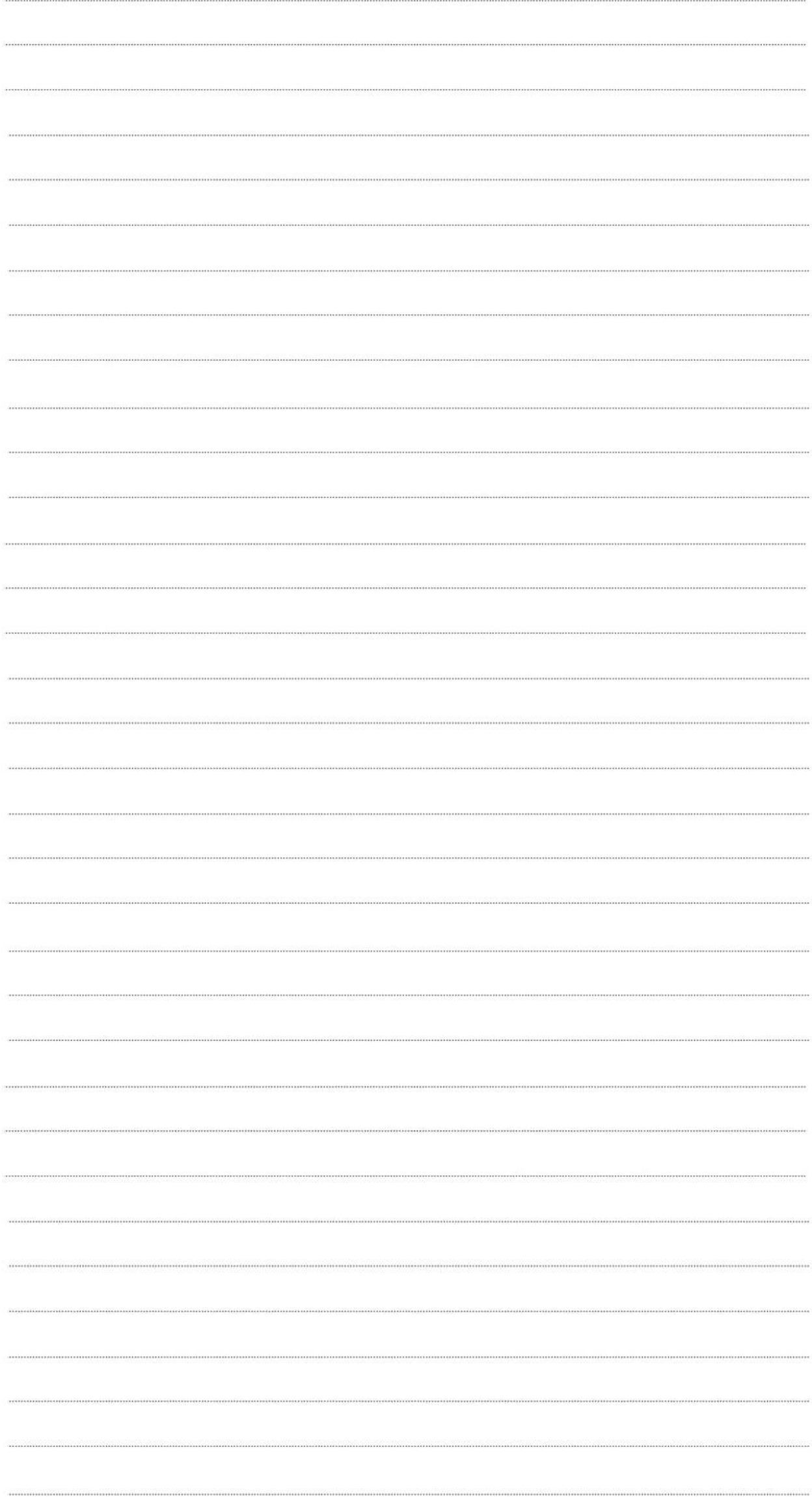
---

---













ST ALBANS  
SCHOOL

13+ Entrance Examination 2019

**Geography**

**RESOURCE BOOKLET: 'BIODIVERSITY DECLINE**

## INTRODUCTION TO THE PROBLEM

### The problem

The rapid extinction of plant and animal species poses a threat to the human race.

How can we deal with this?

- Some people believe that we must control population growth.
- Others think we need to control economic growth and reduce inequalities.
- Another view is that technology will solve the problem.

### Section 1 – The health of global ecosystems

- There are about 1.5 million species of plants and animals on Earth.
- The number and variety of these plants and animals, from bacteria to more complex organisms, is known as biodiversity.
- Extinction of a species is usually a natural result of evolution as plants and animals change and adapt to changing environments.
- Current rates of extinction are at least 100 times faster than the natural rate.
- In the past, long before humans evolved, there were five major periods when extinction rates were very high, known as 'extinction events'.
- Some scientists regard the present period of Earth history as a sixth 'extinction event', thought to be caused by human activity.
- The rate of species loss is as high as 30,000 a year, faster than anything before in the history of the planet (see Figure 1a).
- Many of these plants and animals are vital for the sustainability of the global ecosystems on which we depend.

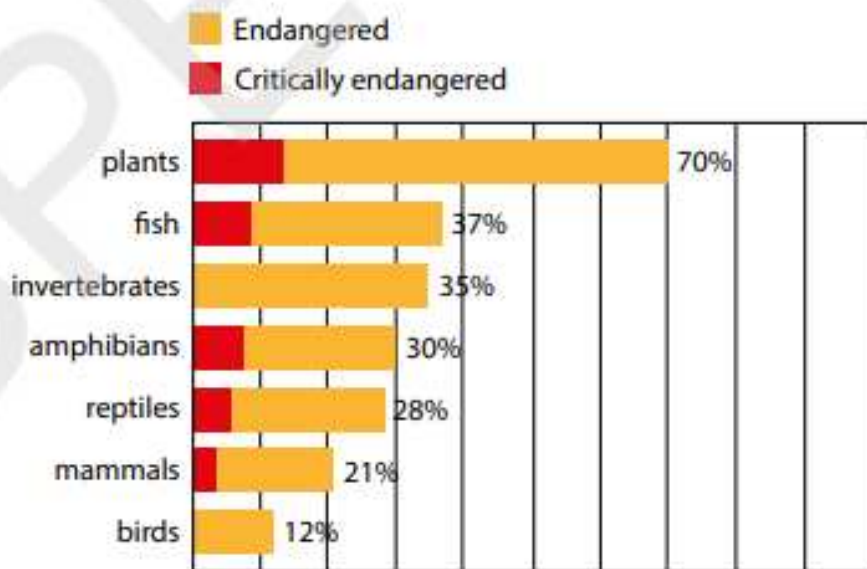


Figure 1a

The percentage (%) of plant and animal species that are endangered



## Section 2 – The basic causes of declining biodiversity.

### Population growth

- Increases in fishing and the amount of land used for agriculture are often blamed on an increasing global population.
- About 50% of the planet's natural habitats have been cleared for human use, mostly for agriculture, and another 0.5% to 1.5% is being cleared each year.
- In many parts of the world humans have introduced species that are not native to the area.
- This has led to the extinction of native plants and animals because they cannot compete with the new arrivals.
- Some species have been hunted to extinction.
- Many scientists believe that climate change will speed up the rate of species decline.

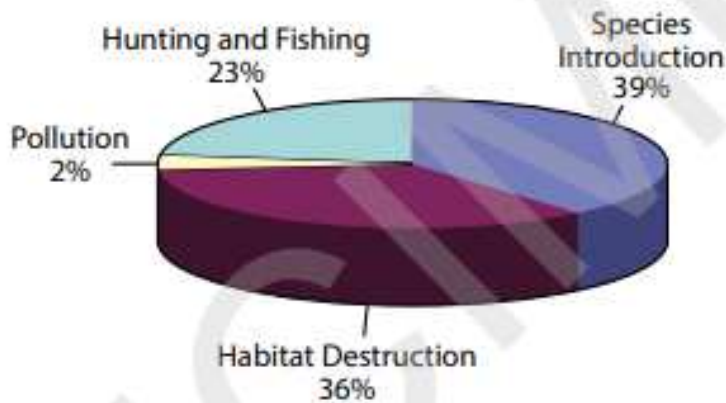


Figure 2a

### Causes of animal extinctions since 1600

- The United Nations (UN) has three projections of future population growth that vary according to different forecasts of changes in birth rates and death rates (see Figure 2b).

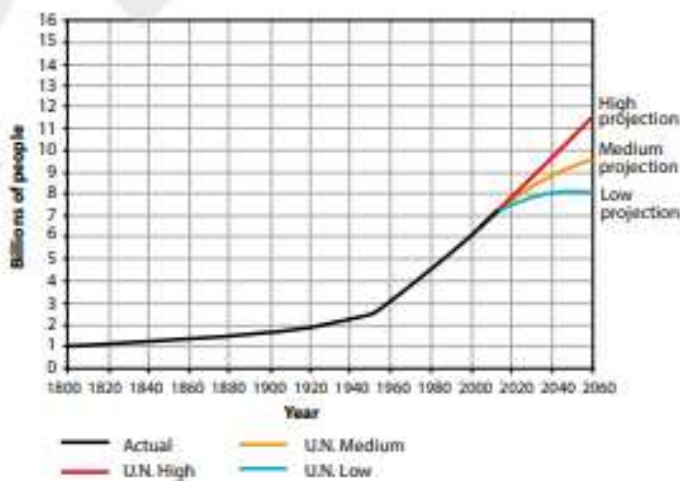


Figure 2b

### Global population changes 1800–2015, and projections until 2060

- Some parts of the world will experience much higher rates of population growth than others (see Figure 2c).



**Figure 2c**

**Projected percentage changes in population 2015–2060**

- An increasing amount of land, much of it in biodiversity 'hotspots' in the developing world, is being bought by transnational corporations (TNCs) to grow crops for a global market of agricultural products.
- Local rural populations are often forced to move either to new areas, where they clear forest to farm, or to the rapidly growing cities.

## Economic growth

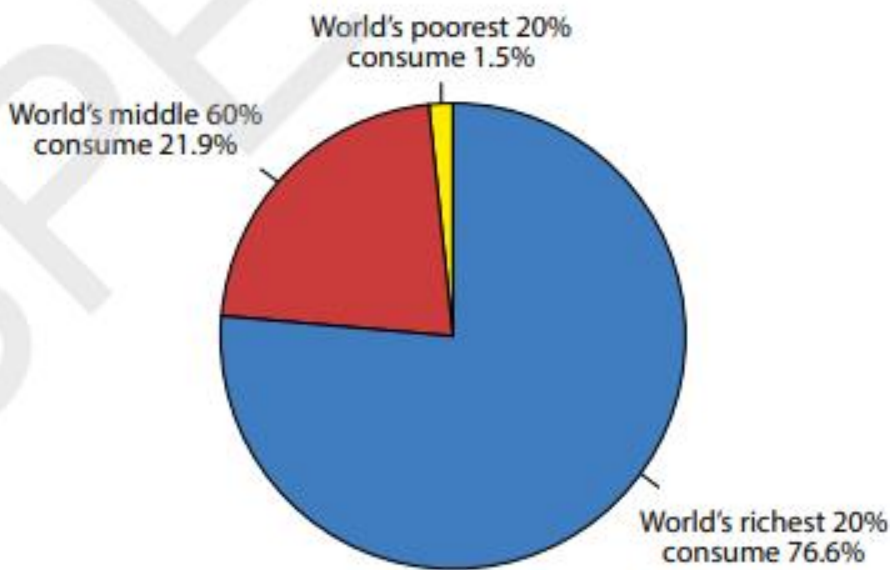
- The faster economies grow, the more resources they consume; for example, the Chinese are opening at least one new coal-fired power station every week to fuel their growing economy.
- Economic growth is predicted to continue (see Figure 2d).
- Every government in the world wants faster economic growth.

	Past → Predicted				
	1961–1980	1981–2000	2001–2020	2021–2040	2041–2060
World	4.2	2.9	2.0	1.5	1.1
Developed Countries	4.1	2.7	1.3	1.3	1.0
Developing Countries	5.3	3.6	2.6	1.8	1.3

**Figure 2d**

### Past and predicted growth rates of Gross Domestic Product (GDP, % average per year)

- The richest 1% of the global population own over 80% of global wealth.
- The vast majority of the richest 20% live in the developed world.
- The richest also consume by far the most (see Figure 2e).
- Some argue that the richest 1%, through their talent and enterprise, create jobs and opportunities for the rest.



**Figure 2e**

### Global consumption of resources in 2015

### Section 3 – Will technology come to the rescue?

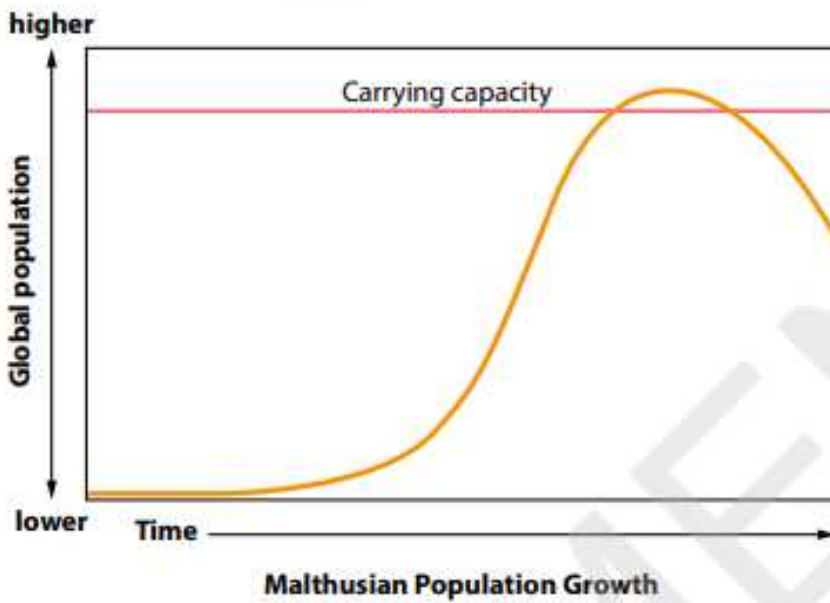


Figure 3a

#### The Malthusian theory of the relationship between population growth and resources

- Malthus believed that population growth inevitably leads to population collapse as resources are exhausted when we reach carrying capacity.

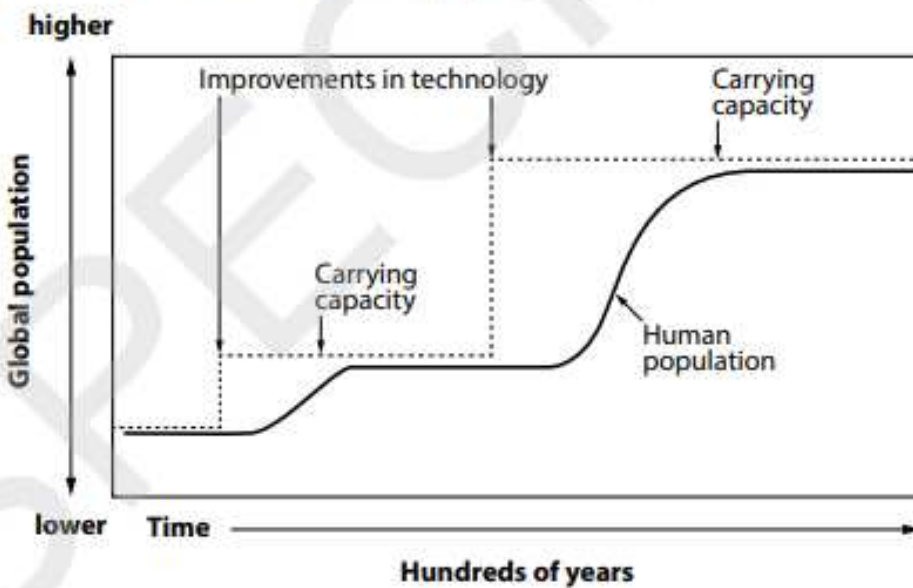


Figure 3b

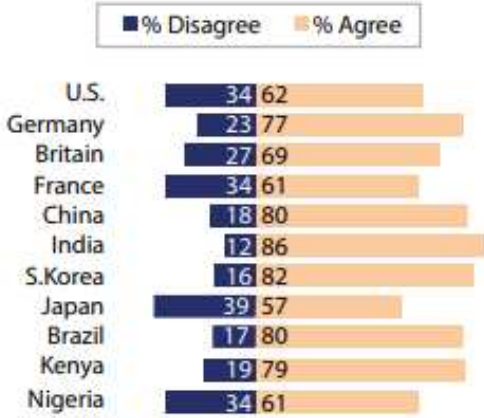
#### The Boserupian theory of the relationship between population growth and resources

- Boserup suggests that we never reach carrying capacity because of our reaction to increasing shortages of resources.
- As we get closer to the carrying capacity we invent new technologies that solve the problem.

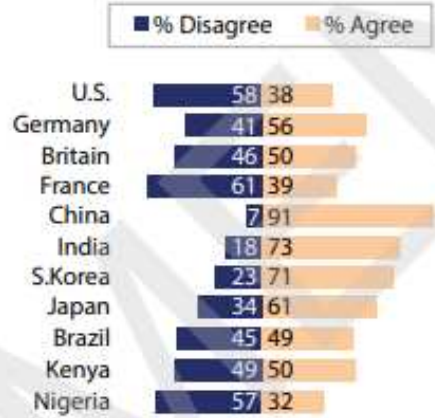
### Section 4 – Attitudes to the environment

- Attitudes to the environment and protecting biodiversity vary from place to place and from time to time (Figure 4).
- Although people express concern about the environment they often take a different view when asked about their willingness to pay more to help protect it.

**Do you think that we should protect the environment even if it slows economic growth and costs jobs?**



**Would you be prepared to pay higher prices for food and other goods so that we can protect the environment better?**



**Figure 4**

**Responses to a survey about the environment carried out in 11 countries**