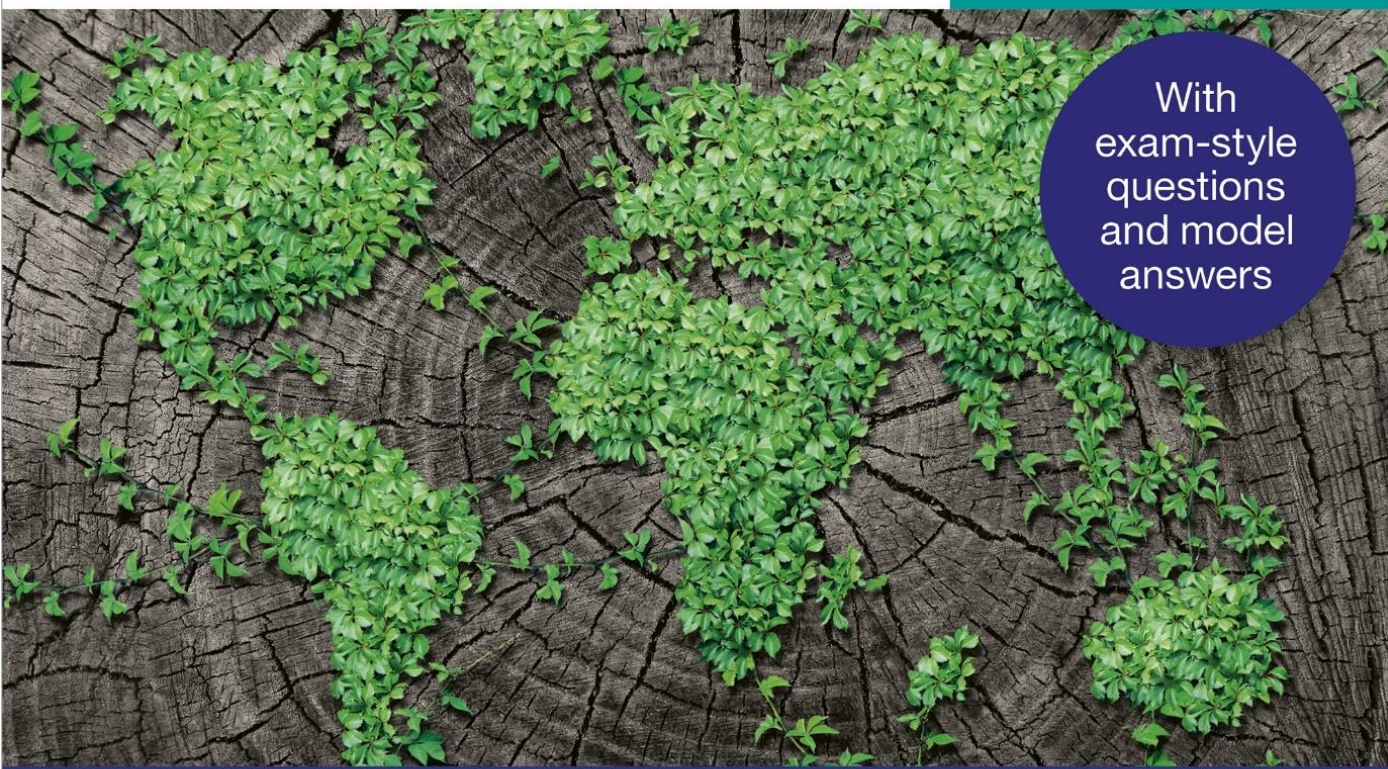
STUDENT GUIDE

NEW EDITION



With exam-style questions and model answers

AQA A-LEVEL

Geography

Human geography

- Global systems and global governance
- Changing places
- Contemporary urban environments
- Population and the environment
- Resource security

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Key population parameters

Population parameters concern the **distribution** and **density of a population**, as well as the sheer **numbers** involved and rates of change. **Population change** is examined in more detail later (see page 91).

Distribution of a population Its spatial occurrence, i.e. where people are located and where they are not.

Density of population The number of people per unit area, for example per km^2.

Population distribution is usually displayed by a dot map. Areas that have a large number of people per unit area are densely populated. Areas that have few people per unit area are sparsely populated.

The population density of a country or region is obtained by dividing the total population of that country or region by its total area. This, however, can be misleading as it does not show the variations between densely populated areas and those that are almost unpopulated. Population density is usually displayed by a choropleth, or shading map.

In terms of the **number** of people, in the summer of 2020, the world's population stood at 7.8 billion. Over 6 billion of these lived in developing countries, with 1.3 billion living in developed countries. Half of the world's population live in just six countries: China, India, USA, Indonesia, Brazil and Pakistan. Demographers suggest that by 2043 the global population will reach 9 billion.

Nearly half of the world's population (some 3.4 billion) is under the age of 25, and there are 1.3 billion between the ages of 15 and 24. These are entering their child-rearing years. Their attitudes and responses to birth control will determine whether or not the world reaches 11 billion by 2100. The world's youngest countries (i.e. those with the highest proportions under 15 years) are in Africa.

Knowledge check 36

What determines the number of people that can live on the planet?

The key role of development processes

Development processes have been manifested in key moments of history of the planet from the agrarian revolution of Stone Age times to the Industrial Revolution that started in the UK in the eighteenth century. Closer to the present, we have seen the Green Revolution of the 1960s, when new hybrid seeds were introduced, and the technological revolution of the twenty-first century. Development processes have involved the production of more food, industrial development and even the control of many of the threats to population – diseases and pests, for example. Development processes have enabled more people to live on the planet.

Demographic dividend The benefit a country gets when its working population is much larger than its dependent population (children and the retired).

It is suggested that a youthful population provides an opportunity for a country to capitalise on its youthfulness and thereby stimulate economic growth – a so-called **demographic dividend** (see page 93). This would be a continuation of the process of development over time, whereby ever-growing numbers of people have made use of the resources available to them to improve their living standards.

Knowledge check 37

How can a 'demographic dividend' become a 'demographic debt' as a country develops?

Global patterns of population numbers, densities and change rates

References to these have been made earlier, and they are constantly being updated. You are advised to study online data such as the World Population data sheet produced by the Population Reference Bureau (www.prb.org/) to keep up to date with global patterns of population numbers, densities and rates of change.

Various World Population clocks, such as www.census.gov/popclock/, are also useful.

Environment and population

Patterns of food production and consumption

World food production continues to increase, yet the rate at which it is increasing has slowed. Equally, the world has made significant progress in raising food consumption per capita.

Some points about food production and consumption:

- Much food is produced and consumed locally (especially in poorer countries) or, in the cases of richer countries, it is produced within the same country of consumption.
- An increasing proportion of food is produced not for domestic markets but for sale in the world's markets. Specialisation and the commercialisation of agriculture drive this change.
- The actions of transnational corporations (TNCs), and the need for governments of developing countries to raise income through export earnings, have led to the export of many crops from poorer nations, even if there are local food shortages in those countries.
- Food travels increasingly long distances (measured by food miles), as technological advances in air, sea and freight take place, together with improvements in storage techniques, which ensure food stays fresh.
- Demand for non-seasonal foodstuffs in richer nations is high (e.g. in winter, strawberries are flown from Chile to the UK).
- Many countries, e.g. the UK, are net importers of food. This situation also occurs in countries in sub-Saharan Africa, where undernourishment is rife.
- A few countries are net exporters of food and these countries have few undernourished people (e.g. Canada, Australia, New Zealand and Argentina).
- Agricultural exports can make up a large percentage of the earnings of poorer countries, but generally form only a very small percentage of the export earnings of developed countries.

There are clear patterns of food consumption. The richest nations consume the most kilocalories per day (between 2,600 and 3,800), including those in North America and Europe, Australia, South Korea, Japan and parts of South America. Large parts of central Africa, Asia and South America consume far fewer calories and here many people can be said to be suffering from under-nutrition – where people consume less than the WHO's recommended daily minimum totals at 1,940 kcal for women and 2,550 kcal for men.

An added problem for those countries where people suffer under-nutrition is that of malnutrition. This is where people may get sufficient calories a day but not have a balanced diet – much of their calorie intake might come just from rice.

Agricultural systems and productivity

Farms can be considered as open systems (see Figure 10). Generally, as an area develops economically, physical factors become less important as human inputs increase in influence.

Making connections

World trade in food forms part of the Global systems topic.

Exam tip

Examiners are likely to provide world maps for this area of study. Make sure you check which show production and which show consumption.

Making connections

Systems theory is a key concept that applies to both physical and human geography.

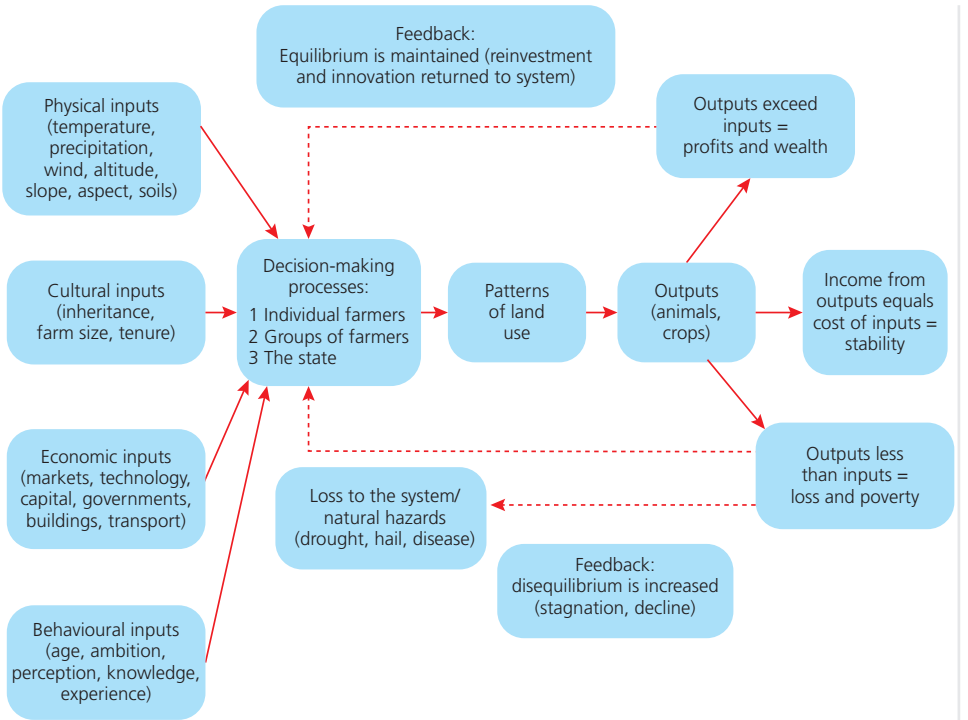

Figure 10 Agriculture as a system

Intensive farming is usually relatively small scale and can either be:

- **capital intensive**, i.e. money is invested in soil improvement, machinery, buildings, pest control and high-quality seeds/animals. There are few people employed and so output is high per hectare and per worker, for example market gardening in the Netherlands, or
- **labour intensive**, i.e. the number of farm workers is high and so there is a high output per hectare but a low output per worker, for example rice cultivation in the Ganges valley of India

Extensive farming is carried out on a large scale over a large area. This varies greatly. There are areas in which, although the labour force is low, there is a high capital input, for example on high-quality seeds/animals or pesticides and insecticides, such as wheat farming in the Canadian Prairies. Other areas still have a low labour force but rely on the sheer amount of land they are farming to provide sufficient output for their needs, for example sheep ranching in Australia.

So, agricultural systems can be a combination of

- **commercial** or **subsistence**
- intensive or extensive
- arable (crops) or livestock (animals) or mixed

Some forms of agriculture are so affected by human influences that they can be regarded as being highly specialised. This can range from high intensities of one crop (monoculture) to highly technological forms such as hydroponics, where soils are deemed to be unnecessary.

Exam tip

As with any system, examine the feedback mechanisms, both positive and negative.

Commercial farming
Where the outputs (crops, animals) are sold.

Subsistence farming
Where the outputs are largely for consumption by the farmer with little or no surplus.

Question 3

Study the information provided in the following extract and Figure 5, which both refer to the town of Whitby in North Yorkshire, England. Using the extract and Figure 5, and your own knowledge, assess how useful qualitative sources of information such as novels and photographs can be in representing a place. (6 marks)

Information relating to Whitby (North Yorkshire)

Whitby is a small fishing port on the North Yorkshire coast. Nowadays, it is a very popular location for tourists, especially day-trippers. In Victorian times, it was the setting for the novel *Dracula* by Bram Stoker, and this is one of the reasons for its popularity today as fans of the novel visit locations within it, such as the Abbey.

This is how Stoker described Whitby in the novel:

'This is a lovely place. The little river, the Esk, runs through a deep valley, which broadens out as it comes near the harbour. A great viaduct runs across, with high piers, through which the view seems somehow further away than it really is. The valley is beautifully green, and it is so steep that when you are on the high land on either side you look right across it, unless you are near enough to see down. The houses of the old town – the side away from us, are all red-roofed, and seem piled up one over the other anyhow, … Right over the town is the ruin of Whitby Abbey, which was sacked by the Danes, … It is a most noble ruin, of immense size, and full of beautiful and romantic bits.'

Figure 5 Whitby Abbey

Level 2 (4–6 marks)

AO1 – Demonstrates clear knowledge and understanding of concepts, processes, interactions and change.

AO2 – Applies knowledge and understanding to the novel situation, offering clear evaluation and analysis drawn appropriately from the context provided. Connections and relationships between different aspects of study are evident with clear relevance.

Level 1 (1–3 marks)

AO1 – Demonstrates basic knowledge and understanding of concepts, processes, interactions and change.

AO2 – Applies limited knowledge and understanding to the novel situation, offering only basic evaluation and analysis drawn from the context provided. Connections and relationships between different aspects of study are basic with limited relevance.

Student answer

Many novels make use of real places as the setting for their stories, sometimes changing the name of the place. They provide us with an alternative perspective of a place, and are of particular use for students of 'place' when they are based, or written, in the past. They provide us with an opportunity to see how the place has changed over time. For example, Thomas Hardy made use of several locations in Dorset for his novels, though he usually changed their names. They provide a useful indication of how these places were in Victorian times.

The extract provides commentary on the features of Whitby in Stoker's time, with the use of adjectives such as 'noble', 'immense', 'beautiful' and 'romantic'. These are clearly from the perspective of the author, and therefore subjective. The extract also provides the description from a person who is visiting the town, an outsider, of features that can only be gleaned from such a visit: '… it is so steep that when you are on the high land on either side you look right across it'. This is true in reality – the old town of Whitby is very much located within a steep-sided valley so that you can only see it from the edge of one of the ridges. The photograph illustrates this too as you can't see the town in the valley.

Photographs are taken in one moment in time, and obviously represent that place at that time. Depending on how they are framed by the photographer they can be used to highlight key features of a place which might stimulate an emotional viewpoint – the photo of Whitby Abbey does illustrate that it is a ruin, but it is difficult to see how beautiful or romantic it is. That has to be in the mind of the individual only.

So, qualitative materials such as these do help in representing a place, both in reality and in our imagination.

6/6 marks awarded The opening paragraph is a good one and clearly addresses the question, also making use of an example not provided by the data – this is acceptable for such a data stimulus question.

The second paragraph refers to the data given, and although some valid points are made, there is no explicit link to the question. The use of personal knowledge is acceptable, but once again there needed to be a direct assessment of 'usefulness'.

The third paragraph also strives to address the question, with implicit statements regarding usefulness rather than explicit ones.

It is clear, though, that the student has interpreted the question correctly – the concluding sentence reinforces this.