

Model answers to Section 1 end-of-chapter review questions

The review examination questions at the end of each chapter in *Geography for the IB Diploma: Patterns and Change* are based on the style of question found in Section A of Paper 1. Model answers to selected questions are given here.

The mark allocation for all the questions that follow, unless stated otherwise, is:

a 2 marks **b** 3 marks **c** 5 marks.

1 Population change, page 23, question 2

- a** The pyramids are divided into the young dependent population, the economically active population and the elderly dependent population. The age groups are those which are generally accepted internationally, thus enabling comparisons between countries.
- b** In 1950 over 35% of Japan's population were classed as young dependents. Almost 60% were in the economically active age group with only 4.9% aged 65 and over. Almost 50 years later, in 1999, the population under 15 had fallen very significantly to 14.8%. This was less than half the proportion of Japan's young dependent population in 1950. In contrast the population between 15 and 64 had increased to 68.5%. The population aged 65 and over had also increased significantly to 16.7% of the total population.

The projection to 2050 shows the percentage population under 15 falling even further to 13.1%. The population aged 15–64 is also forecast to drop considerably to 54.6%. In contrast the population aged 65 and over is projected to rise to 32.3%, almost double its relative size in 1999.

- c** Answers should focus on the concept of demographic ageing, and moderate to good candidates are likely to link the three population pyramids to the model of demographic transition. In terms of the latter the pyramid for 1950 could be classed as stage 2/early stage 3; 1999 stage 4; and 2050 stage 5 (natural decrease).

Candidates are likely to note the economic development of Japan in the post-Second World War period as an important factor in changing demographic trends. With considerable government support, family size declined significantly as an increasing proportion of people practised family planning methods. Thus by 1999 the proportion of the population under 15 had fallen considerably. The young dependent population of earlier years had moved up the population pyramid into the economically active age group. Declining mortality levels aided this process and were also a major factor in the significant increase in population over 65.

The projection for 2050 forecasts a further decline in fertility. The low birth rate of the previous 50 years and more has resulted in a very substantial fall in the proportion of Japan's 15–64 population. Further increases in life expectancy lead to a considerable rise in the population aged 65 and over. Better candidates may discuss the reasons for increasing life expectancy and declining fertility.

2 Responses to high and low fertility, page 40, question 1

- a** (i) *Dependency ratio* – the ratio of the number of people under 15 and over 64 years to those 15–64 years of age.
- (ii) *Ageing ratio* – the proportion of people 65 years old and over to the total population.
- b** *Population under 15* – with approximately 10 million people under 15 this is marginally the second largest of the three age groups under consideration. There are moderate variations by year of age, with the four youngest years having the lowest overall numbers. These variations are primarily the result of fluctuations in the birth rate. The UK had a relatively small young dependent population in 2002 which is characteristic of countries in stage 4 of demographic transition.

Population 15–64 – this age group has by far the largest population, but of course it also covers the greatest age range. However, most of the widest age bars occur in the economically active population, indicating higher fertility rates during much of this period, particularly in the post-war ‘baby boom’ and the period when the ‘baby boomers’ had their own children a few decades later. The impact of migration on age structure should also be mentioned. The narrowest bars in this age group are at the upper end, the result of increasing mortality with age.

Population 65 and over – marginally the smallest of the three age groups in population. The significant number of people in this age group is characteristic of an ageing population in a developed country. Older women outnumber older men, as death rates are higher among men than women. The greater number of women than men is most pronounced among the very old. The death of men in the World Wars has also had an impact. Over 1 million people are aged 85 and over.

- c** The UK’s population is projected to age considerably in the half-century between 2002 and 2050. Although the number of people under 15 will only fall slightly compared with 2002, as a proportion of the total population the decline will be much more significant. Able candidates should make this distinction between absolute and relative change. The population under 15 will be the smallest of the three age groups in 2050.

The population aged 15–64 will remain the largest of the three age groups, but the variations within this group will be much less significant. In fact some of the widest age bars will be at the upper end of the age group.

The population aged 65 and over will be clearly the second largest of the three age groups. The greater number of women compared with men will be maintained and there is projected to be a very noticeable increase in the number of the very old.

3 Movement responses – migration, page 59, question 1

- a** Intra-national migration occurs within the boundaries of one country while international migration refers to migration that crosses international borders.
- b** Good candidates will be aware that high levels of rural–urban migration will be beneficial to some rural areas, but detrimental to others. The distinction will depend on the balance between population and resources in different areas.

Positive impacts might include:

- reduced pressure on food and water resources
- a slower rate of fragmentation of land holdings
- lower unemployment and underemployment
- less overcrowding of housing stock
- reduced pressure on public services such as education and health
- remittances from those who have found jobs in urban areas.

Negative impacts could include:

- an ageing population as most migrants are from the young economically active age group
- the loss of the most dynamic element of the young economically active population
- an imbalanced sex structure if migration is very sex selective
- a very high rate of out-migration which may leave too few people to work the land, resulting in a decline in food production
- a culture clash as returning migrants challenge traditional rural values and attitudes.

- c** Although the question does not ask for examples, able candidates will invariably include some reference to case studies. They may also make the point that the balance of advantages and disadvantages in the same urban area can change over time. The best candidates may cover a range of economic, social, environmental and political issues.

The advantages of a high level of in-migration might include:

- a significant increase in the young economically active population which is an attraction to large companies and foreign direct investment
- the inflow of the most dynamic of the rural population, increasing the professional and entrepreneurial base of the urban area
- as population thresholds are crossed an increasing range of public and private services are attracted to urban areas.

The disadvantages of a high level of in-migration could include:

- increasing pressure on unemployment and underemployment if the rate of job creation cannot keep up with population growth
- greater pressure on the available housing stock
- increase in population density and overcrowding
- expansion of the urban area due to peripheral shanty-style development
- growth in traffic, congestion and pollution.