

# 4

## Our crowded world



Figure 4.1 Allahabad, Uttar Pradesh, India

### Learning intentions

**In this chapter, I am learning:**

- about the increasing global population
- that there is an uneven distribution of people across the Earth's surface
- how to work out the population density of an area
- how changes in population are influenced by the birth rate, the death rate and migration
- how population structures vary in MEDCs and LEDCs.

## Over six billion and growing

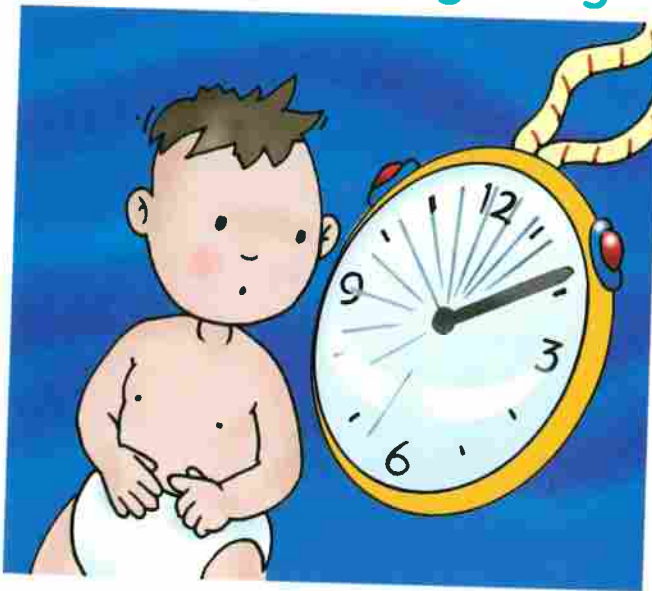


Figure 4.2 World population grows by one person every 0.41 seconds

Year AD	World population (millions)
1	170
200	190
400	190
500	190
600	200
700	200
800	220
900	230
1000	250
1100	300
1200	360
1300	360
1340	440
1400	350
1500	400
1600	500
1700	600
1800	800
1900	1,500
1950	2,500
2000	6,000
2050	9,000

Figure 4.3 World population through time

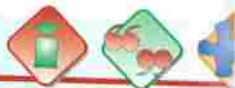
By early 2007, the world population had grown to more than 6.5 **billion**. (A billion is a thousand million!) Between 1804 and 2004, it increased from 1 billion to 6 billion people. This increase happened at a far faster rate than at any time in history.

It is predicted that by 2050, the world population will reach 9 billion, a 38% jump from today's 6.5 billion. This will produce a declining, aged population in many **MEDCs**, and growing, younger populations in **LEDCs**.

Populations in Latin America, Africa and South Asia are likely to grow the most in the future. Most of Europe is expected to have no **natural growth** in its population and so become very dependent on **immigration**. By 2050:

- Africa's population is expected to increase from 900 million to almost 2 billion
- South Asia's population is predicted to grow from 1.6 billion to nearly 2.5 billion
- Europe's population is expected to decrease from 730 million to 660 million.

### Get Active 4.1



Work in groups.

- 1 Why are people in **MEDCs** living longer?
- 2 What **evidence** do you see of an increasingly aged population?
- 3 Why is the population of **LEDCs** continuing to increase rapidly?
- 4 Why might people have different views on family size in **MEDCs** and **LEDCs**?
- 5 a) Find out the **current** world population. You can find this information by using a **population clock** like the one at:  
<http://www.census.gov/main/www/popclock.htm>
- b) How accurate do you think this total really is? Hint: How easy is it to record all births and **deaths** in the **shanty towns** of some of the world's poorest countries?



### Get Active 4.2



- 1 Use the **statistics** in Figure 4.3 to produce a line graph showing world population growth. You can use **Microsoft Excel®** (or any other spreadsheet application) to produce your graph.
- 2 Add the **following** labels to your completed graph:
  - Period of slow population growth
  - Period of population decline
  - World population 'explosion' begins
  - Period of most rapid population growth.

### Get Active 4.3



In the **fourteenth century**, the population of the world actually **declined**. This was caused largely by the **Plague** or **Black Death**.

- 1 **Research** this important event. You might consult your history teacher, an encyclopaedia in your school or local library, or use the internet (using a search engine such as Google).
- 2 Write a paragraph to explain how the Plague affected world population.

### Get Active 4.4



- a) Find out how much the population of the world has grown since you were born. Visit <http://www.popexpo.ined.fr/eMain.html>. Type in your age. Note the increase in world population since your birth.
- b) If this rate of increase was to continue, calculate what the **population** of the world would be in 10, 50 and 100 years' time.

#### World population growth raises a number of important questions that we shall consider in this chapter:

- What are the reasons for this growth?
- Will population growth continue in the years to come or will it slow down and stabilise?
- Where will people live?
- How many people will there be?
- How can we cope with an increasing world population?

## Big numbers

Finding out about the world population requires us to think about very big numbers. For example, what do a billion people look like? It has been calculated that if 1 billion people were spaced 15 inches apart, they'd form a straight line long enough to reach from the Earth to the Moon. Six billion would make a triple loop!

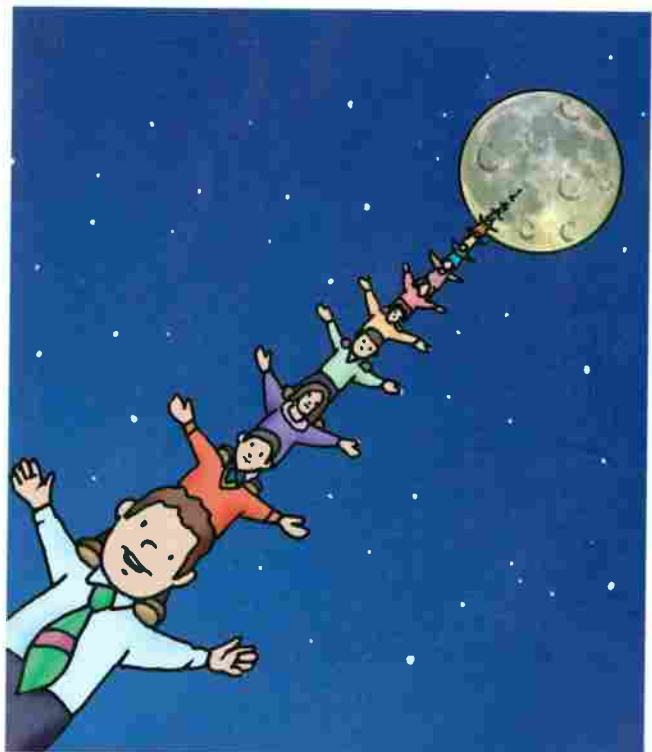


Figure 4.4 How many people make a billion?

## Where are all those people?



Figure 4.5 Percentage of world population by continent

### Get Active 4.5



- As a class, discuss the possible ways of drawing a graph to show the information in the map in Figure 4.5. Decide on the best method. Draw a graph to show the distribution of world population by continent. Remember to put an appropriate title and key on your graph.
- Visit the following website: [www.miniature-earth.com](http://www.miniature-earth.com)
  - Play the presentation.
  - In groups, discuss your thoughts on the presentation. Record the thoughts of your group in a spidergram.

Figure 4.6 shows the ten most-populated countries at the beginning of 2007.

Country	Population in millions
1 China	1,319,113,690
2 India	1,105,374,016
3 USA	300,244,856
4 Indonesia	247,747,352
5 Brazil	189,375,091
6 Pakistan	168,101,098
7 Bangladesh	149,407,392
8 Russia	142,543,001
9 Nigeria	133,940,441
10 Japan	127,480,513

Figure 4.6 Countries with the largest populations in 2007

### Get Active 4.6



- Mark the ten countries in Figure 4.6 on a copy of a blank world map.
- For each country draw a bar to represent their population. Use a scale of 1 cm to 100 million people.
- Shade in the bars.
- Give your map an appropriate title and key.



## Where do most people live?

Sparsely populated places tend to be difficult places to live, often with hostile environments that are unattractive to people. Places which are densely populated tend to have less hostile environments and have things to attract people to them.

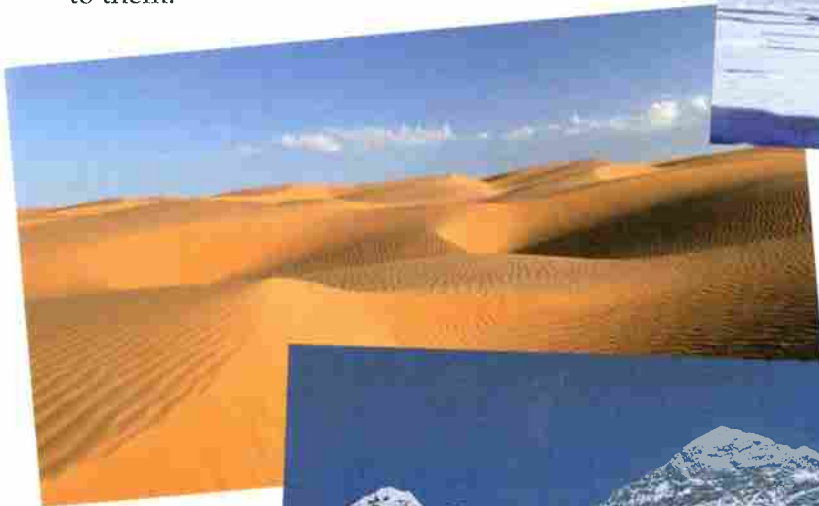


Figure 4.7 The Sahara Desert



Figure 4.8 Antarctica



Figure 4.10 The Himalayas



Figure 4.9 Rainforest

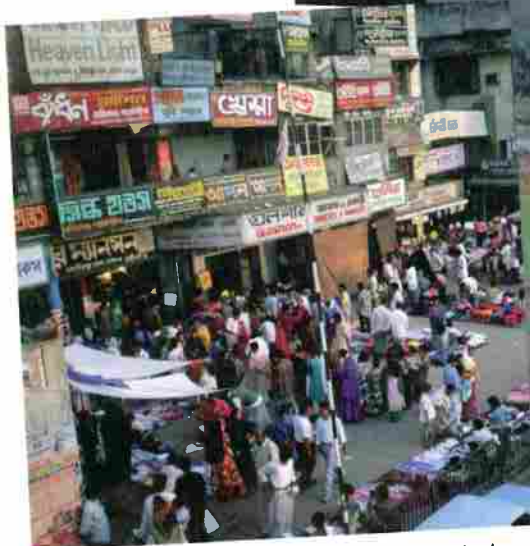


Figure 4.11 Centre of Dhaka, Bangladesh

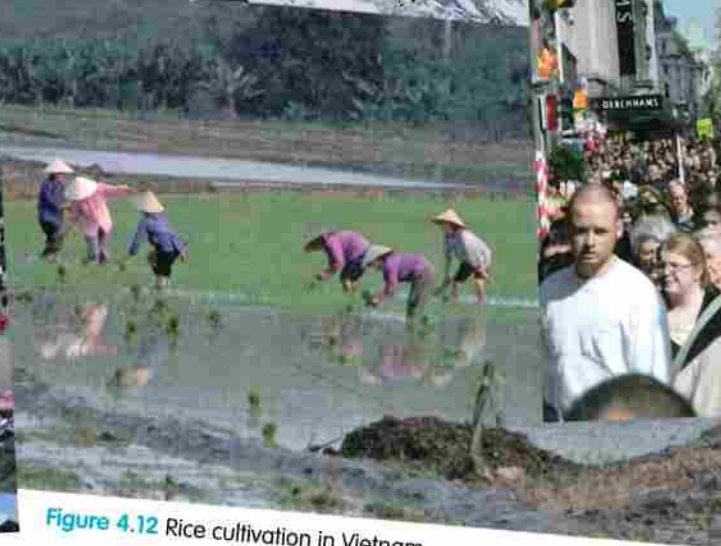


Figure 4.12 Rice cultivation in Vietnam



Figure 4.13 Oxford Street, London, England

### Get Active 4.7



Factors that will make an area **attractive** or **unattractive** for people to live in are shown in the table below.

extremes of weather (hot, cold, wet, dry)	vegetation cover
steep slopes	pleasant climate
poor soils	flatter land
dense forest	fertile soils
poor or irregular water supply	good food supply
lack of resources	adequate water supply
few work opportunities	good supply of natural resources
poor communications	job opportunities
quality of life	good communications

Work in pairs.

- Sort the **factors** above into **physical** (part of the environment) and **human** (made by people) **factors**.
  - Look at the **photographs** on page 65. Use the list of factors to explain why each area is sparsely or densely populated.
  - Think about the area that you live in. Do you think it is densely or sparsely **populated**? Which of the factors have affected your area's population density?

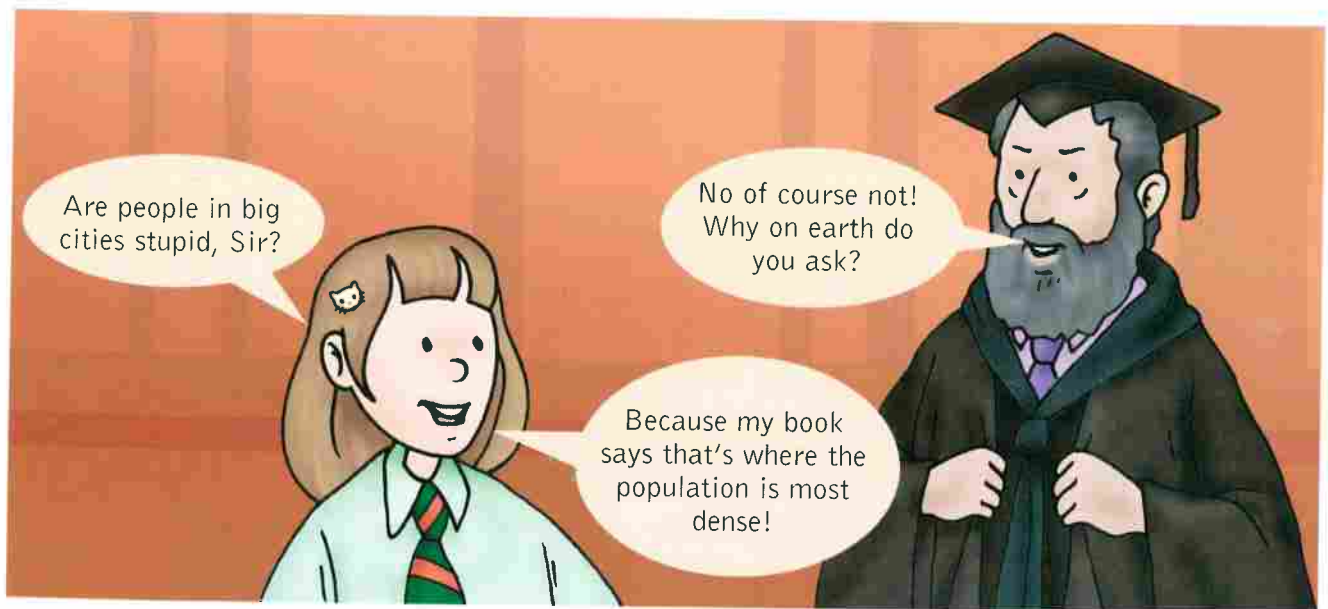


Figure 4.14 Just a thought!

## How crowded are we?

How true is it to claim: 'People, people, everywhere'? **Population distribution** refers to how people are spread out across the surface of the Earth. The distribution of people across the world is uneven:

- sparsely populated places contain few people
- densely populated places contain many people.

**Population density** is a measurement of how crowded an area is. It is calculated by dividing the number of people in an area (the population) by the size of the area. It is shown as the number of people per square kilometre ( $\text{km}^2$ ).

For example, the Republic of Ireland had a population of 4,093,208 at the end of 2006. It covers  $70,280 \text{ km}^2$ . So the population density of the country is  $4,093,208$  divided by  $70,280$  which equals  $58$ . This means that, on average, every square kilometre of Ireland has  $58$  people living in it.

## How crowded is our world?

This is a **choropleth** map showing world population density. The darker the shading the higher the population density of any area.

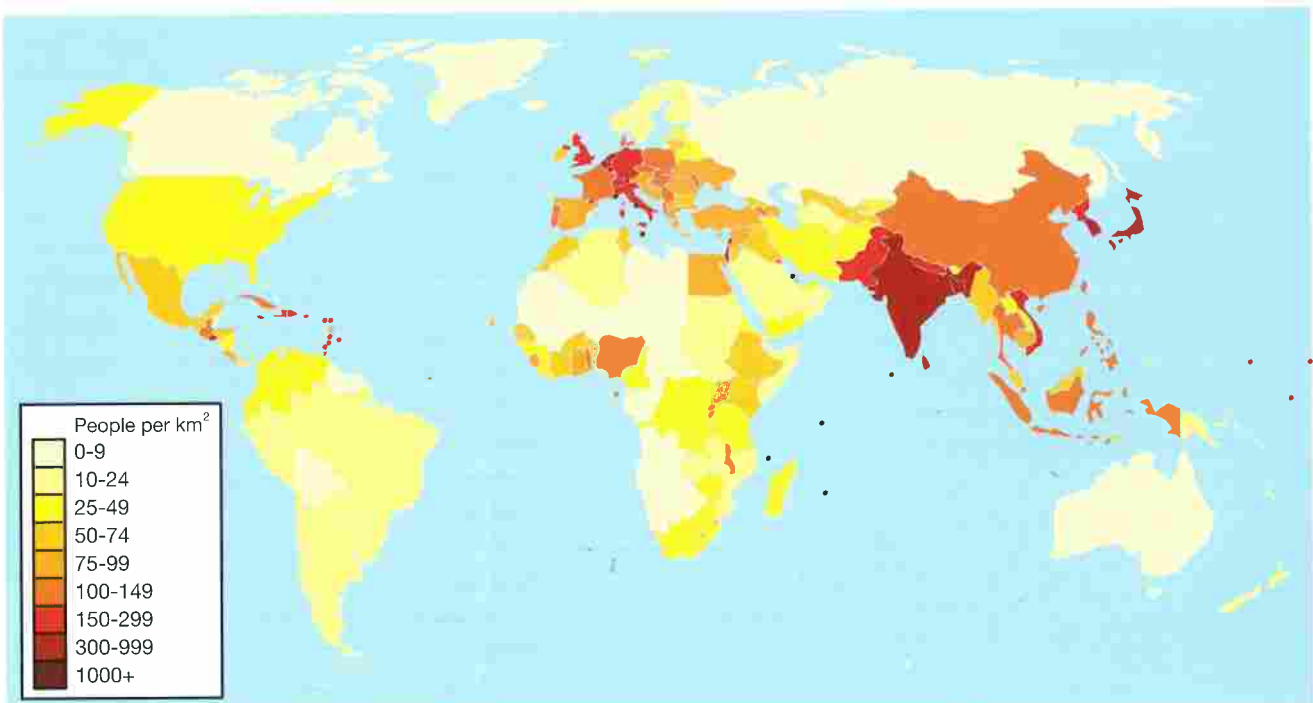


Figure 4.15 World population density

### Get Active 4.8

Calculate the population density of the United Kingdom: it has a population of 60,721,670 and covers an area of  $244,820 \text{ km}^2$ .

*248 people per  $\text{km}^2$*



## Population density across Europe

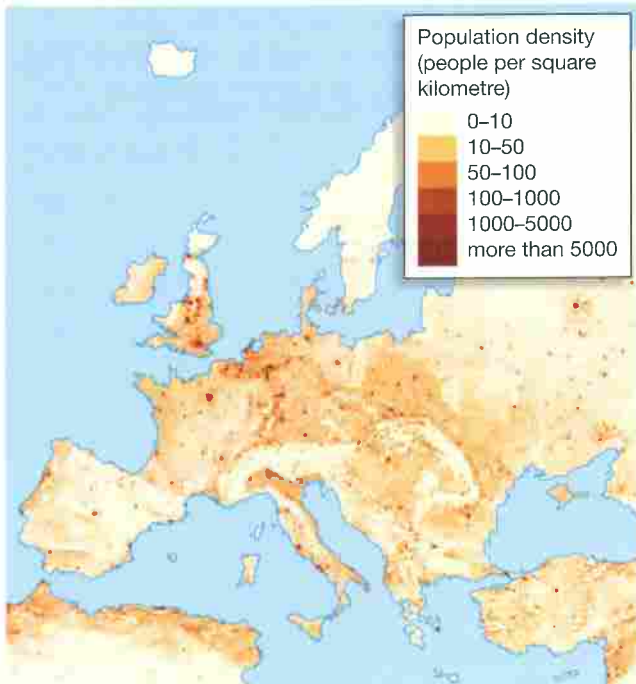


Figure 4.16 Population density in Europe

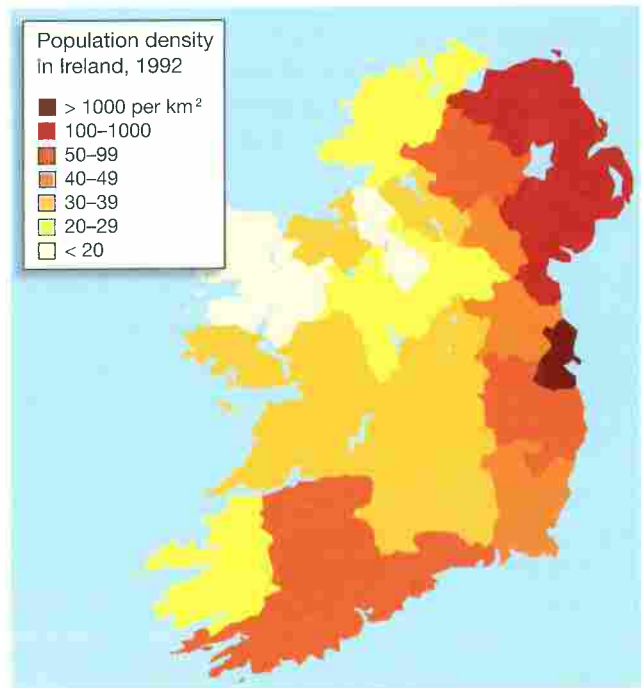


Figure 4.17 Population density in Ireland

### Get Active 4.9



You are going to look at population density at two different scales. Figures 4.16 and 4.17 show population density across Europe and Ireland.

1 You need an atlas that has physical and political maps of Europe and Ireland.

2 Use the maps to identify and name:

- three sparsely populated areas in Europe and Ireland
- three densely populated areas in Europe and Ireland.

Explain the population density in each of these areas. Record your answers in a large copy of Figure 4.18.

Area	Places that are sparsely/densely populated	Factors explaining population density
Europe	Sparse:	
	Dense:	
Ireland	Sparse:	
	Dense:	

Figure 4.18 Population density in Ireland and Europe



## Why are populations changing?

The population of the world grows when the number of babies born in in any given year is greater than the number of people dying.

- The **birth rate** is the number of live babies born in a year for every 1,000 people.
- The **death rate** is the number of people dying per 1,000 people per year.
- **Natural increase** is the difference between the birth rate and the death rate.

The rate of natural increase is not the same everywhere in the world. In some countries (MEDCs) there is little difference between the birth and death rates, so the rate of natural increase is very low. Indeed, in some European countries (like Germany) there is a *natural decrease* because the birth rate is actually lower than the death rate. In other countries (LEDCs) there is a big difference between the birth and death rates, and the rate of natural increase is high.



### Get Active 4.10

- 1 Calculate the **natural increase** in population for the countries shown in the table below (Figure 4.19). (To do this, subtract the death rate from the birth rate.)
- 2 Rank (**highest to lowest**) the countries in order of rate of natural increase.
- 3 Suggest two reasons to explain the country with the lowest and the country with the highest **natural increase**.

Country	Birth rate in 2006	Death rate in 2006	Rate of natural increase
<b>Niger</b>	50.73	20.91	29.82
<b>Mali</b>	49.80	16.89	
<b>Uganda</b>	47.30	12.34	
<b>Afghanistan</b>	46.60	20.34	
<b>Burkina Faso</b>	45.62	15.60	
<b>Bangladesh</b>	29.80	8.27	
<b>India</b>	22.01	8.18	
<b>Brazil</b>	16.56	6.17	
<b>Belarus</b>	11.16	14.02	
<b>United Kingdom</b>	10.71	10.13	0.58
<b>Russia</b>	9.95	14.65	
<b>Germany</b>	8.25	10.62	

Figure 4.19 Natural increase in population of some countries



**Get Active 4.11**

- 1 Read the **statements** below which **explain** why birth rates and death rates differ in MEDCs and LEDCs.
- 2 Which statements are about birth rates, and which are about death rates?
- 3 Now try to work out which refer to **MEDCs** and **LEDCs**.
- 4 Use the work you have done to **compare** and contrast birth and death rates in MEDCs and LEDCs.
- 5 Write two **paragraphs** describing birth and death rates in MEDCs and LEDCs.

**A** Parents have a lot of children because they expect some to die in infancy.

BR  
LEDC

**B** Women choose to have careers.

BR MEDC

**C** More women are deciding the number of children they will have.

BR - MEDC

**D** Poor or inadequate diet.

DR LEDC

**E** Dirty and unreliable water supplies.

DR LEDC

**F** The cost of caring for big families.

BR MEDC

**G** Large families can look after the farm to support their family.

BR LEDC

**H** Poor medical services.

DR LEDC

**I** Clean and reliable water supplies.

DR MEDC

**J** Good housing conditions.

DR MEDC

**K** More than enough food to eat.

DR MEDC

**L** Widespread disease.

DR LEDC

**M** Availability of family planning advice and contraception.

BR MEDC

**N** Poor housing conditions.

DR LEDC

**O** A lack of family planning facilities and advice.

BR LEDC

**P** Advanced medical services which are easy to access.

DR MEDC

**Q** Children can look after their parents if they become old or sick.

BR LEDC

## How long will we live?

**Life expectancy** is the average number of years a person can expect to live for in a country. As a general rule, the higher the life expectancy the more developed a country is.

- At the end of 2006, life expectancy was 82 years in Japan, followed by Australia, Switzerland and Sweden at 81 years.
- On the other hand, people were expected to live just 33 years in Swaziland, and 34 years in Botswana and Lesotho.
- In the United Kingdom, life expectancy for both men and women continues to rise. Life expectancy for females is 81 years, compared with 76 years for men. In 1901, the life expectancy for women and men was 49 years and 45 years.

Experts believe that we are going to live longer and longer lives. Reaching 100 may soon be commonplace!

Across the United Kingdom, life expectancy rates vary significantly as you can see in the table below (Figure 4.20). In Scotland, Glasgow is the only part of the United Kingdom where men on average die before they are 70. It also has the lowest life expectancy for women at 76 years. In contrast, those living in Kensington and Chelsea in London have the highest life expectancy. Men there live on average to 82 and women to 86. It is important to remember that these figures are averages.

Location	Life expectancy for males	Life expectancy for females
England	76.9	81.2
Wales	76.3	80.7
Scotland	74.2	79.3
Northern Ireland	76.0	80.8
United Kingdom	76.6	81.0

**Figure 4.20** Life expectancy figures for men and women





Figure 4.21a Social housing in Glasgow, Scotland



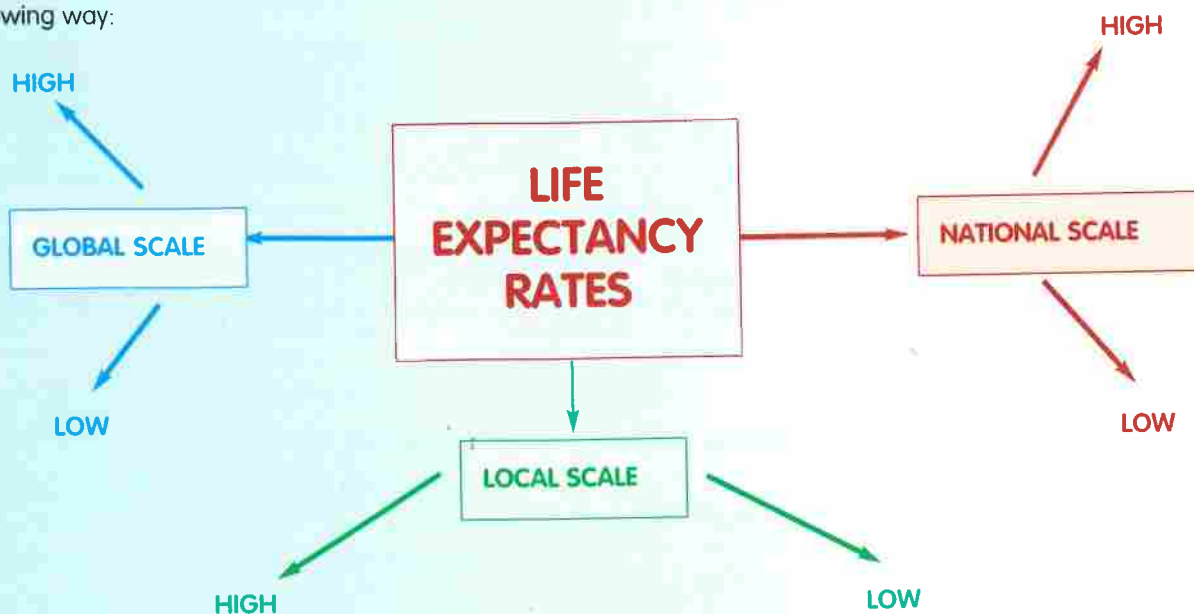
Figure 4.21b Private homes in Kensington, London, England

### Get Active 4.12



Work in small groups.

- 1 Discuss why life expectancy rates are increasing across MEDCs. Agree on the key points. Draw up a list to represent the thoughts of your group.
- 2 In your groups, discuss why you think life expectancy varies so much across the United Kingdom. How would you explain the different life expectancy rates for Glasgow and Kensington (see the photos in Figures 4.21a and 4.21b)?
- 3 Do you think life expectancy rates might vary across Northern Ireland? Why? List the areas that you think would have the highest and lowest life expectancy rates.
- 4 Show what you have learned about life expectancy rates on a spidergram (globally, nationally and at a local level). You might organise your learning in the following way:



## Who lives there?

The **population structure** for an area can be shown as a **population pyramid**. This shows the number of males and females (and their ages) in the population. The population pyramid of Afghanistan below is typical of a LEDC. It has a wide base (a high birth rate) and a narrow top (a high death rate).

The population pyramid of the United Kingdom is typical of a MEDC. It is almost the same throughout the age groups, although the top obviously gets narrower as a result of deaths.

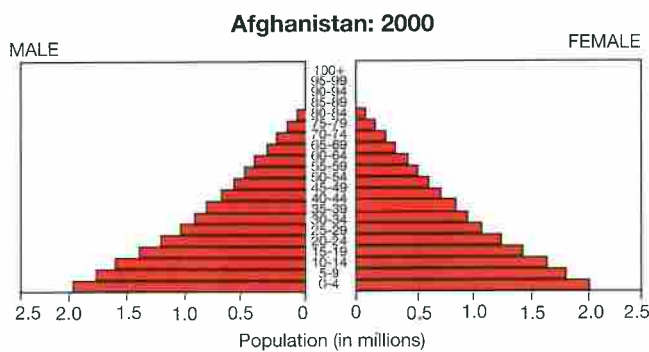


Figure 4.22 Population pyramid for Afghanistan, 2000

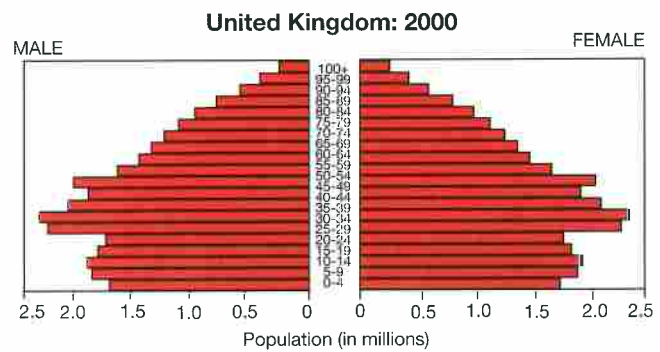


Figure 4.23 Population pyramid for the United Kingdom, 2000

### Get Active 4.13



- 1 Look at Figure 4.24. Use it to draw a population pyramid for Northern Ireland.
- 2 Describe what your population pyramid tells you.
- 3 Compare your population pyramid to those for Afghanistan (Figure 4.22) and for the United Kingdom (Figure 4.23). What are the similarities and differences?

Age Group	Males	Females
0-4	56,545	53,603
5-9	61,246	57,632
10-14	64,457	61,591
15-19	67,952	64,306
20-24	61,727	59,180
25-29	54,254	54,668
30-34	58,607	60,637
35-39	63,552	65,629
40-44	62,699	65,543
45-49	56,058	58,091
50-54	50,265	49,609
55-59	47,072	49,105
60-64	40,809	43,296
65-69	32,860	36,751
70-74	26,412	32,434
75-79	19,722	28,650
80-84	12,610	21,644
85-89	5,431	11,454
90+	1,963	6,325
<b>Totals</b>	<b>844,260</b>	<b>880,148</b>

Figure 4.24 Population of Northern Ireland, 30 June 2006



**Get Active 4.14**

- 1 a) Find out more about the populations of Afghanistan and United Kingdom by visiting the following website:  
<https://www.cia.gov/cia/publications/factbook>.
- b) Create a Population Fact File for the two countries. Add the information you find there onto your own copy of the table below.

	Afghanistan	United Kingdom
Area in km <sup>2</sup>		
Population		
Population density		
Birth rate		
Death rate		
Population growth rate		
Net migration rate		
Infant mortality rate		
Life expectancy at birth		

- c) Work in groups. Discuss what you think are the population issues in each country. Agree on three issues for each country.
- d) Let the rest of the class know what you have decided.
- e) As a class, agree the top three population issues for each country.
- f) Individually, record what your class has agreed in a table like the one below.

Country	Key population issues
United Kingdom	1. 2. 3.
Afghanistan	1. 2. 3.



## Moving on

We have learned how the population can rise or fall due to changes in the birth and death rates. A third factor that contributes to population change is the movement of people.

- **Migration** is the movement of people from one place to another.
- **Immigration** is the migration of people into an area.
- **Emigration** is the migration of people out of an area.

There are many reasons why people move and these can be grouped into **push factors** and **pull factors**.

Pull factors, that encourage a person to move, include:

- better employment opportunities
- better educational opportunities
- better homes
- better medical facilities and services
- higher wages
- improved standard of living
- religious/political freedom
- family links
- the 'bright lights'.

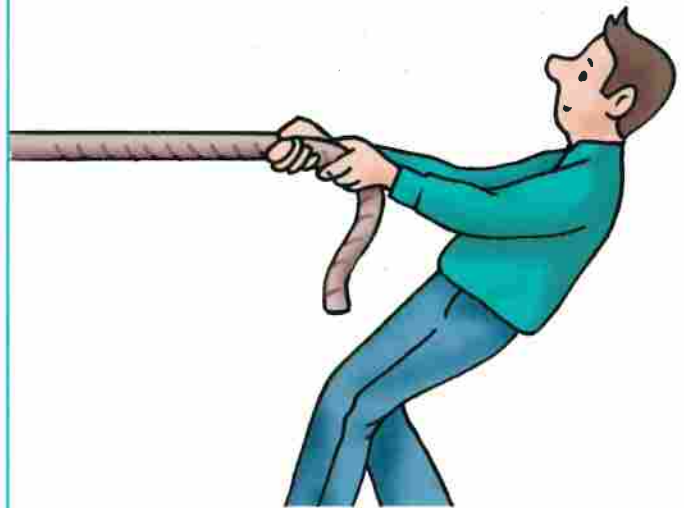


Figure 4.25a Pull factors



Figure 4.25b Push factors

Push factors, that force a person to move, include:

- natural disasters, e.g. earthquakes, droughts, famines, floods, etc.
- lack of employment
- poor pay
- low standard of living
- poor housing
- lack of educational opportunities
- shortage of food
- shortage of medical facilities and services
- war or civil unrest
- religious/political persecution.

In many cases people decide to move for a combination of these reasons.

### The United Kingdom

The United Kingdom has experienced high levels both of immigration and emigration in recent years. In 2005, 1,500 immigrants arrived every day, while 1,000 left the country. Most immigrants came from Poland while the favourite destinations of the emigrants were Australia, Spain and France. The effect of all this movement was that the population increased by 185,000 in 2005, or by 500 a day. Immigration, rather than birth rate, explains the growth of the

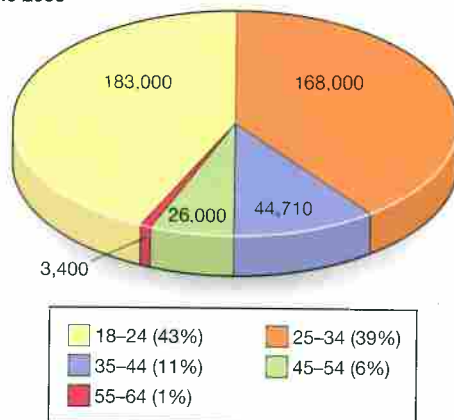
United Kingdom's population (which passed 60 million in 2006). Many migrants come to the United Kingdom to fill unoccupied jobs in important industries (such as the health sector and information technology) that benefit the country.

With record numbers of people coming and going from the United Kingdom in recent years, it has been claimed it is becoming a **hub** for the movement of people.

### Migration from new European Union states

In the past most migrants to the United Kingdom came from Ireland, India, Pakistan or the Caribbean. Today, this is no longer the case. A key feature of migration into the United Kingdom in this century has been the arrival of large numbers of people from the new European Union states in Central and Eastern Europe.

Age of registered Eastern European workers in the UK, June 2006



Note: Workers under 18, over 65 or with age unknown comprised less than 0.5% of total.

Where registered workers reside

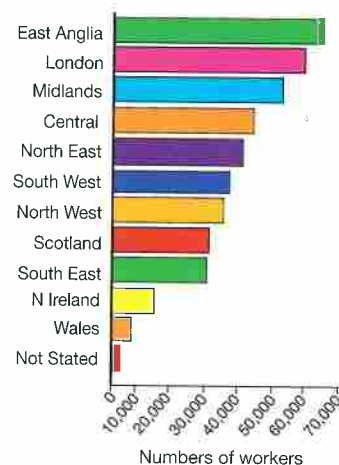


Figure 4.26 Workers from Eastern Europe (by age group)

Figure 4.27 Where Eastern European workers go

### Get Active 4.15

Use Figures 4.26, 4.27 and 4.28 to answer the following questions.

- 1 What **percentage** of the **registered** migrants from Eastern Europe were of working age (18 to 64) in 2006?
- 2 Where in the United Kingdom did most migrants go to on arrival in 2006?
- 3 Areas that had **previously** not received many migrants from Eastern Europe were faced with large numbers of new **arrivals**. How do you think the locals and the migrants might have felt?
- 4 What was the most **popular** type of work found by the migrants?
- 5 In which sectors of the **economy** did the migrants in 2006 find the most jobs?

## Our crowded world

Top 10 migrant jobs

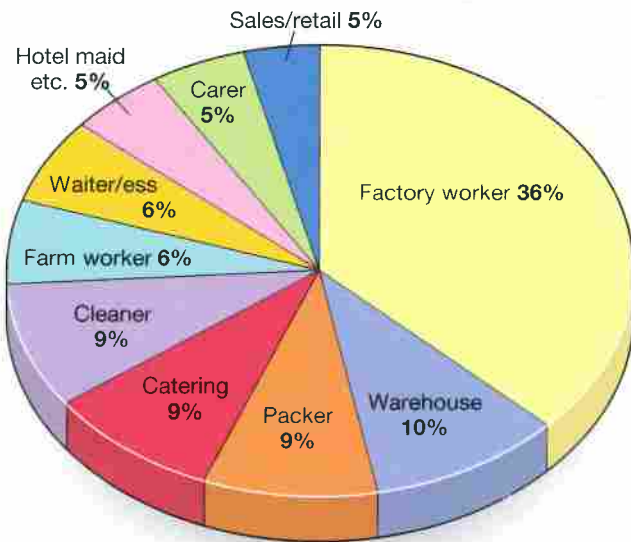


Figure 4.28 Jobs done by Eastern European workers

## How does Northern Ireland compare?

In 2006, the population of Northern Ireland (1,724,000) was growing faster than any other region of the United Kingdom. Figures from the Office of National Statistics showed a 0.8% rise in the population from 2005, which was 0.2% ahead of the rest of the UK. Within Northern Ireland, the Dungannon area saw the largest population increase of 2.9%, which is almost four times the 0.8% average.

There are more than 1,000 Portuguese-speaking immigrants in Dungannon – mostly working in food processing factories. Though often referred to simply as ‘the Portuguese’ this is misleading, as the workers not only come from Portugal but also from its various former colonies, including East Timor, Angola, Mozambique, Guinea-Bissau, Cape Verde and Brazil. In Northern Ireland, many jobs in the health service are filled by migrants – Indian, Pakistani and Bangladeshi doctors, Philippino nurses, Polish surgeons, Hungarian dentists, etc. Jobs such as hospital porters or laundry workers are often performed by Eastern Europeans.

### Get Active 4.16



Your task is to research information to try to answer this question:

**What are the push and pull factors that explain migration to the United Kingdom from Central and Eastern Europe?**

You will need to find out what life is like for most people living in Eastern Europe; for example, employment and/or unemployment levels; what kind of work is available; wages; working conditions; job opportunities in other countries in Europe, attractions of places like Northern Ireland, etc.

*Have you an expert in your class who is part of a family from Eastern Europe?*

### Get Active 4.17



- 1 List the jobs done by migrant workers in the area where you live.  
Sort these jobs into two categories:
  - low skilled and low paid
  - high skilled and high paid.
- 2 Why are local people not employed in these particular jobs?
- 3 Why is it not fair to say ‘migrants take all our jobs’?



## Migration: A case study

There is a lot of movement of people **between** and **within** LEDCs. In recent times, one of the largest movements of people has taken place in the **Darfur** region of Sudan in Africa. This region is shown on the map (see Figure 4.29).

Darfur is a province in western Sudan, Africa's largest country. Darfur is the same size as France. Sudan is an **Arab** country, but Darfur's population is mostly black **African**. The **Darfur** region is home to racially-mixed **tribes** of settled **farmers**, who regard themselves as **African**, and **nomadic herders**, who regard themselves as Arab. The majority of people in both groups are **Muslim**.

For years there have been tensions between the African farmers and the Arab herders as they competed for land. In February 2003, angered by continued poverty and neglect, rebel groups in Darfur began an uprising against the Sudanese **government**. The government, with the help of a militia of Arab nomadic tribes (the Janjaweed) replied by launching an all out attack on villages and civilians, destroying all in their path. This is known as a **scorched-earth policy**. Sudanese government aircraft bombed villages, after which the Janjaweed militia would often ride in on camels and horses to slaughter and steal. Many believe there was a deliberate attempt to drive black Africans out of Darfur, a policy known as **ethnic cleansing**.

Since then more than 400,000 people have been killed and 2.5 million people have had to flee their homes. Violence, disease and movement of people continue to kill many. Those who fled the violence now live in refugee camps all over Darfur. Approximately 200,000 **refugees** have crossed the border into the neighbouring country of Chad. Nearly three million people have become dependent on **food aid** from international **donors** because there is not enough **food** in the country.



Figure 4.29 The location of Darfur

According to the United Nations the conflict in Darfur is a major **humanitarian crisis**, affecting up to four million people. Thousands of women and children have had to take shelter in camps.

Many people that arrived in the camps were in poor health and undernourished. Most were mothers and children in dire need of shelter, food, water and medical help. Children make up half of Darfur's population and are disproportionately affected by the crisis there.

There has also been substantial migration of refugees from neighbouring countries into Sudan. In 2006, there were approximately 120,000 refugees from Eritrea, 20,000 from Chad, 15,000 from Ethiopia and 8,000 from Uganda. These refugees are fleeing unrest and famine in their own countries.



Figure 4.30 Asilef camp, South Darfur



Figure 4.31 Medical care

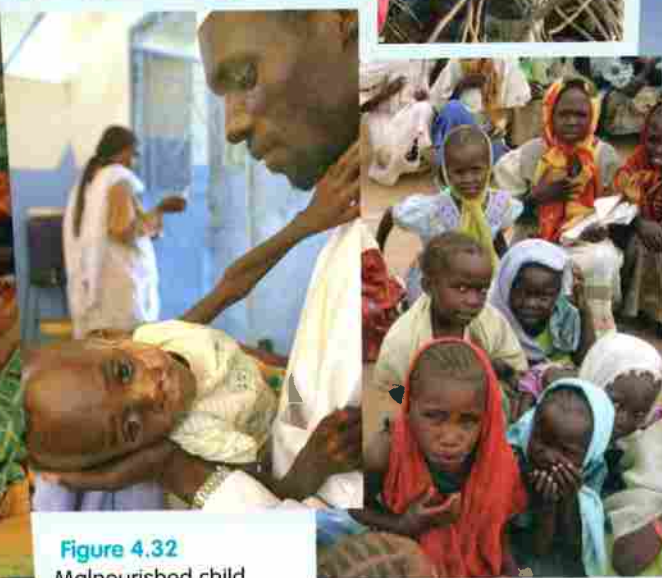


Figure 4.32 Malnourished child

Figure 4.33 Displaced Sudanese children at Kalma camp, South Darfur

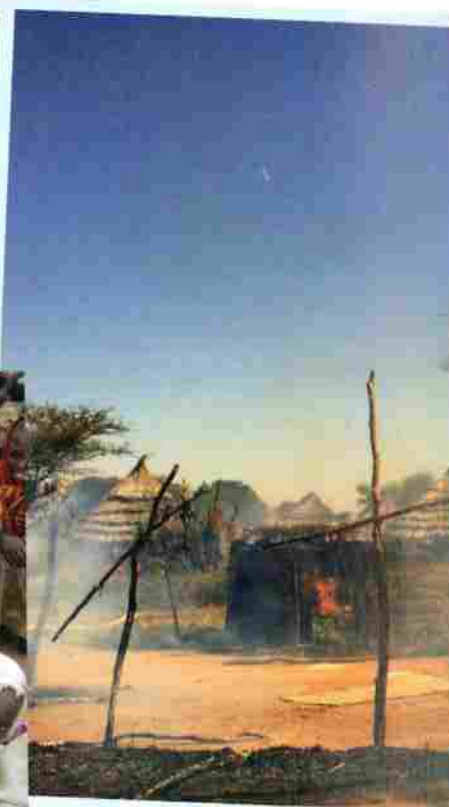


Figure 4.34 Village after attack