

Unit 2 Geographies of human wellbeing

Inequalities in wellbeing

There are many reasons for the inequalities in wellbeing that exist between countries. The environment and climate can make a difference, affecting access to fresh water and the ability to grow food. The presence of natural resources such as oil and minerals is also an important source of wealth for countries that influences levels of wellbeing.

The political, economic and social organisation of a country can also have a big impact on its wellbeing. Important factors include the make up of the population, the levels of gender equality and access to technology. One of the most significant factors affecting wellbeing, however, is conflict.

In 2011, fighting between rebels and government troops in Syria broke out destroying more than half of the country's hospitals as well as other vital infrastructure such as roads, electricity, communication networks and factories. All of these factors have resulted in enormous inequalities in wellbeing.



chapter 5

Source 1 A Syrian refugee carries her infant with her to wash the family clothes at Zaatari refugee camp in Jordan. She is one of more than a million Syrians who have fled the country as the result of a bloody civil war.

5A

How does the natural environment cause inequality?

- 1 Refugee camps are often located in regions close to national borders where it can be difficult to maintain a high level of wellbeing. What does Source 1 tell you about the natural environment of this place?

5B

How do human activities cause inequality?

- 1 Which organisation has responded to the plight of Syria's refugees in this photograph? What assistance does this woman need to help her maintain her wellbeing and that of her children?
- 2 What problems will she face when the conflict in Syria comes to an end?

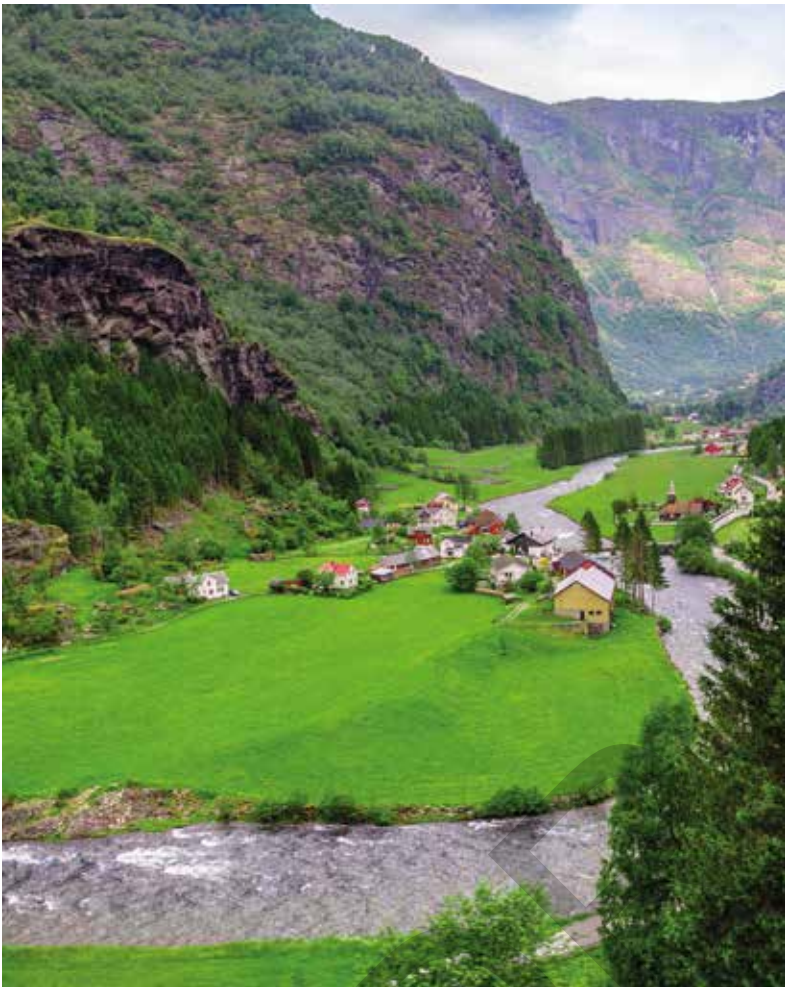
5.1 Why wellbeing varies

As you have learnt, wellbeing varies a great deal within and between countries. The factors behind these variations are complex but can be broken up into five main groups: environmental, social, economic, historic and political.

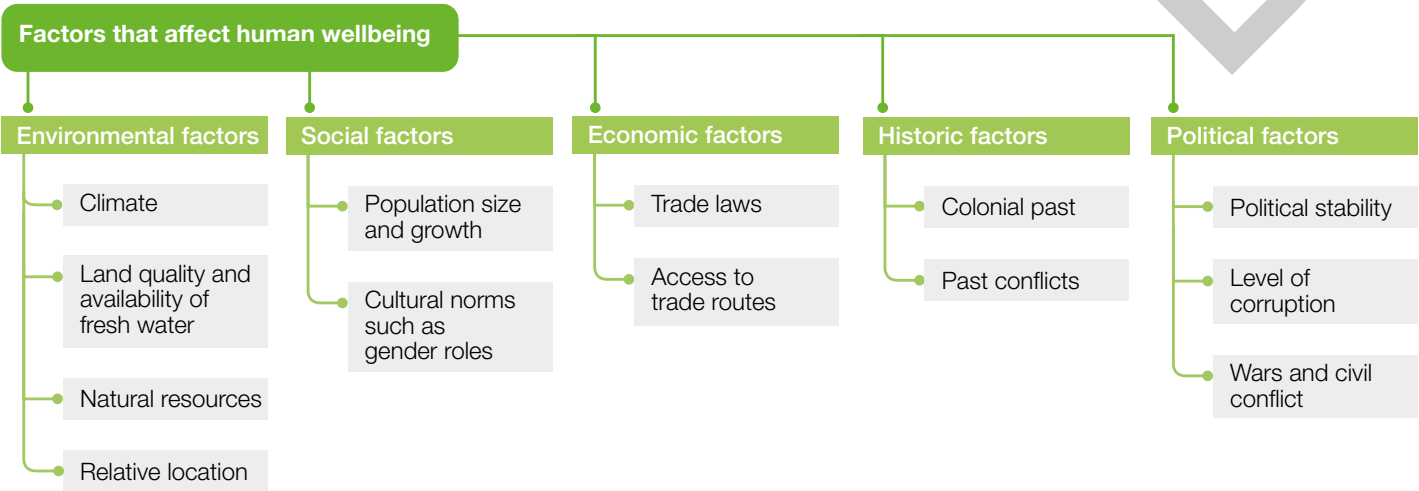
Environmental factors that affect wellbeing include the suitability of the land for agriculture, the climate and whether there are any natural resources present in the landscape. In some places, good growing conditions ensure that food is plentiful and minerals in the ground bring wealth and industry. In other places, poor soils or unreliable rainfall are the key factors that limit people's wellbeing.

Social, economic, historic and political factors are all examples of human factors. Human factors that affect wellbeing include things like population size, cultural norms, laws and rules regulating business and trade, historical events, political systems and wars. In some places, long periods of stability have allowed for great improvements in living conditions. In other places, the wellbeing of people has been affected by ongoing conflict and decades of corruption and persecution. In these cases, people's access to resources such as water, food and health care is limited, affecting their quality of life.

Every region and country around the world has its own unique set of inter-related factors that determine the wellbeing of the people who live there. The key factors that determine a country's level of wellbeing are outlined in Source 2.



Source 1 Norway regularly tops the world ranking in the annual Human Development Index.



Source 2 Factors that affect human wellbeing

keyconcept: place

The two Koreas: a study in wellbeing

The Korean Peninsula is shared by two countries – South Korea and the Democratic People's Republic of Korea (more commonly known as North Korea). Due to their proximity to each other they have similar climates, soils, topography and mineral resources. And yet South Korea is rated as the country with the 12th highest level of wellbeing in the world, while North Korea is 63 places lower at 75th. South Koreans live, on average, 10 years longer and have a gross domestic product (GDP) 18 times higher than their northern counterparts.

These differences cannot be explained by differences in resources but in the ways in which these countries are governed and their resources managed. South Korea is a democracy with a market-driven economy. It has a strong economy with high exports and imports, is highly industrialised with a large urban population and is technologically advanced. South Korea also has relatively low levels of corruption and a free media.

North Korea is a totalitarian state, meaning there is only one political party and no elections. It has little to do with the rest of the world and the economy is strictly controlled by the central government. The population is still largely rural and farming methods are technologically backwards. The North Korean government places a great emphasis on having a strong military and up to one-third of the country's budget goes towards maintaining it. North Korea also has very high levels of corruption and no freedom of the press.

For more information on the key concept of place, refer to page XX of 'The geography toolkit'.



Source 3 The Korean Peninsula at night

Check your learning 5.1

Remember and understand

- 1 What are some of the environmental factors that influence wellbeing? Explain the influence that each of these may have on an individual's wellbeing.

Apply and analyse

- 2 Using Source 1, describe the environmental factors that help to explain Norway's high levels of wellbeing.
- 3 Using Source 2, explain why Australia has high levels of wellbeing.
- 4 Examine Source 3. Describe the pattern shown in this satellite photograph and explain it in relation to wellbeing.

Evaluate and create

- 5 Conduct some further research on the Internet to complete the following tasks.
 - a 'Levels of human wellbeing are mainly the result of human factors rather than natural ones.' Evaluate this statement with reference to some specific examples and discuss your thoughts in small groups of three or four.
 - b Find and research examples similar to the Korean Peninsula, where neighbouring countries have very different levels of wellbeing – for example Haiti and the Dominican Republic. Outline the reasons for this with reference to the five factors discussed in Source 2. Present your findings in table format.

5.2 Environmental factors and wellbeing

The natural environment provides us with the necessities of life – fresh air, fresh water and food. However, there are wide variations in the availability of these vital resources around the world. Climate also affects the suitability of the environment for sustaining wellbeing.

Variations in water and food security

The most important environmental factors are those that provide us with a reliable supply of clean water and the resources required to grow food. Clean water is provided by regular rainfall and is usually carried along rivers where it is accessed by communities in villages, towns and cities. Fresh water is also used by farmers to irrigate their crops in the production of food.

Because there are natural variations in rainfall, temperature, soil fertility and river flows, food and **water security** vary widely. To get the best crops farmers rely on fertile soils, warm temperatures and other important ecosystem services such as insects and birds to pollinate plants and control pests. The products of human ingenuity such as water pipelines and dams, fertilisers and greenhouses have overcome many of the limitations set by these natural variations but they are costly to build and maintain. The growth in the world's population, particularly in the last 50 years, has placed a strain on the ability of the environment to provide food and water security.

In some places the land has become degraded by human activities such as overgrazing and the unsustainable use of water. This is now affecting the food and water security of millions of people (see Source 1).



Source 1 This girl in Chad sets out from her village on her daily walk to collect water. She lives in the Sahel on the southern fringe of the Sahara Desert where wellbeing is threatened by unreliable rains, infertile soil and a rapidly expanding population.

Case study: Food security in India

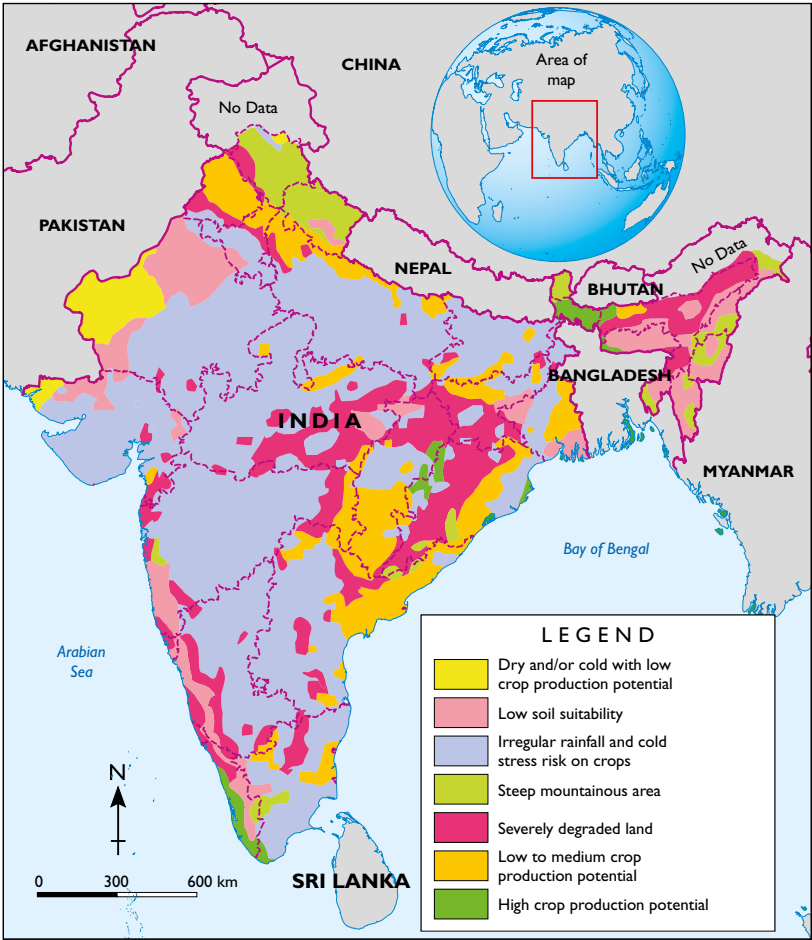
In some environments, the inability to grow enough food to meet the needs of the population has a major impact on wellbeing. India has a population of about 1.2 billion but across much of the country, environmental conditions are unsuitable for growing food.

These environmental conditions, together with a lack of agricultural technology and poor irrigation, have led to frequent famines. In 2013, a severe drought in the western Indian state of Maharashtra became the worst the region had experienced in four decades. As reservoirs ran out of water, farmers were unable to produce food. Shortages meant people went without.

In the late 19th century, India experienced its worst famines, resulting in the starvation and deaths of millions of rural Indians. These days, India can import food such as rice and grains when food supplies are threatened. However, the imported food is more expensive and the price increases still lead to severe hardship for India's poor.

Source 2 shows some of the major environmental conditions and the effects they have on food production throughout India.

INDIA: MAJOR ENVIRONMENTAL CONSTRAINTS ON FOOD PRODUCTION



Source 2 Source: Oxford University Press

Check your learning 5.2

Remember and understand

- 1 Which natural resources are important in providing food and water security?
- 2 How does the uneven distribution of resources help to explain variations in human wellbeing?

Apply and analyse

- 3 Compare Source 2 with Source 1 on page XX. Can you find evidence that certain environmental constraints on food production have led to lower levels of human development? Use the names of specific states in your answer.
- 4 Compare Source 1 with Source 1 on page XX. Describe and account for the differences you

can observe in these sources. How might the environmental conditions you see help to explain the differences in wellbeing between these two nations?

Evaluate and create

- 5 Complete some further research on the Internet to do the following task.
 - a Since 1993 a World Water Day has been celebrated by the United Nations to bring attention to an aspect of fresh water supply. Investigate how World Water Day has been used to bring attention to the issue of food security.
 - b Present your findings by writing a 250-word report or by summarising the most important details in table format.

5.3 The influence of climate

On a global scale, climate has largely determined where people have lived. Areas that are too cold, too hot or too dry have tended to be sparsely populated, while those with mild temperatures and reliable rainfall have tended to be more densely populated.

As the world’s population has increased, however, more and more people have moved into marginal climate regions that were previously considered unsuitable for farming and settlement. By using technology such as irrigation in dry places, these marginal regions have been transformed to support human populations.

Researchers have developed two theories based on these trends in an attempt to explain how climate affects wellbeing.

Theories of how climate affects wellbeing

Theory 1 – Human wellbeing is highest in regions where the climate is neither too extreme nor too comfortable. Supporters of this theory believe that populations living in regions where the challenges presented by climates that are not too severe or too comfortable lead to advances in technology that improve wellbeing overall. According to this theory, people in rainforest climates where rainfall and temperature are both perfect for growing crops have lower levels of development because there are few major challenges to their survival and no incentive to change. By comparison, people living in climates that present



Source 2 Farming for food usually requires reliable rainfall and mild temperatures such as here in Pennsylvania, north-east USA.

5A How does the natural environment cause inequality?



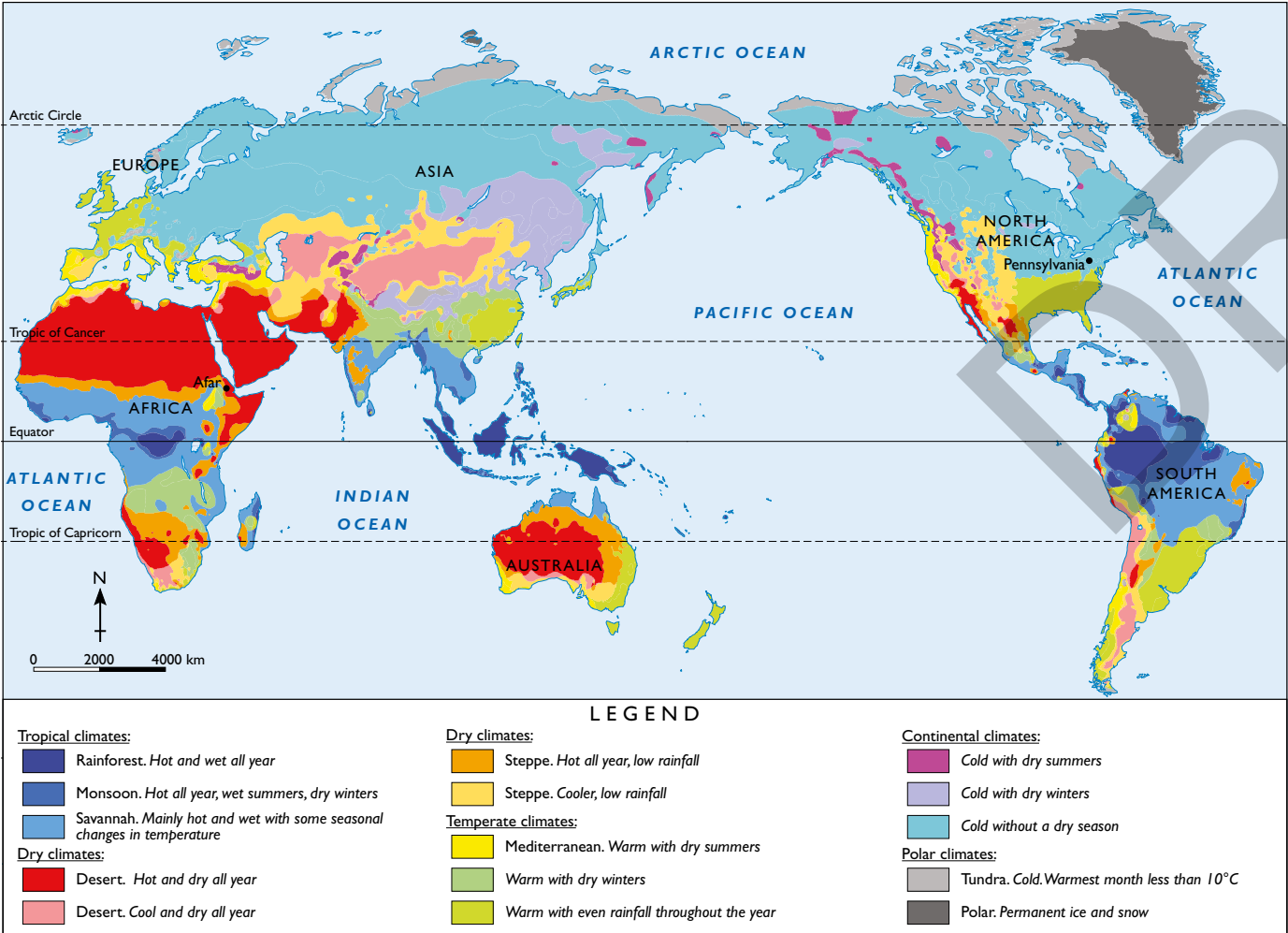
Source 3 In Afar, northern Ethiopia, people are nomadic and live from livestock farming. Girls are responsible for herding sheep, goats and camels to the pastures while men provide protection.

a number of mid-range challenges will have higher levels of development because they are encouraged to solve these challenges through innovation.

Theory 2 – People who live in marginal climate regions have lower levels of wellbeing because of the difficulties faced in growing enough food or finding enough fresh water. These activities take so much time and effort,

for example spending hours each day collecting water from the nearest water source, that there is no time left to develop ways to move beyond simple survival. Supporters of this theory point to desert regions in Northern Africa and Central Asia as evidence to support their case.

WORLD: CLIMATE ZONES



Source 1

Source: Oxford University Press

Check your learning 5.3

Remember and understand

- 1 Why are human populations clustered in certain areas rather than evenly distributed across the world?
- 2 Use Sources 2 and 3 to describe the very different climates of Afar and Pennsylvania.

Apply and analyse

- 3 Use the data in the ‘World statistics’ section on pages XXX–XXX to compare levels of wellbeing in Ethiopia and the USA. To what extent do you believe these differences are due to climatic differences?
- 4 Why are more people moving to areas that have previously been considered unsuitable for human habitation? Which factors do you think would be most important to drive people to move to an inhospitable area?

Evaluate and create

- 5 Copy and complete the following table in your notebook. Use the world map at the back of this book together with the data in the ‘World statistics’ section on pages XXX–XXX to complete column 2.

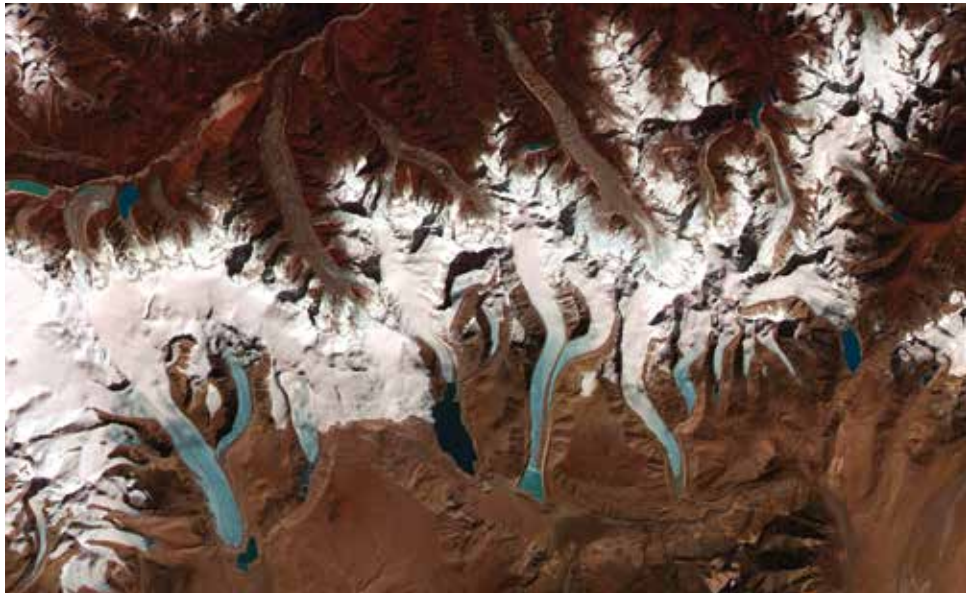
Then use Source 1 to complete column 3.

Region	HDI ranking 2012	Main climate zone
Northern Africa: Morocco	130	Desert, Mediterranean
Southern Africa: South Africa		
North America: Canada		
South America: Brazil		
Oceania: Australia		
Europe: Germany		
Central Asia: Mongolia		
North Asia: Russia		
South Asia: Pakistan		
South-East Asia: Indonesia		

- 6 Use the information you have collected in this table to evaluate the theory that levels of wellbeing are highest in regions where the climate is neither too extreme nor too comfortable.

5.4 The influence of climate change

Many regions of the world have seen a dramatic improvement in human wellbeing over the last few decades. Infant survival, literacy rates and life expectancy have all increased. **Climate change**, however, threatens to stall and even reverse many of the gains made in these areas. The main threats from climate change are the greater risks posed to people's health from rising temperatures and the expected fall in food production which may, in turn, lead to lower levels of food security.



Source 1 A NASA satellite image of glaciers in the Himalayas. The lakes at the end of each glacier are increasing in size as the glaciers reduce in size. This means that less water is stored in the glaciers themselves.

Health threats

The most direct consequence of rising temperatures is more frequent heatwaves and more cases of associated heat stress. Heatwaves are already Australia's deadliest natural disaster, with older people in urban areas most at risk. In 2009, during a heatwave that hit south-east Australia, there were more than 400 heat-related deaths in Melbourne and Adelaide alone. Researchers expect the death toll from heatwaves in Australia to increase fourfold by 2050. Increasing temperatures bring other threats too, with more frequent extreme weather events such as bushfires, droughts, cyclones and floods.

The other major health concern with rising temperatures, and potentially the most catastrophic, is the spread of serious diseases such as malaria and dengue fever. Rising temperatures create suitable living environments for disease-carrying mosquitoes in areas that were previously too cold. Some research estimates that 300 million more people will be affected by malaria by 2080 as a result. In recent years, the numbers of people dying from malaria has been decreasing, thanks to better preventative measures and greater access to treatment. But increasing numbers of victims could overwhelm health systems in poorer countries where they are less able to prepare and recover from health epidemics.

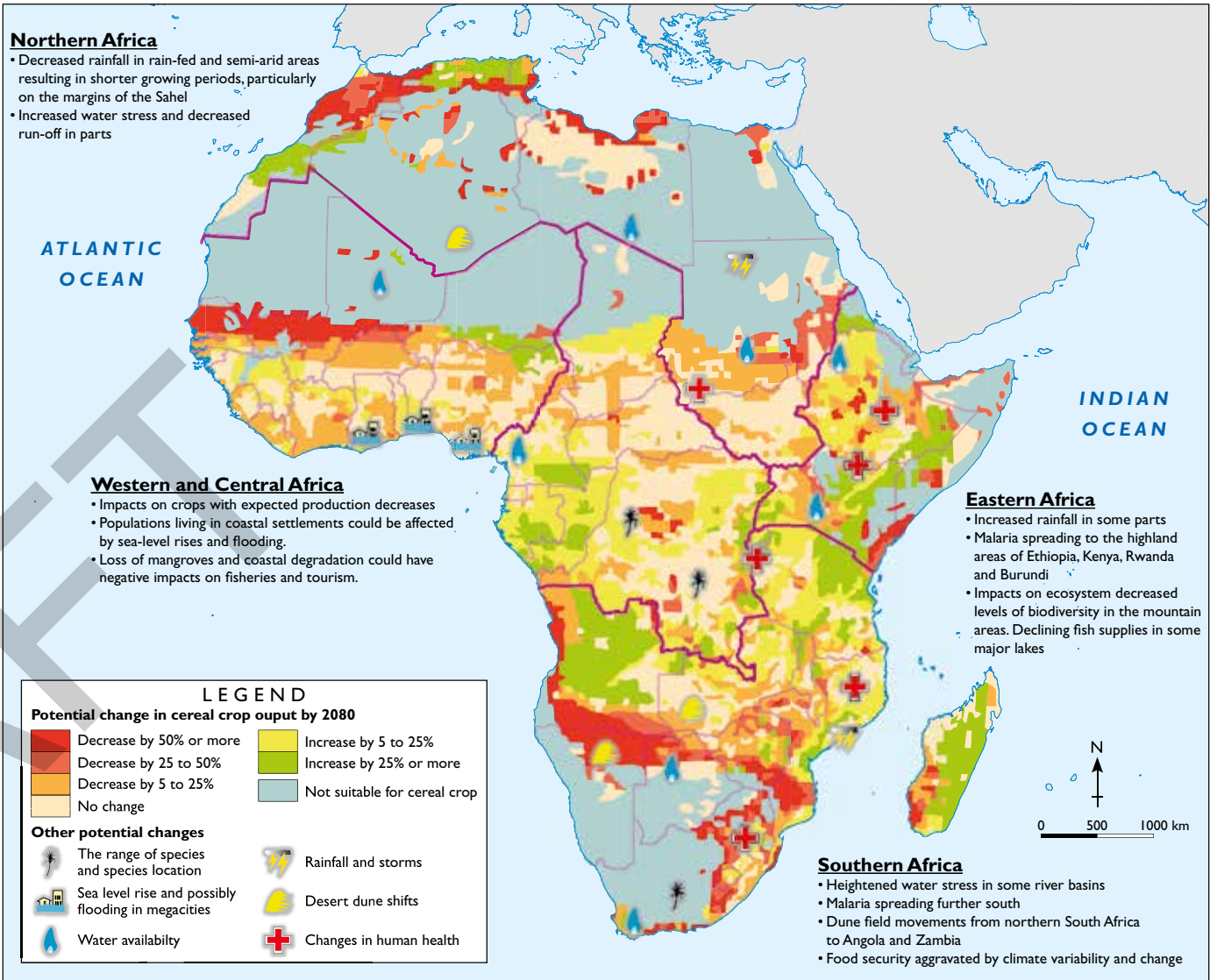
Food security threats

As temperatures rise and rainfall patterns change so will growing conditions. This will affect food security as communities in some regions become unable to produce enough food. Farming areas that are already in dry, warm regions, such as areas surrounding the Sahara and Kalahari deserts in Africa, are expected to see a massive reduction in food production (see Source 2). Worldwide, reductions in grain production are also expected, at a time when world population figures continue to grow. This will send prices for grains higher, making it increasingly difficult for the poor to feed themselves.

The impacts on food security will also be multiplied by changes in water supply. The glaciers of the Himalayas and the Andes supply water to over a billion people in cities and on farms. As the glaciers disappear, the water supply for these people will become less reliable, reducing the ability of farmers to use this supply to irrigate their crops (see Source 1).

Farmland in coastal regions will also be affected. Rising sea levels are expected to flood low-lying land making it unsuitable for farming and causing salt water to intrude further inland.

AFRICA: CURRENT AND POSSIBLE FUTURE IMPACTS OF CLIMATE CHANGE



Source 2

Source: Oxford University Press

Check your learning 5.4

Remember and understand

- 1 List the ways in which rising temperatures threaten people's health.
- 2 Name two climatic factors that threaten food security.
- 3 Why should we be worried about the melting of glaciers?

Apply and analyse

- 4 Examine Source 2.
 - a Which areas of Africa are likely to see the greatest reduction in cereal crop output by 2080?
 - b Which areas are likely to see an increase in cereal crop output?

- c What might this mean for the distribution of populations in Africa?
- d What might this mean for food security?

Evaluate and create

- 5 Conduct some further research on the Internet before completing the following task.
 - a Which of the effects of climate change shown in Source 2 do you consider to be the greatest threat to wellbeing? Give some reasons for your answer, supporting your argument with data gathered from at least two secondary sources.

5.5 The influence of natural resources on inequality

Natural resources include a country's mineral, petroleum, timber and hydropower reserves along with any other resources that can be used commercially to improve the wealth of the country and the wellbeing of the country's population. Fossil fuels such as oil, and minerals such as iron ore, copper and diamonds are often in demand around the world. The money raised from the sale of these resources can then be used to improve wellbeing. This is what has happened in the oil-rich nations of the Middle East who now enjoy very high levels of wellbeing.

Variations in mineral wealth

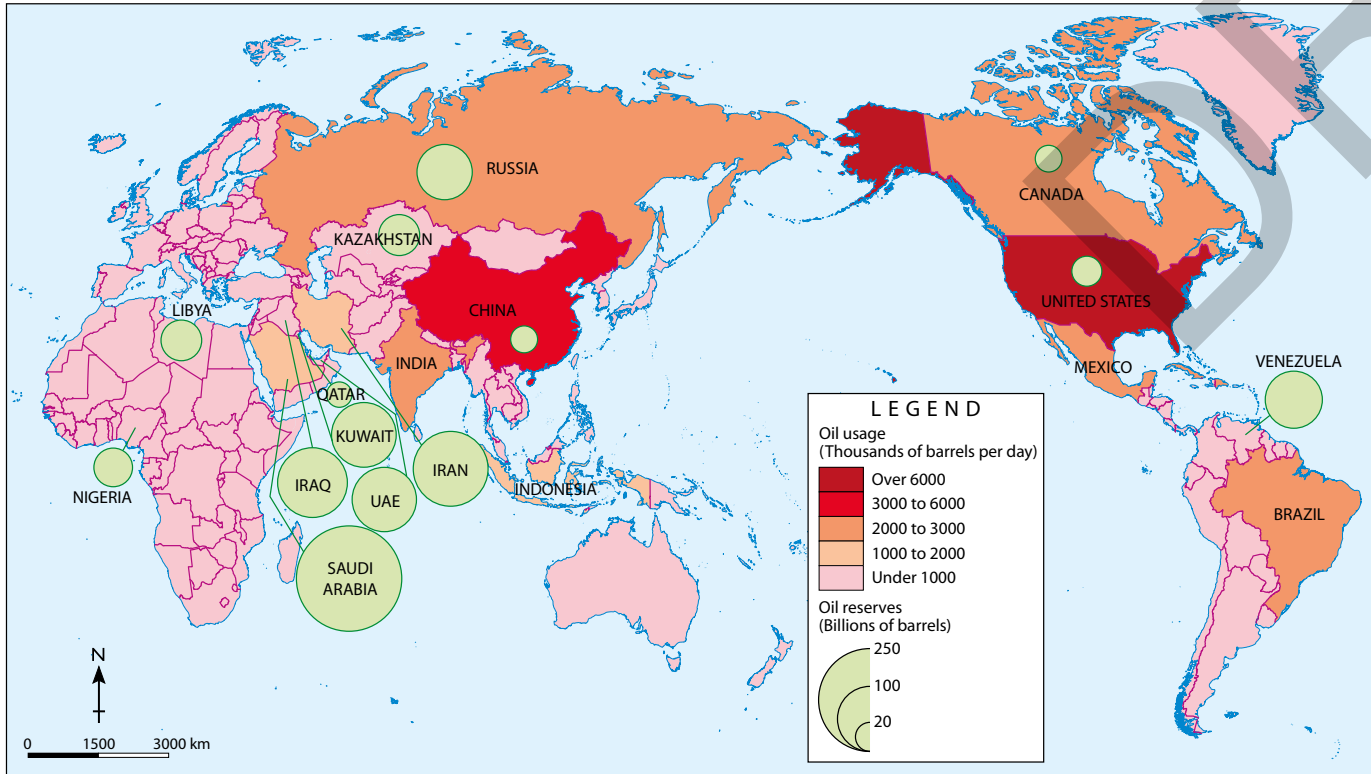
Throughout human history, different minerals have provided people with the means to increase their wellbeing. Ancient people used bronze and iron to make tools and weapons with which they could hunt large prey and increase their food security. In today's world,

oil is a vital commodity. It is used by billions of people for transport, manufacturing, heating and cooking. Oil is found in only a few places on Earth, but often in vast quantities.

Those countries that have reserves of oil are able to mine, refine and sell it to those who do not, thereby giving them an opportunity to generate wealth and increase their wellbeing. Source 1 shows the distribution of oil reserves throughout the world using proportional circles to show the oil reserves available to each country. You can see from this map that the majority of oil reserves are concentrated in a relatively small number of countries. The colour of each country in Source 1 indicates how much oil it uses. If a country needs oil but does not have any oil reserves, they have to buy it from a country that does.

Natural resources are considered of such high value that throughout history, access to them has been a common cause of conflict between countries.

WORLD: THE LOCATION OF OIL AND THE RATE OF OIL USE



Source 1

Source: Oxford University Press

keyconcept: interconnection

Natural resources and colonisation

As Western nations developed and their populations grew in the 16th and 17th centuries, their need for resources increased beyond what could be provided within their national borders. European powers such as Spain, England, Portugal and the Netherlands sent explorers out to the unknown regions of the world in the hope of finding resources and riches that they could use. They colonised vast areas of the Americas, Africa and the Pacific, often taking the wealth of the countries they colonised to increase their own wellbeing. In many cases, this had devastating results for the Indigenous people in these colonies.

Millions were taken as slaves or put to work extracting minerals and other natural resources from the ground. Countless others were killed in conflicts or died from Western diseases against which they had no natural immunity. Valuable resources such as timber and minerals were taken, and the Indigenous social and political systems were destroyed.

Some people would argue that a form of colonisation still continues today, as companies from wealthy countries develop and sell the resources of poorer nations. Thanks to profits from oil, Nigeria now has

Africa's second-largest economy. Much of this wealth comes from multinational companies such as Royal Dutch Shell extracting Nigeria's oil. Shell currently produces 21 per cent of Nigeria's exported oil.

For those living near Shell's oil plants in the Niger Delta, there have been more negatives than positives as a result of the oil industry. Oil spills, loss of agricultural land and environmental degradation have left those in surrounding villages poorer than ever.

For more information on the key concept of interconnection, refer to page XX of 'The geography toolkit'.



Source 2 Royal Dutch Shell's oil plant in Bonny, Nigeria. Shell began operations in Nigeria in 1937. Today more than 1000 Nigerian wells operated by Shell produce more than 600 000 barrels of oil a day, virtually all of it exported.

Check your learning 5.5

Remember and understand

- 1 What do individuals and communities use oil for?
- 2 How can natural resources influence a country's wellbeing?

Apply and analyse

- 3 Examine Source 5.12.
 - a Which 10 countries have the world's largest oil reserves?
 - b Use the data in the 'World statistics' section on pages XXX-XXX to order the 10 countries with the largest oil reserves according to their Human Development Index (HDI) rankings.
 - c Can you see a direct relationship between large reserves of oil and high levels of wellbeing as shown by the HDI rankings? Write a paragraph describing this relationship.

- d Discuss why access to important natural resources such as oil does not always lead to improved levels of wellbeing.
- 4 What is colonisation? How does this help to explain variations in human wellbeing?

Evaluate and create

- 5 Conduct some further research on the Internet before completing the following tasks.
 - a Use Google Earth to explore the town of Bonny in Nigeria.
 - b Find the location of the photograph in Source 5.13.
 - c Comment on the variations in buildings in this town and the conclusions that can be drawn about relative wealth and wellbeing.
 - d Use the ruler function to estimate the size of the oil and gas plant.
 - e What evidence can you find of environmental change as a result of this plant?

5.6 The influence of location on inequality

Differences in human wellbeing cannot be explained by variations in climate and the distribution of natural resources alone. While control over reserves of natural resources was the main source of wealth and power hundreds of years ago, it tends to be less of a factor in today's world. In our increasingly globalised world, vast quantities of goods, services, people, finances and ideas move quickly between countries. As a result, countries with few natural resources can increase their wellbeing by engaging in these flows of goods and services.

Some of the highest levels of wellbeing are enjoyed by people living in places without the natural resources such as large areas of land suitable for agriculture or vast mineral reserves. For these people, their location and ability to trade are the key to their wellbeing.

Access to trade routes

All of the world's great empires were built partly on their ability to transport goods and people. Large volumes of goods were usually transported by water. Ancient Egyptians used the Nile River, the Greeks and Romans used the Mediterranean Sea, and the British used the oceans of the world for trade. Countries and empires with ports close to major shipping routes had a natural advantage.

Little has changed in the ways goods are transported today. The United States, for example, has been able to maintain high levels of wellbeing for centuries through its ability to trade from large ports on its west, east and south coasts. China, one of the world's fastest growing

economies, is the world's largest exporter and second largest importer. Six of the world's eight busiest ports are located in China and an estimated 121 million shipping

containers pass through them every year. China is using trade from its many ports as a way to improve the wellbeing of hundreds of millions of its citizens.

keyconcept: interconnection

Singapore and the importance of location

Singapore is one of the world's smallest countries with few natural resources. Most of the land area is used for urban development, so little remains for food production; there are no significant rivers and no mineral reserves. And yet, Singapore has one of the world's highest levels of wellbeing with an average life expectancy of over 84 years and one of the world's highest levels of GDP per person. Singapore's wealth is based largely on its geographic location at the tip of the Malay Peninsula.

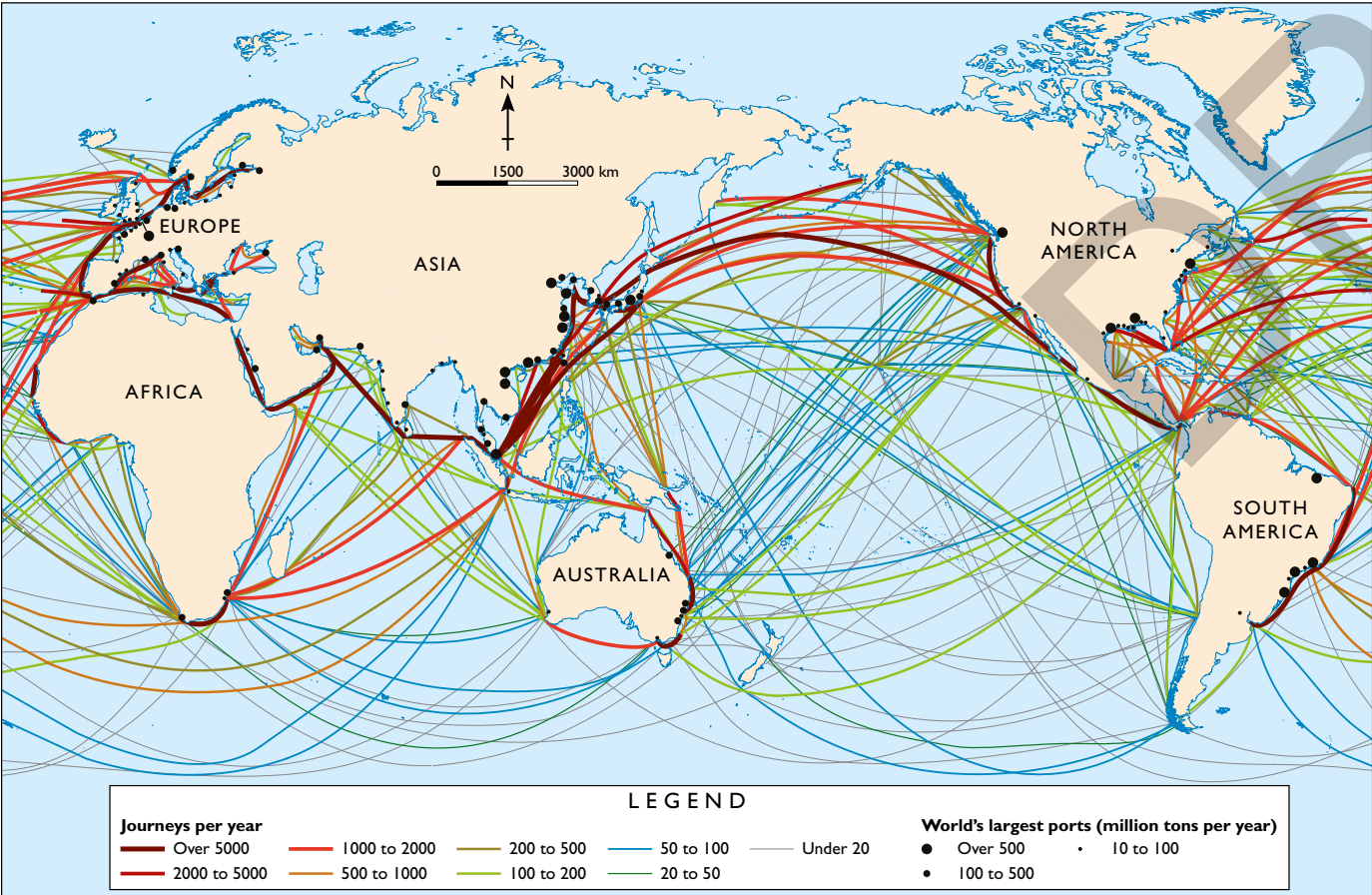
Ships moving between the world's major exporters and importers have used the port of Singapore as a trading centre for hundreds of years. The Port of Singapore is connected through shipping to more than 600 ports in 123 countries around the world, making it the 'gateway to Asia'. This central location has enabled Singapore to thrive in other global industries. Singapore also imports raw materials which it turns into valuable commodities such as electronic and telecommunication goods for export. Lastly, the country is home to major oil refineries and other mineral treatment plants and is a major centre of finance.

For more information on the key concept of interconnection, refer to page XX of 'The geography toolkit'.



Source 2 An oblique aerial photograph showing part of the Port of Singapore

WORLD: MAIN SHIPPING ROUTES AND LARGEST CONTAINER PORTS



Source 1

Source: Oxford University Press

Check your learning 5.6

Remember and understand

- 1 How does Singapore's location help to explain the high levels of wellbeing there?
- 2 How can countries with little in the way of natural resources work to improve their wellbeing?

Apply and analyse

- 3 Use the 'World statistics' section on pages XXX–XXX to describe overall levels of wellbeing in Singapore.
- 4 Examine Source 1.
 - a Describe the location of the busiest shipping routes.
 - b Design the course of a container ship that travels from Beijing, around the world, and back to Beijing following the busiest shipping routes. Use an atlas to make a list of the ports and countries where your ship would dock.

- c Use the 'World statistics' section on pages XXX–XXX to explore the levels of wellbeing in the countries where your ship would dock.
- d What does this map tell you about the advantages of coastal nations in accessing trade?
- e How does this map help to explain the high levels of wellbeing in the USA, China and Singapore?

Evaluate and create

- 5 Conduct some further research on the Internet before completing the following task.
 - a In small groups, brainstorm all the ways in which location influences a country's wellbeing. Source some images that illustrate your ideas and create a PowerPoint presentation explaining these links.

5A rich task

Prisoners of geography

The movement of goods and produce by sea puts cities situated on ports and trade routes at a distinct advantage when it comes to improving levels of wellbeing. Singapore and Hong Kong, for example, are rated as having levels of development that place them in the world’s top 20 nations. Both are small islands with few natural resources but their location on major shipping routes and large natural harbours have allowed them to build thriving economies.

Other nations find their geographical location puts them at a distinct disadvantage. Wellbeing in landlocked nations such as Mongolia, Afghanistan, Niger, Ethiopia and Bolivia is hindered by a lack of access to the sea. Virtually all goods into and out of these places must travel by land, making them significantly more expensive.



Source 1 Niger, one of the world’s poorest nations, lies 600 kilometres from the nearest ocean. Virtually all goods and people must enter and leave the country by road. Less than 4000 kilometres of road in the country is paved.

This situation is compounded if goods must travel through neighbouring countries with poor transport infrastructure, corruption or conflict. A United Nations study revealed that landlocked countries do worse than their maritime neighbours in each aspect of the HDI ranking – income, life expectancy and education.

- Step 2** Rank the countries from the lowest infant mortality rate to the one with the highest. For example if you have 20 countries the highest score would be 20 and the lowest would be 1. If two or more countries have the same infant mortality rate, they score the same ranking. Record these rankings in the column headed ‘Infant mortality rate’. For those countries where the data is unavailable do not include them in the ranking.
- Step 3** Repeat this step for the ‘Percentage of the population living below the poverty line’ (column 3).
- Step 4** Repeat this step for ‘Life expectancy’ (column 4) but this time, the highest life expectancy scores 1 and the lowest scores 20.
- Step 5** Repeat for ‘GDP per capita’ where the highest is ranked 1 (column 5).
- Step 6** Repeat for ‘Access to clean water’ where the highest is ranked 1 (column 6).
- Step 7** Repeat for ‘Literacy rate’ where highest is ranked 1 (column 7).
- Step 8** Add the total score for each country and record this in column 8.

- Step 9** Calculate the average score for each country. Divide each country’s total score by the number of indicators for which they have valid data. Record this average score in column 9.
- Step 10** Rank the countries based on these average scores. The country with the lowest average score will be the first ranked country. Record these ranks in the final column. You have now completed a wellbeing index of countries based on these six indicators.

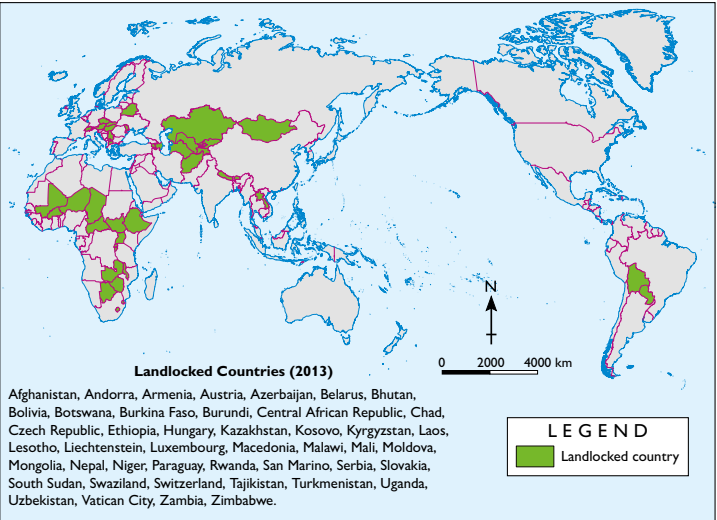
Apply the skill

- 1 Calculate a wellbeing index for 20 of the world’s landlocked countries (see Source 2).
- 2 Comment on the level of wellbeing of people living in landlocked countries based on your wellbeing index.
- 3 Examine the ‘World statistics’ section on pages XXX–XXX. List the 10 countries in the world with the lowest HDI rankings. How many of these are landlocked countries?

Extend your understanding

- 1 Calculate a wellbeing index for the countries of South America. How do the two landlocked countries score on your index?
- 2 Bolivia has no coastline but maintains a navy of approximately 5000 sailors (see Source 3). Research the history of Bolivia’s access to the Pacific Ocean to find out why this country has a navy.

WORLD: LANDLOCKED COUNTRIES



Source 2

Source: Oxford University Press



Source 3

Members of the Bolivian navy

skilldrill: data and information

Calculating a wellbeing index

A wellbeing index is a valuable tool that can be used to rank a group of countries being studied for example, by placing them in order from the country with the highest wellbeing to the one with the lowest. Follow these steps to develop a wellbeing index for some of the world’s landlocked countries.

- Step 1** Draw up a grid with 10 columns using the headings set out below (these are your key indicators) and a row for each country you are ranking. This could be done on paper or using a spreadsheet in Microsoft Excel. Using a world map as a guide, list your countries in the first column. Select a range of landlocked countries from different continents for an even spread.

Country	Infant mortality rate	% below poverty line	Life expectancy	GDP per capita	Access to clean water	Literacy rate	Total	Average	Final rank
Bolivia									
Mongolia									
Niger									

5.7 Human factors and wellbeing

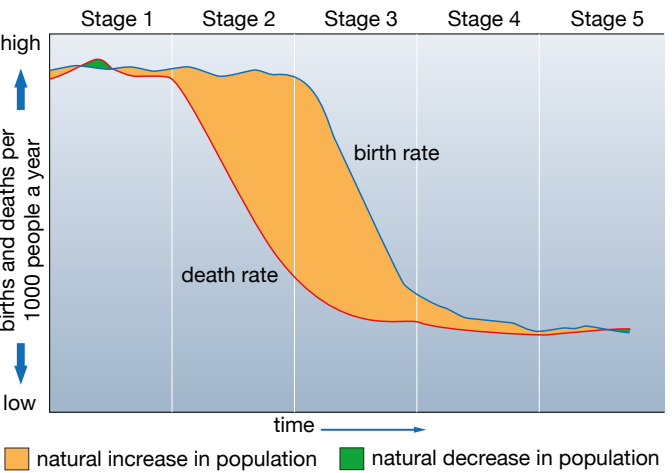
In section 5A, you learnt about some of the ways in which the natural environment can influence human wellbeing and result in inequalities between countries. In this section, we will concentrate on the human factors that affect wellbeing. These human factors are a combination of different social, economic, historical and political factors. Changes in the size of populations, inequalities between different groups in society, political instability and conflict are all examples of human factors that affect wellbeing.

Demographics and changes in population

The number of people living in a country is always changing. In some countries the population is growing rapidly and in others it is declining. The rate at which populations change is largely related to changes in wellbeing.

Demographics is a term used by geographers to describe the quantifiable statistics of a population (or smaller groups within it). Looking at statistical data on population can help to identify trends in population patterns and predict future trends that could affect wellbeing within a country.

Countries tend to pass through a series of stages in terms of population change. By observing these changes in many countries over a long period, geographers were able to develop the **demographic transition model** (Source 1).



Source 1 The demographic transition model

Looking at population trends

Many developing countries around the world today, particularly in Africa and Asia, are currently in stage two according to the demographic transition model. Death rates have fallen dramatically as better health care, sanitation and the provision of fresh water have improved the health and life expectancy of millions of people. Improvements have also been made in the care offered to women giving birth and of their newly born children. Millions more babies are now surviving into adulthood as a result of these improvements.

While these improvements have led to people enjoying longer, healthier lives, they have also created a problem. In these countries, there is currently a gap (or lag) between the fall in the death rate and a fall in the birth rate, so populations are growing rapidly (see Source 1). As a result, the population of Africa, for example, is expected to double in the next 40 years to more than 2 billion.

In contrast, many developed countries in regions such as North America and Western Europe have reached stages four and five in their demographic transition. Birth rates have now fallen to such an extent that some of these countries are facing an overall



Source 2 The population of Nigeria increases by 2.6 per cent per year. Already home to 170 million people, its population is predicted to exceed 400 million by 2050. The population of its capital, Lagos, is expected to triple to over 30 million inhabitants in the same time period.

decline in their populations. The reasons for this fall differs between countries but there are some common factors. A general improvement in living conditions, high use of contraception and other family planning methods, high rates of education and work participation amongst females and a movement from rural living to large cities all seem to be contributing factors to the falling birth rates.

Case study: China's one-child policy

Perhaps the most famous attempt by a country to reduce its birth rate has been China's 'one-child policy'. Introduced in 1979, and still in effect today, its aim is to reduce the rate of population growth in the world's most populous country. Couples in China are encouraged to have only one child, although the policy has been unevenly applied across the country. One-child families are given better access to education, health care, jobs and houses while those that have more children are fined and lose access to important social services.

The policy has been successful in reducing China's growth rate and has likely resulted in 300 million fewer births since it was implemented in 1979. But there have also been a range of unintended consequences which are now causing concern.



Source 3 A mother in Shaoyang plays with her son in front of a family planning poster.

In China, people prefer to have sons rather than daughters, as boys traditionally support their parents in their old age. As parents can only have one child, many are ensuring that this is a boy. In some cases, this may involve using an ultrasound machine to determine the sex of the foetus, and aborting the pregnancy if it is a girl. In other cases, baby girls are abandoned or sent to orphanages. This has led to a large imbalance between the sexes in some parts of China with 13 males born to every 10 females.

Check your learning 5.7

Remember and understand

- 1 Why can it be useful to analyse statistical data on population?
- 2 Why have death rates fallen in many developing countries over recent times?

Apply and analyse

- 3 In what ways would the demographic transition model be useful for geographers studying population trends?
- 4 Use the 'World statistics' section on pages XXX–XXX to find the birth and death rates for Australia, Afghanistan, Italy and Timor-Leste (East Timor).
 - a Which of these countries would you describe as having a rapidly expanding population, which is relatively stable and which has a declining population? Explain your answers.

- b In which stage of demographic transition is each of these countries? What challenges do planners in Italy and Timor-Leste face?

- 5 What is China's one-child policy designed to do? Describe its results in terms of the demographic transition model.

Evaluate and create

- 6 Conduct some further research before completing the following task.
 - a What messages do you think are being communicated on the billboard shown in Source 3? Do some extra research to investigate the issues surrounding family planning in China and its impacts on Chinese people. Share your research in groups of three or four and summarise your findings.

5.8 Changes in population structure

Population structure is a term used to describe the different groups in society that together make up the total population. Geographers often identify groups according to their age and sex. One of the most useful tools that geographers use to study a country's population structure is called a **population pyramid**. Population pyramids graph the population of a country in age segments (shown in the central axis). Males and females are shown separately – males are always shown on the left of the pyramid and females on the right.

How population affects wellbeing

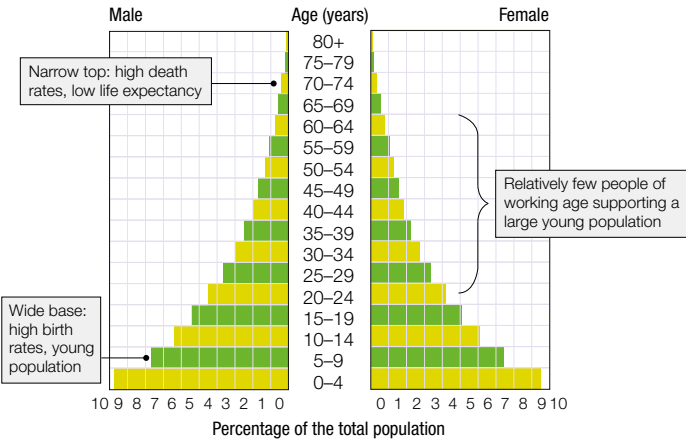
Population pyramids help geographers to identify trends in populations. The overall shape of the pyramid can indicate whether a country's population is growing, contracting or remaining relatively stable. Countries with a rapidly growing population tend to have pyramids that are wide at their base and narrow at their top (Source 1).

Countries with a population that is growing slowly have a different shaped pyramid (Source 2). The base is much narrower because birth rates and fertility rates are lower. In these countries, much of the population is of working age.

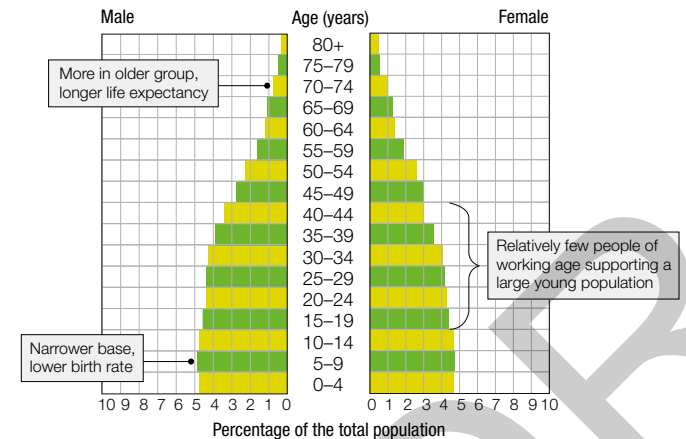
Countries with a declining population tend to have a population pyramid that looks like an inverted pyramid (Source 3). In these countries, the birth rate is low so the base of the pyramid is very narrow. There is usually a large group of people over 60 years of age as life expectancy is high and death rates are low.



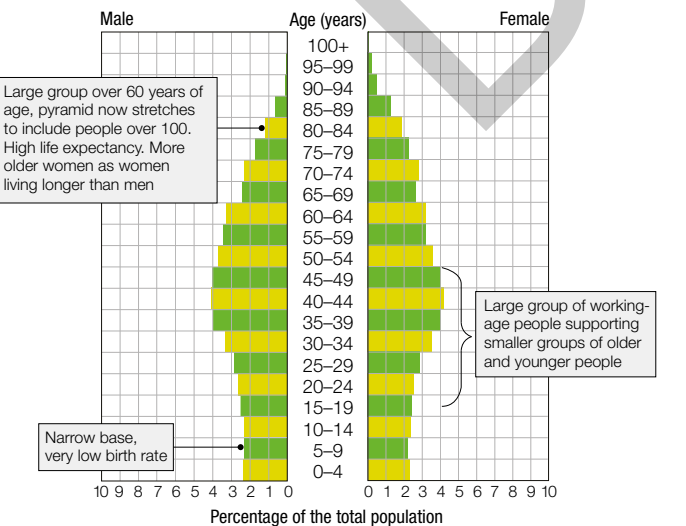
Source 1 The population of Italy is ageing and declining due to a very low birth rate.



Source 2 The population pyramid for Niger, an example of a rapidly growing population



Source 3 The population pyramid for Indonesia, an example of a slowly growing population



Source 4 The population pyramid for Italy. An example of a declining population

skilldrill: data and information

Constructing a population pyramid

You can construct your own population pyramid by following these steps. Population pyramids are fairly simple to construct but accuracy is very important so take your time. For more information on population pyramids, refer to page XX of 'The geography toolkit'.

- Step 1** Draw the horizontal axis (the x-axis) which will show the percentage of the population. Leave a gap in the centre similar to the population pyramids shown in Sources 1–3. Your age ranges will go in this space.
- Step 2** Add the scale 0 to 10 on each side, working from the centre outwards. Label your x-axis 'Percentage of the total population'.
- Step 3** Add the centre axes (the y-axes) as per the population graph in Source 1. Label the y-axes 'Age (years)'. Remember that males are always shown on the left and females on the right, label the left side 'Male' and the right side 'Female'.
- Step 4** Mark the scale on the y-axes. You will need to allow for 20 rows.
- Step 5** Add the labels for each age group span in the centre space. Start with 0–4 at the bottom and increase in intervals of four years until you reach 100+.
- Step 6** Transfer information from your data set onto your population pyramid. Draw bars in for each age group's data. Use a ruler and sharp pencil. Make sure that each bar is exactly the same width.
- Step 7** Lightly shade each bar using two alternating colours so the graph is easy to read. Add a title.

Source 5 Caption

N0503

Apply the skill

- Construct a population pyramid for Australia in 2012 using the data from Source 5.
- Add three labels to your Australian population pyramid, similar in style to those on the three population pyramids shown in Sources 1–3, describing three key features of the structure of Australia's population.

Check your learning 5.8

Remember and understand

- Describe the appearance of a population pyramid for a rapidly growing population.
- Which of the population pyramids shown on these pages represents the most rapidly growing population?

Apply and analyse

- Use the 'World statistics' section on pages XXX–XXX to list the fertility rates in Niger (Source 1),

Indonesia (Source 3), Italy (Source 2) and Australia. What link can you make between the shape of the pyramids of these countries and their fertility rates?

Evaluate and create

- Using the four population pyramids (Italy, Niger, Indonesia and Australia) as a guide, match each country with its current position in the demographic transition model (Source 1 on page XX).

5.9 Population growth and inequalities in wellbeing

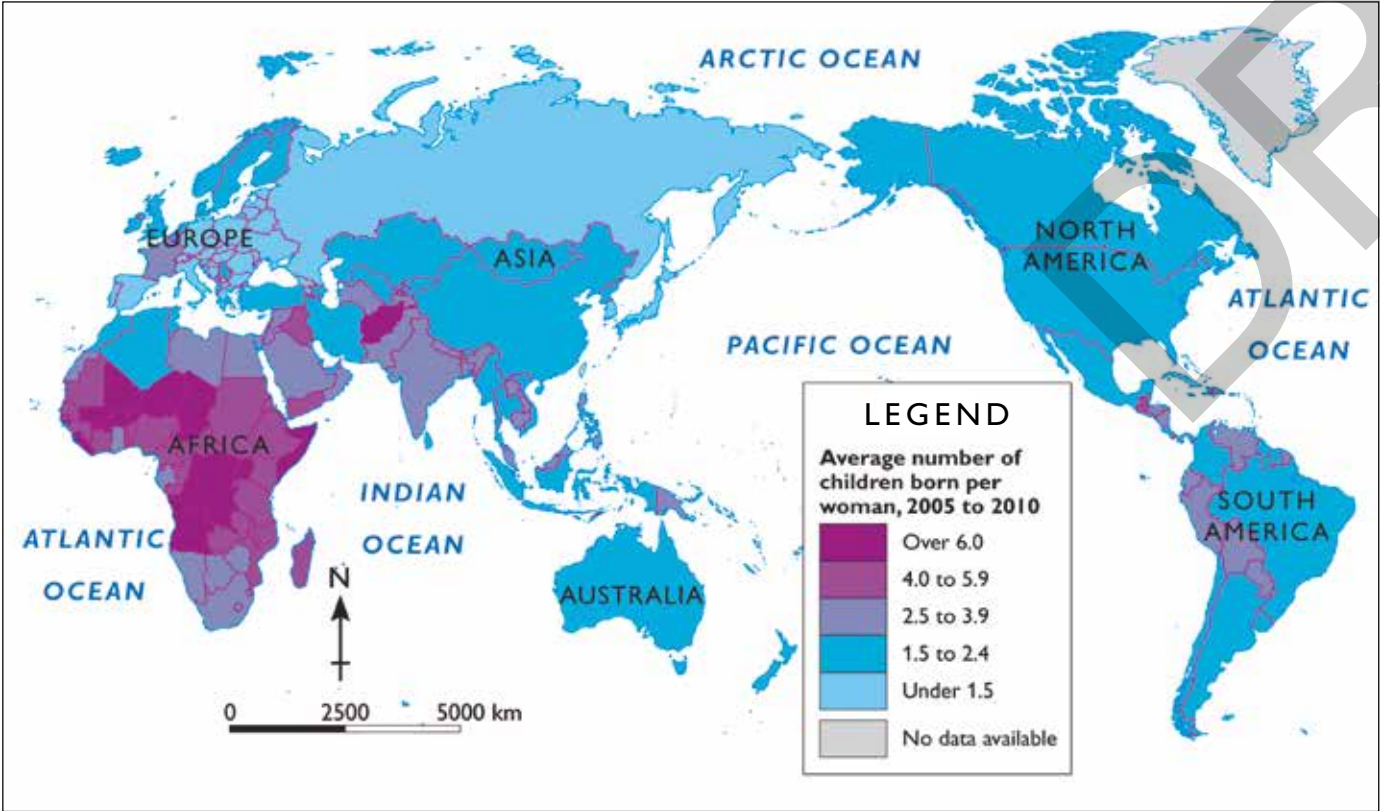
The countries in which poverty levels are the highest are generally those that have the most rapid increases in population and the highest fertility levels.

United Nations Population Fund

The populations of most countries around the world are increasing. In some countries, such as Australia and the United States, the population is growing slowly, and in other countries, such as Niger and Uganda, it is growing rapidly. Populations grow when the number of arrivals from births and immigration is greater than the number of departures from deaths and emigration. In most cases, the growth of a country's population is largely determined by the **fertility rate**.

Many people living in countries with a rapidly growing population experience difficulties accessing vital services. These include access to education, food, safe drinking water, electricity, communications and transportation. Access to health services such as hospitals, doctors and medicines is also much lower than in countries with slowly growing or declining populations. Infant mortality and maternal mortality (mothers dying due to pregnancy or childbirth problems) are also much higher in rapidly growing populations. This is largely because many births in these countries are not attended by health professionals.

WORLD: TOTAL FERTILITY RATE



Source 1

Source: Oxford University Press

Gender inequality and fertility rates

Gender inequality fuels population growth. Where women are denied full legal, social and economic rights, such as education, secure livelihoods, property ownership and credit, they are forced to rely on childbearing for survival, status and security.

Lakshmi Puri, Assistant Secretary-General of UN Women, 2011



Source 2 Niger is the only country in the world where the average number of children born to each woman (known as the fertility rate) is greater than seven. Of the 15 countries with the highest fertility rates, 14 are in Sub-Saharan Africa. The other country is Afghanistan.

Many researchers believe that the lower status of women, particularly in developing countries, contributes to higher fertility rates as women with lower levels of education tend to have more babies. In turn, higher fertility and larger families make it even more difficult for women to attend school or to participate in the workforce and in government.

Inequality between women and men is both a cause of inequality in wellbeing and one of its effects. Societies in which women have a lower status in education, employment and government tend to have lower levels of wellbeing than those with less or no gender discrimination.



Source 3 The adult literacy rate for Yemen is 43 per cent for females and 79 per cent for males.

Check your learning 5.9

Remember and understand

- 1 What is meant by maternal mortality?
- 2 What might be a cause of higher rates of infant and maternal mortality in countries with rapidly growing populations?
- 3 What is the fertility rate in Australia? Name three other countries with a similar fertility rate.
- 4 Explain the links between gender inequality and population growth in your own words.
- 5 What sort of services are difficult to access in countries with rapidly growing populations?

Apply and analyse

- 6 Examine Source 3.
 - a Estimate the proportion of girls and boys in this school in Yemen.
 - b How does this help to explain the gap in literacy levels between males and females in Yemen?

7 Examine Source 1.

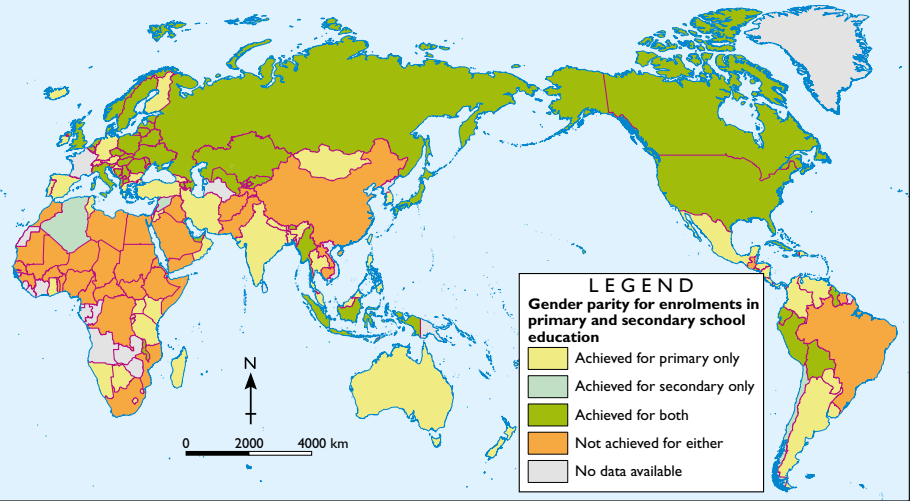
- a Use the PQE method to describe the pattern shown on this map. For more information on the PQE method, refer to page XX of 'The geography toolkit'.
- b Compare this map to the world maps showing the proportion of population living in poverty (Source 2 on page XX), GDP per capita (Source 1 on page XX), hunger levels (Source 3.20) and literacy rates (Source 1 on page XX). For each map write a one-sentence summary of the similarities that you notice.
- c Based on the summaries you have written, what is the most significant link between fertility rates and human wellbeing?
- d

5.10 Gender and inequalities in wellbeing

Throughout much of the world today there are **gender inequalities**. For example, if you are a woman, you are more likely to be living in poverty and unable to read or write. You are more likely to be a refugee and subject to gender-based violence. You are also less likely to be in government, to be employed or to own property.

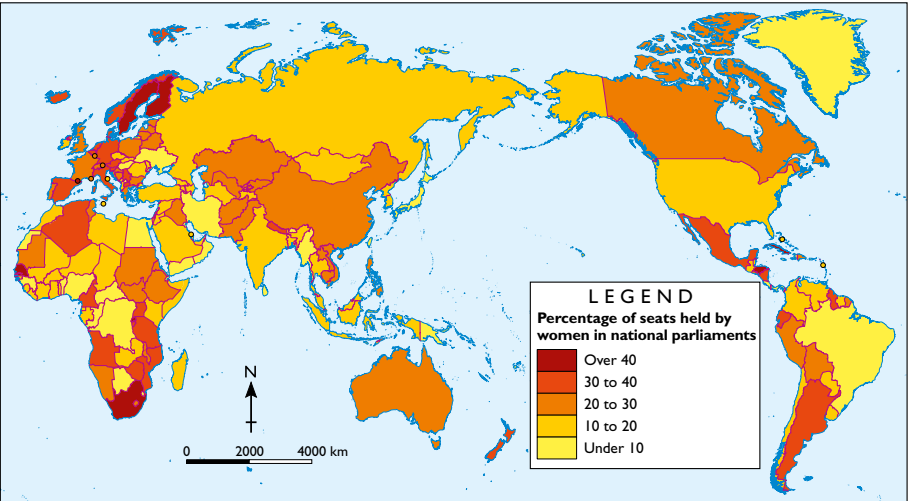
As we have learnt, there are certain key indicators that can be used to measure wellbeing. Three important ways to assess gender equality in a country are by measuring women's participation in education, the workforce and government. It is these three things that are essential

WORLD: GENDER PARITY FOR ENROLMENTS IN PRIMARY AND SECONDARY EDUCATION



Source 1 Source: Oxford University Press

WORLD: PERCENTAGE OF WOMEN IN NATIONAL GOVERNMENTS



Source 2 Source: Oxford University Press

to raising the status of women and providing opportunities for better jobs, higher levels of wealth and female-friendly government policies.

Gender inequality in education

In many countries around the world, boys outnumber girls in schools particularly at secondary school level (see Source 1). The gap is wide throughout South Asia, for example, where the number of girls attending secondary schools is low compared to boys – only 75 girls for every 100 boys. This gap is a reflection of gender-based discrimination in societies where sons are often considered more important than daughters. Poverty also has an effect on this inequality. In India, for example, girls from poorer families who do attend school at all, attend inferior schools that teach nothing more than basic literacy and numeracy. Higher levels of schooling cost money and poor families are more willing to invest in their sons than their daughters.

Gender inequality in government

In every country of the world, less than half of the representatives in national parliaments are women (see Source 2). Globally, women make up only 18 per cent of the world's elected officials. The Scandinavian countries and Iceland have the highest number of women in government, with Spain, South Africa and Argentina also having better than average numbers. Low levels of representation in government can make

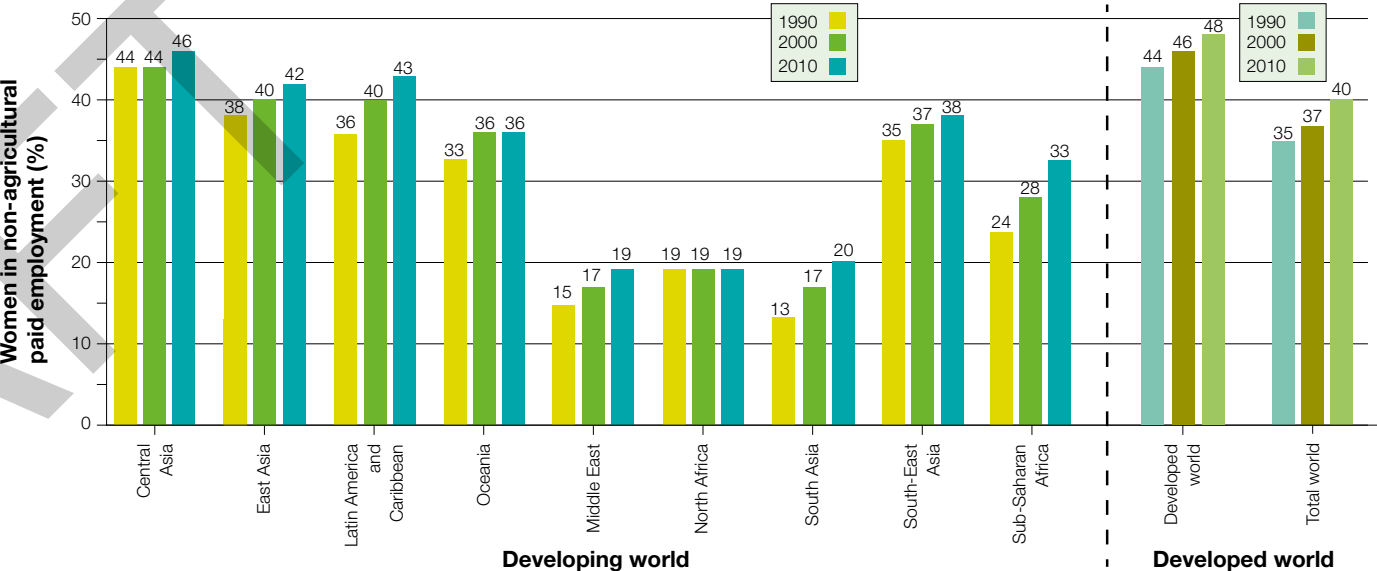
it difficult for gender equality laws such as universal education to be discussed and enacted.

Gender inequality and job opportunities

Women own about 1 per cent of the world's resources and earn one-tenth of the world's income. In many places around the world their participation rates in the paid workforce are much lower than men's (see Source 3). The Middle East and North Africa have the lowest levels of female participation in the workforce. Even in the developed world, where women's

participation is high, women tend to earn less than men and occupy lower-level positions.

In many of the places where women have low participation rates in the paid workforce, they are instead doing unpaid agricultural work. Approximately 60 per cent of women in developing countries work in farming. These women work long hours every day on family farms that produce just enough food to support their families. They also perform most of the domestic chores such as collecting wood and water, caring for children and preparing food.



Source 3 Percentage of employees in non-agricultural employment who are women

Check your learning 5.10

Remember and understand

1 Define the term 'gender inequality' in your own words.

Apply and analyse

2 Examine Source 1.

- a In which regions of the world has parity (equal numbers) of male and female students been achieved for both primary and secondary education?
- b Use the map in Source 1 on page XX showing fertility rates to comment on the fertility rates in the regions you listed in (a).
- c What relationships can you see between education parity and fertility?

3 Use the sources provided to compare the regions of Europe and Sub-Saharan Africa in terms of:

- a parity in education
- b women in non-agricultural employment (note: Europe is included as part of the 'Developed world')
- c the percentage of women in government.

Evaluate and create

- 4 Conduct some further reading before completing the following tasks.
 - a Research gender equality and inequality in Australia. Focus on issues such as employment, wage levels, number of seats in parliament and education.
 - b Present your findings as a written report. Remember to acknowledge the sources of the data you use in your report.

5.11 Technology and inequalities in wellbeing

Technology is a very broad term used to describe a range of different tools, machinery, techniques and systems to solve a problem or achieve a goal. From the times of earliest human societies, people have strived to find new and better ways of growing food, accessing water, treating medical problems and improving sanitation. All of these technological developments were designed to improve wellbeing. Over the last 200 years, there have been many significant advances in technology that have fundamentally changed the way we live and work. These advances have had enormous impacts on societies. Some of the biggest changes occurred during the Agricultural Revolution of the 18th century and the Industrial Revolution of the 19th century.

These revolutions, however, were concentrated in Europe and the United States and their impacts were greatest in the parts of the world now known as the developed world. The people of Europe may have been living with the benefits of these revolutions for generations but in many Asian and African countries, they are still using farming methods not seen on Europe's farms for hundreds of years.

Case study: Differences in dairy farming technology

Differences in the availability and use of technology between the developed world and the developing world can be seen clearly in these examples of dairy farming in Laos and New Zealand.

The woman shown in Source 1 is a farmer in Laos. She is bringing her herd of four cows to a small shed leaning against her house. She will spend the next hour or so milking the cows by hand into a bucket. This will provide enough milk for her family to be able to make their evening and morning meals. The cows will stay in the shed overnight and be milked in the early morning. During the day they will be able to wander across the countryside but will be accompanied by one of the children of the family whose daily task is to make sure the cows are fed, keeping the child out of school. Their droppings will be collected and used for fertiliser, fuel for the cooking fire or mixed with straw and used for mud bricks. On some days, the larger cow will be

used to plough the family rice field, pulling a plough through the mud.

The farm in Source 2 is also a dairy farm. The family ride motorbikes to herd the cows into a mechanised milking shed. Suction cups are attached to the cows' udders and the milk is pumped into large storage tanks ready for collection by a refrigerated milk tanker later in the day. Because the milking is mechanised, the farmer and one other worker are able to milk 1200 cows twice a day, producing much more milk than the farmer and his family can consume. The milk is sold to the local dairy factory where it is treated and used to supply the needs of the people in towns and cities throughout the South Island of New Zealand.



Source 1 A dairy farm in Laos, 2012



Source 2 A dairy farm in New Zealand, 2012

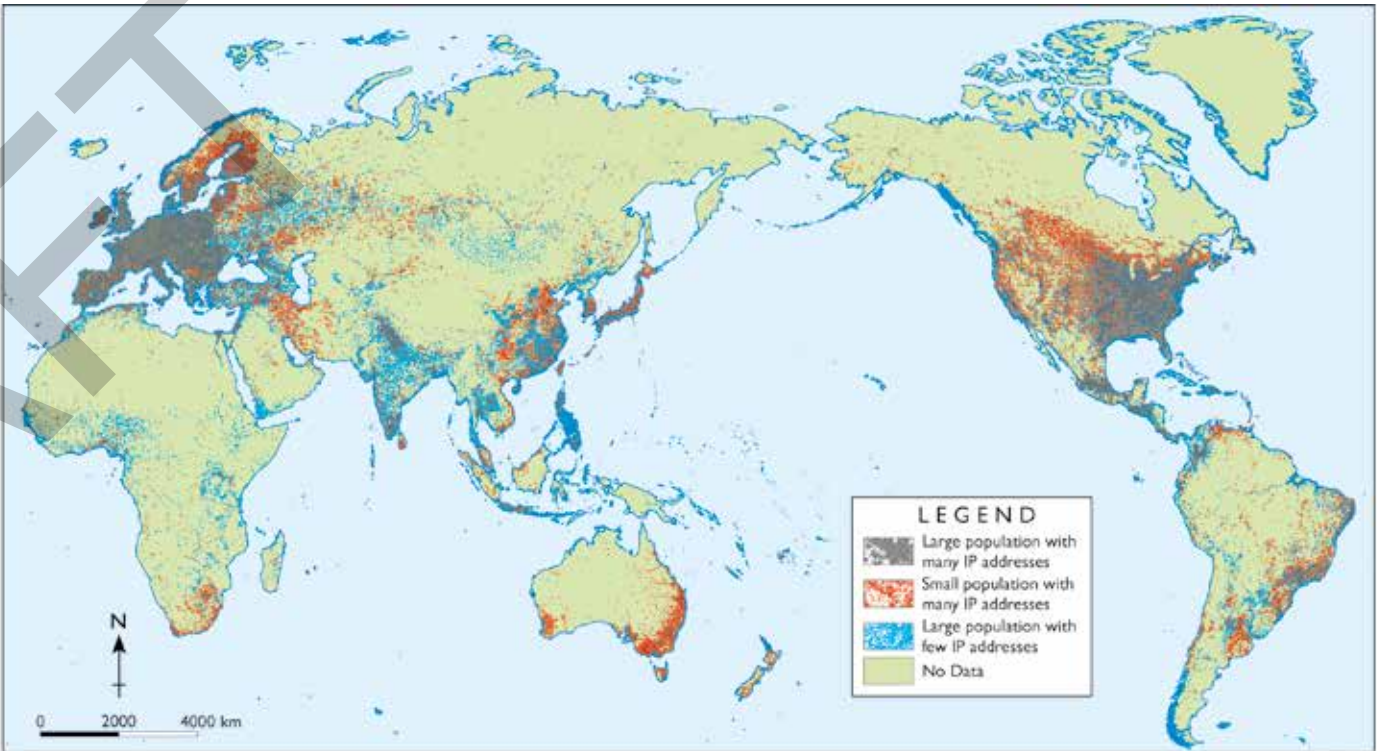
Information and communications technology (ICT) and wellbeing

Technology is always moving forward. We are currently experiencing a kind of information revolution in which the growth and spread of ideas and knowledge is occurring much more rapidly than at any time in the past. To a large degree this is being fuelled by advances in information and communications technologies (ICT).

ICT has the potential to improve the wellbeing of people throughout the world. Already, the information revolution has made it easier for businesses on opposite

sides of the world to work with each other. It has also allowed Western companies to access cheaper labour in developing countries by outsourcing jobs overseas. The outsourcing of jobs in call centres and IT services, for example, has provided new employment opportunities and increased wellbeing in countries such as India and the Philippines. The spread and influence of the information revolution throughout the world, though, remains uneven (Source 3).

WORLD: INTERNET USE AND POPULATION



Source 3

Source: Oxford University Press

Check your learning 5.11

Remember and understand

- 1 What is technology?
- 2 In which areas do humans seek to improve wellbeing through the use of technology?
- 3 How has the outsourcing of jobs by Western countries improved wellbeing in India and the Philippines?

Apply and analyse

- 4 Compare Sources 1 and 2.
 - a Comment on the levels of technology used by dairy farmers in these two places.

- b Use the 'World statistics' section on pages XXX–XXX to compare levels of wellbeing in these two countries.

5 Examine Source 3.

- a Describe the general pattern of Internet use on this map.
- b Compare this map to Source 1 on page XX showing HDI rankings around the world. What links do you notice between the HDI rankings and Internet traffic?
- c How would you account for these links?

5.12 Politics and inequalities in wellbeing

Politics is a term used to describe all of the activities associated with governing a country or region. Thomas Jefferson (1743–1826), third President of the United States and principal author of the Declaration of Independence, was a gifted politician. According to Jefferson, good governments were those that protected the rights of individuals, encouraged economic freedom, promoted happiness and listened to the will of the people. Although Jefferson died almost 200 years ago, his beliefs still hold true. Governments wield enormous power over their citizens. Some are good, while others are bad. Regardless of this, they are all responsible for influencing levels of wellbeing among their citizens.



Source 1 In some countries, such as Burma, children are forced into conflict and become child soldiers. Some groups, including Amnesty International, argue that ‘the right to refuse to kill’ should be added to the list of basic human rights.

The Universal Declaration of Human Rights

On 10 December 1948, the United Nations General Assembly adopted the Universal Declaration of Human Rights. After World War II, the newly formed United Nations decided to set an international agreement of basic human rights that should be made available to all. The idea was that those in power would be responsible for ensuring that the human rights of their citizens were protected to the best of their government’s ability.

This was the first time in history that the nations of the world had listed the basic human rights to which all human beings are entitled. The Declaration now underpins many laws to protect basic human rights all around the world. These rights include:

- the right to equality, life, freedom, security, equality before the law, a fair public hearing, be presumed innocent until proven guilty, move freely, seek asylum in another country, marriage, family, own

- property, freedom of opinion, peaceful assembly, free elections, social security, desirable work, rest, adequate living standards, education and to share in scientific advancements
- freedom from discrimination, slavery, torture, arbitrary arrest, interference with privacy, religious persecution, state or personal interference in the above rights.

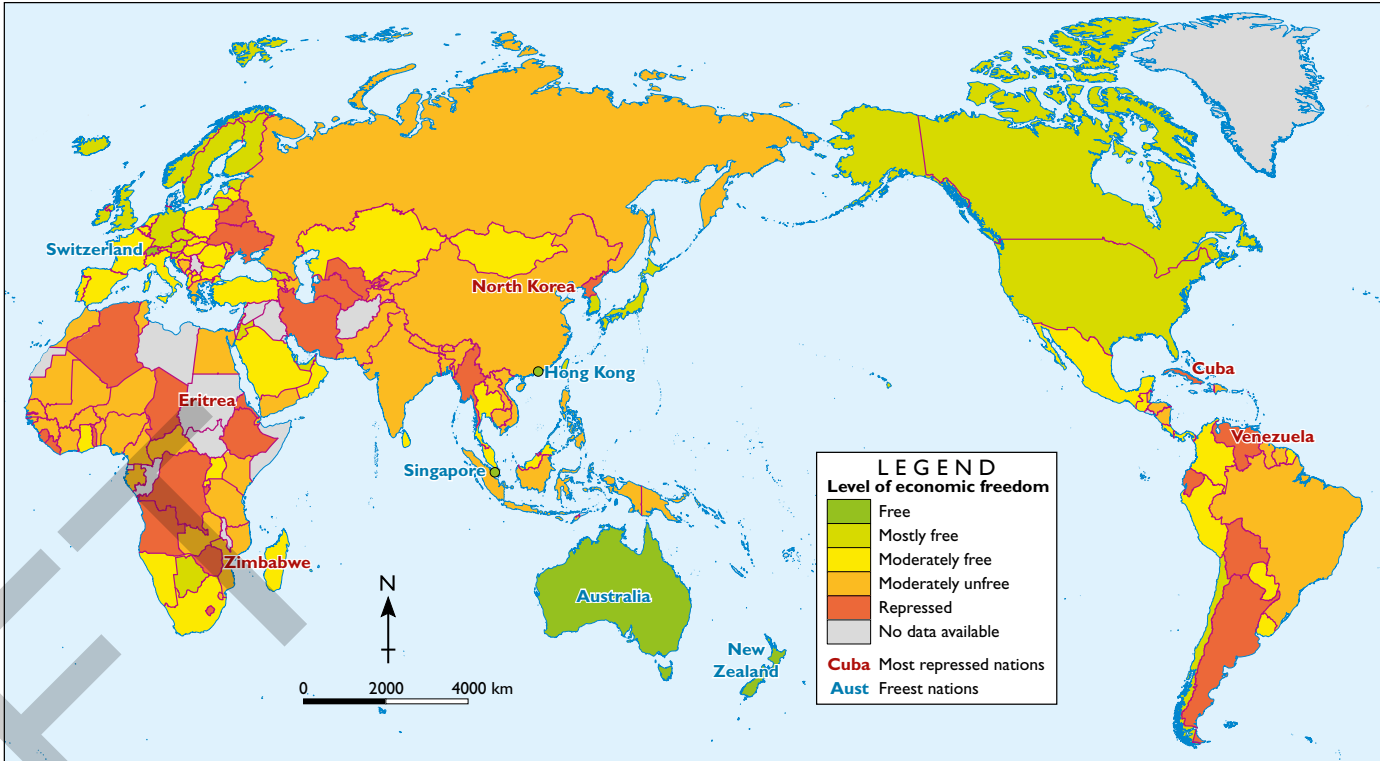
Government corruption

Many researchers believe that the abuse of political power is the leading cause of poverty and inequality in the world today. In particular, they point to the corruption that exists in many developing nations where those in power use their position for their own benefit rather than the benefit of the country.

Source 2 ranks the countries of the world according to the level of economic freedom. This data is compiled by scoring nations on various indicators including the level of corruption, labour freedoms and property rights.

Government corruption usually leads to the repression or punishment of any individual or group

WORLD: LEVELS OF ECONOMIC FREEDOM



Source 2

Source: Oxford University Press



Source 3 North Korea is one of the world’s most repressed nations. It is very difficult to access data for North Korea but it is estimated that more than one-quarter of North Koreans live below the poverty line. Despite this, it is believed that up to one-third of the annual budget is spent on the military under a policy known as ‘songun’ or putting the military first.

that speaks out against the government. In some cases, the struggle between different political groups within a country can result in civil war and ongoing conflict, an example of this is the current civil war in Syria. Along with environmental degradation, corruption and conflict are the two factors most likely to halt or reverse upward trends in improved wellbeing, affecting people’s health, education and economic activity.ç

Check your learning 5.12

- Remember and understand
- 1 Describe Jefferson’s idea of good government.
 - 2 How can corruption and conflict within a country affect the wellbeing of its people?
- Apply and analyse
- 3 In which regions of the world are people most repressed?
 - 4 In which regions are people most free from repression?
 - 5 Access the full list of rights and freedom outlined in the Universal Declaration of Human Rights online. Discuss with a partner how it would influence wellbeing if these rights were adopted as law in every country in the world.
- Evaluate and create
- 6 Using Source 2 and an atlas, select four countries from each level of the five levels of economic freedom. Use the ‘World statistics’ section on pages XXX–XXX to research the HDI ranking of each of these 20 countries. Construct a scatter plot comparing the level of economic freedom in each country with its HDI ranking. Describe the pattern shown.

5.13 Conflict and wellbeing

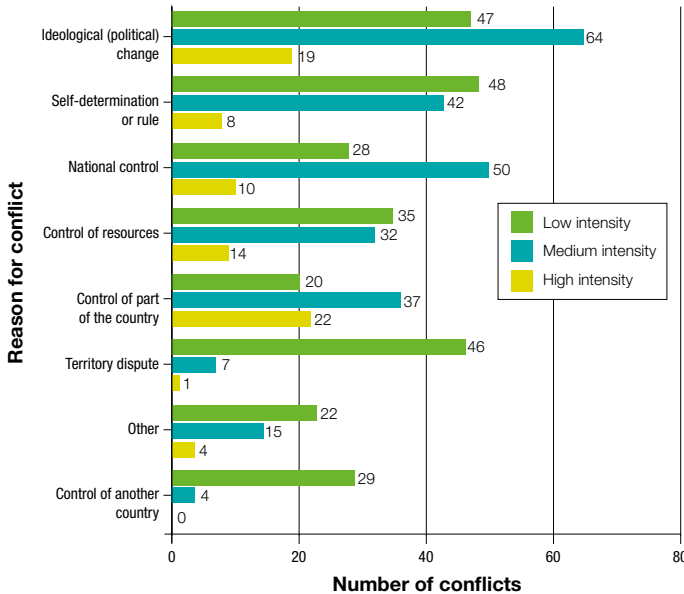
Wars and civil conflicts are complex events. There is rarely, if ever, a single factor that causes them. An intricate set of social, historic and physical factors lie behind one group of people or nation attacking another. The costs of war are immense both in terms of human life and economic resources. For a country to go to war there must be enormous perceived benefits to the winner of that war. Often these benefits are resources that will impact positively on the wellbeing of the victorious party. These may include oil, areas of desirable land, or access to water.

Why conflicts happen

Countries go to war for many reasons. They may see the opportunity to gain more land or more valuable resources, or they may want to remove a potential security threat. They may go to war for religious reasons, or to fight a rival ethnic group.

Source 2 shows the reasons for the 396 conflicts recorded in 2012 by the Department of Political Science at the University of Heidelberg, Germany. In their annual report on global conflict, the university also classifies conflict as peaceful disputes over politics or borders (low intensity), conflicts involving infrequent fighting (medium intensity) and conflicts involving constant fighting (high intensity).

Studies consistently show that few conflicts are fought solely over natural resources. Indeed, of the 396 conflicts in 2012, only six were considered to be



Source 2 The major causes of conflict in 2012 worldwide

fought purely on this basis. And yet, about 40 per cent of all civil wars in the last 60 years have partially involved struggles for control of natural resources, including at least 18 violent conflicts since 1990. Many of these are in Sub-Saharan Africa where rebel soldiers loyal to different warlords fight to gain control of valuable mineral resources. Income earned from mining these resources is used to fund further fighting, often for other reasons such as the control of part of the country or attacks on neighbouring countries.



Source 1 The Rwandan genocide which resulted in more than half a million deaths and the displacement of millions more was fought, in part, over the control of land, a valuable resource in this densely populated region of central Africa.

Case study: Water wars

One of the most valuable resources in many parts of the world today is fresh water. Disputes over its control have occurred for thousands of years and many analysts believe that this will accelerate in the future as water resources become scarcer and populations continue to grow. Water wars follow the trends of most disputes over resources: they tend to be within, rather than between, countries, and the tension over the resource is usually not the only cause of the conflict.

In recent times, there have been conflicts over the water resources of the Aral Sea in central Asia, the Tigris, Euphrates and Jordan rivers in the Middle East

and the Nile and Okavango rivers in Africa. There is also ongoing tension between Pakistan and India, partially over the the rivers in the Kashmir that feed into the Indus River basin. The Arab–Israeli War in 1967 (also known as the Six-Day War) was fought, in part, for control of the Golan Heights, an important water source for both Israel and its neighbour Syria. The area was seized by Israel at the end of the war and the Golan Heights now supplies one-third of the nation’s water. The Darfur conflict in Sudan, which started in 2003, is sometimes called the ‘world’s first climate change war’, as different ethnic and religious groups fight for control of dwindling water resources.



Source 3 India and Pakistan have fought sporadically for control of the territory of Kashmir since 1947. Part of the dispute is over the water that flows from India into Pakistan – a valuable resource in this region. Pakistan accuses India of diverting much of this water before it reaches Pakistan. India denies this.

Check your learning 5.13

Remember and understand

- 1 What were the three most common reasons for armed conflict in 2012?
- 2 Why do some analysts believe that more wars in the future will be fought over water?

Apply and analyse

- 3 Examine Source 2.
 - a Add up the total number of reasons for war shown here.
 - b Explain why this number is higher than the total number of conflicts (396).
 - c High intensity conflicts were most commonly fought for what reason? Give some possible explanations for this.
 - d Estimate what percentage of conflicts involved a battle for resources.

- 4 Use an atlas to describe the course of the Indus River. Where is the river’s source? How does this help to explain the six-decades-long tension between India and Pakistan?
- 5 Use an atlas to describe the course of the Okavango River. How might this help to explain ongoing tension between Namibia and Botswana?
- 6 Examine Source 3. How has conflict impacted on the wellbeing of these people?

Evaluate and create

- 7 Conduct some further Internet research before completing this task.
 - a Prepare a short speech examining the statement, ‘Scarcity leads to conflict’. Provide evidence from these pages and your own research to agree or disagree with this statement.

5.14 The lasting impacts of conflict

Conflict at any scale and any intensity almost always has wide-ranging and long-term impacts on human wellbeing. Countries can take decades to recover from the impacts of war, preventing people from accessing opportunities to improve their wellbeing. Source 1 lists some of the common effects of high-intensity conflicts.



Source 1 Impacts of conflict at the personal, local, regional and national scales

Source 2 Girls prepare to sleep in an NGO shelter in Gulu, Uganda. There are about 20 000 night commuters that sleep in Gulu town every night, some walking hours from their home villages. They do this to escape the lasting impacts of conflict. The girls are afraid of being abducted by the Lord's Resistance Army (a militant group of rebels fighting for control of Uganda). The Lord's Resistance Army has been accused of widespread human rights violations including murder, mutilation and child sex slavery.



- Impacts at the personal scale:**
- reduced quality of life
 - reduced ability to make choices about lifestyle
 - loss of life
 - impact on personal dignity and human rights
 - impact on health and a reduced ability to access appropriate care
 - loss of connection to other people in other regions
 - individuals forced to fight
 - targeted attacks on schools reduce the opportunity to have an education
 - greater incidence of sexual violence.

- Impacts at local and regional scales:**
- decreased access to land, leading to food insecurity
 - collapse of systems such as transport, food supply and local government
 - fewer job opportunities
 - breakdown in transport and communication networks
 - displaced people put stress on infrastructure such as water and health systems in neighbouring places
 - unsustainable use of natural resources to fund the conflict
 - loss of productivity due to labour shortages.

- Impacts at the national scale:**
- environmental degradation, e.g. forest clearing and landmines
 - food insecurity and dependency on aid
 - refugees flee to other countries
 - decline in national economy and less public spending as money is spent on conflict
 - neighbouring nations often increase their military spending
 - less spending on education (21 developing countries spend more on arms than on education)
 - military spending results in less financial aid for developing countries.

Case study: Landmines

Landmines are explosive devices that are triggered by a weight pressing on them – most commonly from someone stepping on them or a vehicle driving over them. Placed during wartime, landmines are used to destroy enemy vehicles, kill enemy soldiers and make roads and other areas impassable.

But the impacts that landmines can have on a country's wellbeing last long after the end of the war. Landmines kill and injure civilians and livestock, not only during the conflict but long after it has finished. Landmines also contribute to land degradation and can significantly limit the areas that can be used for farming.

The Landmine and Cluster Munitions Monitor (an organisation that carries out research and monitoring into the consequences of landmines) estimates that 59 countries are affected by landmines and that there are more than 4000 casualties a year as a result of landmines exploding (see Source 4). In 2011, for example, 1320 people were killed by landmines and 2907 were injured. Approximately one-third of these victims were children.

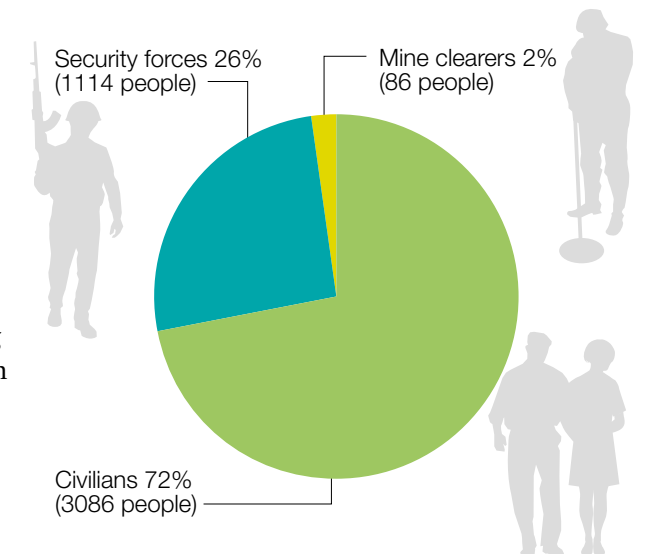
The countries with the most landmines are those currently involved in conflict such as Iraq and Afghanistan and in recent conflicts such as Angola, Somalia and Bosnia-Herzegovina. However, older conflicts have also left terrible marks on some countries. Cambodia still has up to 10 million landmines from the Cambodian Civil War and the border wars which followed in the 1970s. It now has one of the highest rates of physical disability of any country in the world (see Source 3). Egypt also has an estimated 23 million unexploded landmines, relics from World War II and conflicts with Israel in the 1960s and 1970s.

While landmines can be located with metal detectors and defused, this is a costly, dangerous and technically advanced task. A mine can be purchased on the black market for US\$3 but may cost US\$1000 to remove.



Source 3 A landmine victim learns how to farm without legs in a rehabilitation centre in Cambodia.

5B How do human activities cause inequality?



Source 4 Worldwide landmine casualties (injuries and deaths) in 2011 (divided by military and non-military)

Check your learning 5.14

Remember and understand

- 1 What are some of the impacts of war at the national scale?
- 2 What are landmines?

Apply and analyse

- 3 Access the latest annual report of the Landmine and Cluster Munitions Monitor.
 - a Which countries used landmines in the last year? Map these countries on an outline world map.
 - b What advances were made in clearing landmines?
 - c Where does Australia rank in terms of the size of its landmine stockpile?
- 4 Which impacts of conflict listed in Source 1 could apply to landmines?
- 5 Why are children often the group most impacted by war?

Evaluate and create

- 6 Conduct some further Internet research before completing this task.
 - a Construct a flow diagram showing how impacts at the personal scale can become impacts at the national scale and vice versa.

5.15 War in Darfur

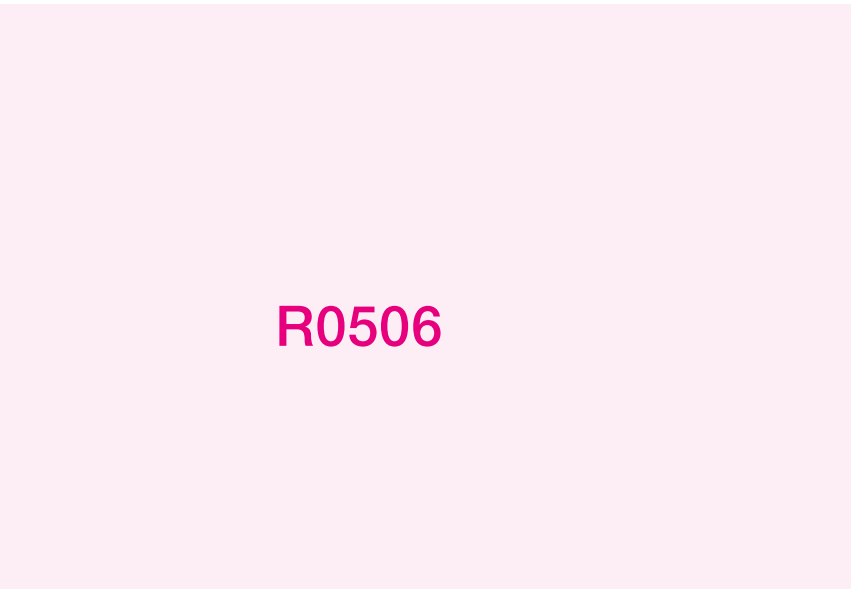
Darfur is a **semi-arid** and **arid** region of western Sudan in northern Africa. It borders the countries of Chad, the Central African Republic and the world's newest country, South Sudan (which gained its independence from Sudan in 2011). Sudan has been in a state of almost continual conflict since it was granted independence from Britain in 1956. The most recent conflict (commonly referred to as the War in Darfur) began in 2003 when several armed rebel groups attacked Sudanese army units, police stations and a military airfield after accusing the government of favouring Sudanese Arabs and suppressing non-Arab Sudanese.

The government army, along with an armed Arab group, the Janjaweed (literally 'evil men on horseback') responded by attacking unarmed civilians in the Darfur region. Targets of the attacks tended to be non-Arab Sudanese of black African descent, most of whom were poor subsistence farmers. Hundreds of villages were bombed with military aircraft before the Janjaweed attacked, slaughtering and raping tens of thousands of people and laying waste to huge areas of farmland. Some claim that the Janjaweed attacks were not random but targeted at particular ethnic groups.

An estimated 2.7 million people – one-third of Darfur's total population – fled the conflict to other parts of Sudan and to Chad. This created a second crisis, as malnutrition and disease soon swept through the temporary camps of

the refugees, killing thousands of people. It is difficult to know exactly how many people died as a result of the War in Darfur but estimates place the number at about 300 000.

The underlying reasons for this conflict are complex and interconnected. In Darfur, communities feel separated and isolated by differing religious beliefs and



Source 1 An oblique aerial photograph of the burned-out village of Abu Sourouj, West Darfur, Sudan. Bombed in 2008 along with two other villages north of Geneina by the Sudanese government, it was simultaneously attacked by armed men on camels, horseback and donkeys, otherwise known as the Janjaweed.



Source 2 The victims of the War in Darfur in a refugee camp in eastern Chad

ethnic backgrounds, a lack of involvement in the political process and poverty. Distrust and hatred of other groups often boils over into conflict. In addition to these reasons, some analysts also believe that the War in Darfur is a fight for dwindling resources, particularly water and arable land.

keyconcept: interconnection

The world's first climate change war?

A United Nations study in 2007 found that changing rainfall patterns and desertification in the region was forcing people to move south into areas where they came into conflict with communities of differing ethnic and religious backgrounds. The report found that climate change was creating 'unavoidable pressure on people through migration, displacement, food insecurity and impoverishment, possibly ending in conflict.' It also stated that this could trigger other wars in Africa. Other experts point to the long-running political and ethnic tensions along with a rapid increase in the number of guns as the main causes of the conflict.

Source 3 shows the movement of the 400 mm isohyet (a line drawn on a map, which connects places that receive the same amount of rainfall and separates places that receive different amounts of rainfall). Here, this line joins together all places that received 400 mm of rain in a year. Places north of this line in Sudan receive less than 400 mm of rainfall a year, making farming very difficult.

For more information on the key concept of sustainability, refer to page XX of 'The geography toolkit'.

SUDAN: THE CHANGING LOCATION OF THE 400 MM ISOHYET



Source 3

Source: Oxford University Press

Check your learning 5.15

Remember and understand

- 1 Name the two resources thought to be a contributing cause of the War in Darfur.
- 2 List the various factors that have contributed to conflict in Sudan since it was granted independence.

Apply and analyse

- 3 Look up the location of Sudan in an atlas. Write a short paragraph describing the location of Sudan.
- 4 Examine Source 3.
 - a Describe the pattern of land cover in Sudan.
 - b Describe the change in rainfall patterns between 1929 and 2003 using the PQE method. For more information on the PQE method, refer to page XX of 'The geography toolkit'.
 - c Estimate how much more of the country received less than 400 millimetres of rain per year in 2003 compared with 1929.

d Explain how this change may have helped to trigger the War in Darfur.

- 5 Locate the Darfur region in Source 2 on page XX. (showing predicted changes in cereal crop output by 2080). What is the predicted change for the Darfur region? How might this fuel future conflicts in the region?

Evaluate and create

- 6 Divide into small groups and discuss how this conflict is likely to have affected the wellbeing of individuals and communities in both Sudan and Chad. Summarise your findings and present them in a table. Use the column headings 'Effects on the wellbeing of individuals' and 'Effects on the wellbeing of communities'.

7

5.16 Conflict and refugees

During periods of armed conflict, many people are forced to leave their homes and seek safety elsewhere. If they cross into another country they are referred to as **refugees**. If they remain within their home country but away from where they live, they are referred to as **internally displaced persons (IDP)**.

The number of refugees and IDPs around the world changes constantly depending on the number of places involved in conflicts. In 2011, about 37 million people were forced to leave home because they feared for their safety. More than 26 million of these were IDPs. Almost half of all refugees are in Asia, whereas most IDPs are in Sub-Saharan Africa and South America. Colombia alone accounts for almost one-fifth of the world's IDPs (see Source 1).

The wellbeing of refugees

Life as a refugee is hard. Many refugees have witnessed or been victims of persecution, torture or sexual violence. As most refugees flee from one developing country to another, they often find that the country to which they have fled is unwilling or unable to offer them much assistance. In many cases they are forced to live in temporary camps set up by refugee agencies such as the United Nations and International Red Cross. These camps are often in places where access to essential services such as a reliable water supply, food security, sanitation and health care is very limited.

The United National High Commission on Refugees (UNHCR) sets minimum standards for refugees living in camps. Not all refugee camps are able to meet these very basic standards (see Source 2).

Source 2 Study of people in refugee camps able to access services at the UNHCR minimum standard

Essential service	UNHCR minimum standard	Kenya	Tanzania	Uganda	Nepal	Bangladesh	Thailand
People receiving food aid	100% of eligible people	100%	99%	100%	84%	100%	100%
Kilocalories per person per day	2100 kcal	2100 kcal	2114 kcal	1521 kcal	1785 kcal	2158 kcal	2472 kcal
Water per person per day	20 litres	26 litres	18 litres	14 litres	24 litres	24 litres	30 litres
Population within 200 m of tap	100%	93%	76%	50%	100%	100%	100%
Families with toilets	100%	95%	7%	58%	24%	59%	90%
Households with adequate housing	100%	78%	13%	93%	3%	100%	100%
People per health facility	10000	14 193	13 672	8847	13 694	12 111	11 408
Qualified or trained teachers	80%	76%	11%	70%	Not known	51%	54%

Source: United National High Commission on Refugees, 2009

Case study: Life in Dadaab refugee camp

Dadaab refugee camp in Kenya is located approximately 100 kilometres from the Kenya–Somalia border. It is one of the world's largest refugee camps, housing more than 350 000 refugees, most fleeing conflict in nearby Somalia.



Source 3 Women collect drinking water at Dadaab refugee camp in Kenya.



Source 4 A Somali woman prepares food for her family in a makeshift shelter.

Check your learning 5.16

Remember and understand

- 1 What is the difference between a refugee and an internally displaced person (IDP)?
- 2 Why are living conditions often poor in refugee camps?

Apply and analyse

- 3 Use Sources 3 and 4 to describe wellbeing in Dadaab refugee camp, Kenya.
- 4 Examine Source 1.
 - a Use the PQE method to describe the distribution of refugees on a global scale. For more information on the PQE method refer to page XX of 'The geography toolkit'.
 - b Approximately how many refugees and IDPs are in each of the six countries listed in Source 2?
- 5 Examine Source 2.
 - a Compare living conditions between refugee camps in Asia and Africa.
 - b Using evidence from the table, which refugee camp do you think has the worst living conditions?
 - c Describe the variations between camps with regard to toilet facilities.

Evaluate and create

- 6 Construct a scatter plot comparing Gross Domestic Product per capita and kilocalories per person within refugee camps in the six countries listed in Source 2. Describe and account for the pattern shown in your completed graph. GDP per capita data is available in the 'World statistics' section on pages XXX–XXX.

WORLD: REFUGEES AND INTERNALLY DISPLACED PERSONS IN 2011



Source 1

Source: Oxford University Press

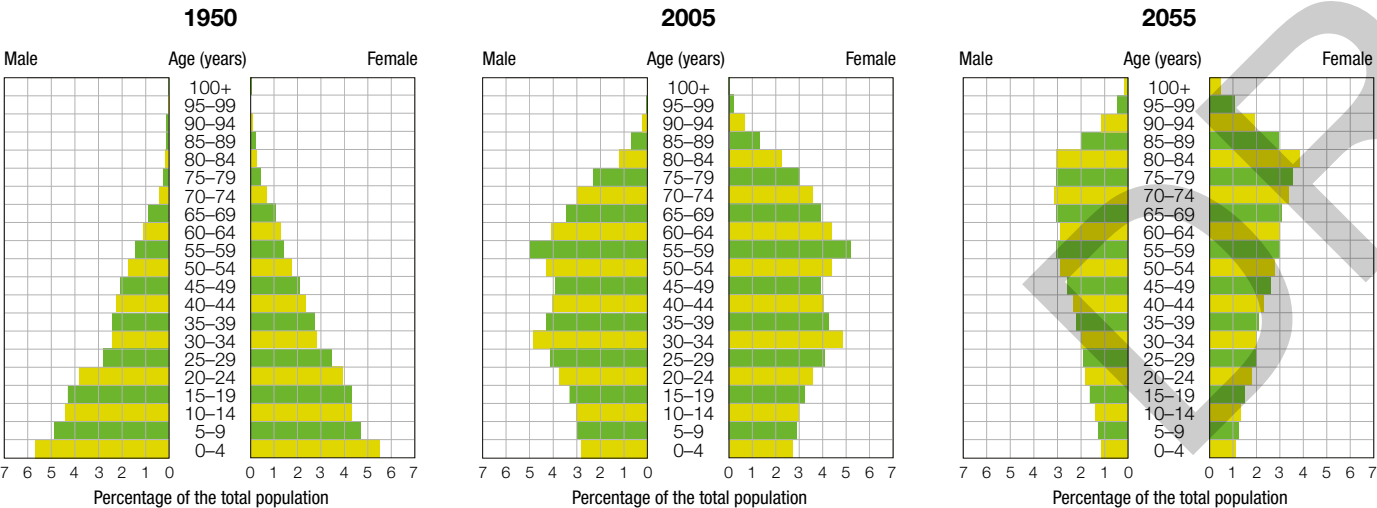
5B rich task

Demographic change in Japan

The population of Japan has undergone an significant change over the last 60 years. In 1950, 7 per cent of all Japanese people were over the age of 60 and life expectancy was 59 years. By 2010, more than one-quarter were over 60 and life expectancy was the highest in the world at more than 83 years.

There are many factors responsible for these changes. In 1945, at the end of World War II, returning soldiers were keen to marry and start families. The result was a baby boom where the birth rate rose dramatically for about five years. When this group started working, in the 1970s and 1980s, they brought about an economic transformation that made Japan one of the world's wealthiest countries. This wealth was used to improve wellbeing and has improved life expectancy. Babies born in the boom are now in their sixties.

The other important demographic change has been a fall in the birth rate. Japanese families are now amongst the world's smallest. This has led to an overall decline in the size of the population. The population currently sits at around 126 million. Researchers estimate that the population will fall to 95 million by 2050. This has obvious implications for the economy and for the care of the growing elderly population.



Source 2 Population pyramids for Japan showing the population in 1950 (left), 2005 (middle) and the expected population in 2055 (right).

Source 3 Key population indicators for Japan from 1950 to 2010

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010
Life expectancy	59.3	65.8	67.8	70.3	72.1	74.4	76.2	78.3	79.0	79.8	81.3	82.3	83.2
Fertility rate	3.51	2.47	2	1.98	2.1	2	1.78	1.72	1.57	1.41	1.32	1.3	1.36
Total population (millions)	82	88	92	97	NA	NA	NA	119	122	124	125	126	126
Population aged 60+ (%)	7.7	8.0	8.8	9.6	10.6	11.7	12.8	14.6	17.4	20.4	23.3	26.5	30.5



Source 1 Until her death on 1 April 2015, Misao Okawa was officially the oldest woman in the world. She was born on 5 March 1898 and was 117 years old at the time of her death. Only five other people in the world have ever lived as long. Okawa said that sushi and sleep were the reasons she lived so long.

Source 4 Birth and death rates for Japan from 1953 to 2008

	1953	1958	1963	1968	1973	1978	1983	1988	1993	1998	2003	2008
Birth rate per 1000 population	23.75	18.04	17.11	17.79	19.03	15.21	12.81	11.19	9.87	9.44	8.92	8.20
Death rate per 1000 population	9.389	7.926	7.381	6.907	6.62	6.25	6.276	6.461	7.514	7.013	7.884	9.149

skilldrill: data and information

Constructing a multiple line graph

Multiple line graphs are useful tools for displaying and comparing a range of data. They are constructed in much the same way as normal line graphs but extra lines are added to show the trends in multiple data. Follow these steps to construct a multiple line graph:

Step 1 Construct a set of axes. As line graphs usually show change over time, the years are commonly placed on the horizontal axis (x-axis). Using an even scale, such as one centimetre for every 10 years, divide and label the x-axis. Now draw the vertical axis (y-axis). Ensure that the y-axis has a scale that suits all the data that you are plotting and will fit the highest number in the data set.

Step 2 Plot the first set of data using a neat, coloured dot. Join these dots with a neat line, using the same colour. At the end of the line, write the title of the data. Alternatively, use a legend.

Step 3 Repeat step 2 for each set of data. Use different colours for each line.

Step 4 Give your completed graph a title.

Apply the skill

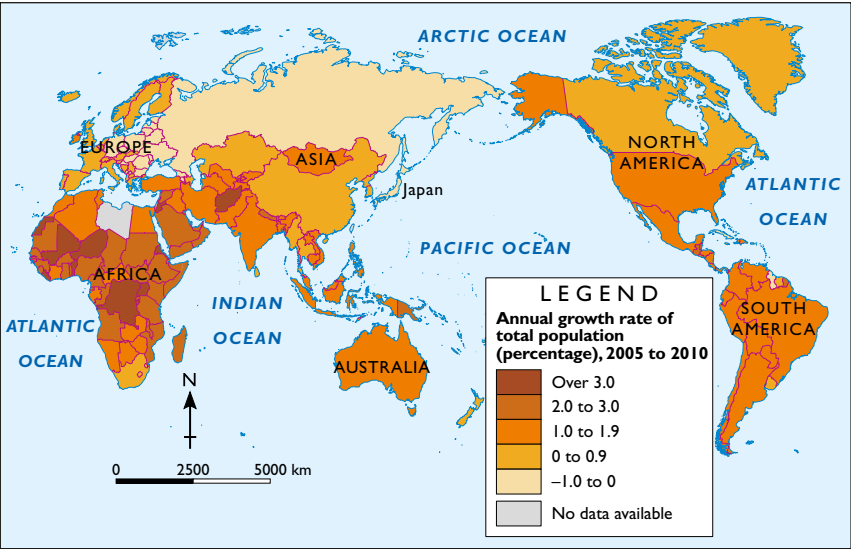
- 1 Construct a multiple line graph showing the changes in life expectancy, total population and the percentage of the population aged over 60 in Japan between 1950 and 2010.
- 2 Describe the patterns shown in your completed graph.
- 3 How are these changes reflected in the three population pyramids?

- 4 Construct a multiple line graph showing the changes in birth and death rates between 1953 and 2008.
- 5 Compare your completed graph with the demographic transition model in Source 1 on page XX. Which stage of demographic transition is Japan currently in?

Extend your understanding

- 1 Japan is not the only country with a declining and ageing population. Examine Source 5 showing world population growth and describe the location of those countries with -1.0 to 0 per cent growth.
- 2 Select one of these countries (other than Japan). Research the structure of the population of this country. A useful starting point is the CIA World Factbook, available online.
- 3 What are some of the similarities and differences between your chosen country and Japan in terms of:
 - a fertility
 - b population over 60 years of age
 - c the reasons for population change.

WORLD: POPULATION GROWTH



Source 5 Source: Oxford University Press