



# Changing Lives

HUMAN GEOGRAPHY • A CHANGING WORLD • CHANGING LIVES

## Section 1: Population Growth

### • Are there too many people in the world?

At the end of October 2011 the United Nations officially declared the birth of the 7 billionth human on the planet. For some people this was a sign that the world's population is continuing its unstoppable rise and the world is overcrowded. This concern had also been raised in 1999 when the world's 6 billionth person was born, so to answer this question we need to identify exactly what is meant by too many people. We can still produce enough food to feed everyone on the planet, but it is not equally distributed. Some places are overpopulated, while other areas have few people living in them. There may well be some places that are overcrowded, but there are others that are sparsely populated.

#### • Suggested Films

- Overpopulation
- Feeding the Planet



Population growth is higher in less developed countries

### Extension Questions

#### Q1. What is meant by the term "limits to growth"?

The phrase "limits to growth" was coined by Thomas Malthus in his essay on population growth written in 1798. The essay also included the statement that "the power of population is so superior to the power of the Earth to produce subsistence for man, that premature death must in some shape or other visit the human race". Malthus felt that there would come a time when the population grew to a size that the Earth could no longer sustain it. In other words, there was a limit to how much the population could grow.

#### Q2. Who was Thomas Malthus?

The Reverend Thomas Malthus was a religious man, and this is reflected in some of his work. His religious views ensured that he linked the rise in population with behaviour that he disagreed with. He believed that a lower population was better as it would not exceed the limits that the Earth could cope with. Malthus threatened that the "Horsemen of the Apocalypse" would be released if the population grew too large.

#### Q3. Who is Ester Boserup and what did she think?

Ester Boserup was an economist. She was more optimistic regarding population growth, suggesting that people would always find a solution to the problems that face them. She said that "the power of ingenuity would always outmatch that of demand" and that as food became in short supply people would find a way to increase production.

#### • Suggested Activities

- The 7 Billionth Person Project suggested sending a birthday card to the 7 billionth person born on the planet. Ask the students what they would say to their grandchildren about the way that we have affected the world they will inherit.
- Ask the students who, in their opinion, might have been closer to the truth – Malthus or Boserup. Are there limits to the number of people who can live on the Earth? If so, how many people would be 'too many'?

### • How are some countries trying to slow down population growth rates?

The issue with controlling population growth is that any such policies will impose on peoples' personal choice and relate to one of the most emotive issues there is: having a child. There are a number of countries that have put policies in place which aim to reduce the number of births. However, policies like these can threaten governments with a loss of votes, as they are likely to be unpopular with many people. Because of this, these policies are not always introduced, despite a need for them.

The 'One Child Policy' is a term used to describe a range of policies that were introduced in China over a number of decades in an attempt to slow down the rapidly increasing population, which threatened its ability to feed itself. The policies were introduced in the 1970s onwards, after earlier campaigns that encouraged people to marry later and leave longer gaps between children had failed to slow the growth. As the name suggests, for most couples there was a limit of just one child if they wanted to avoid strict financial penalties. Chinese tradition means that families often favour sons over daughters, and the introduction of the One Child Policy has increased the number of abandoned girls, leading to a distorted gender balance of the Chinese population.



China introduced the One Child Policy as an attempt to slow down population growth

#### Extension Questions

**Q4. How can people be persuaded to have fewer children?**

When a government wants to bring about a change in the behaviour of its population, it has two main types of action that it can take. These are known simply as the 'carrot' and the 'stick'. The carrot approach offers incentives, which could take the form of financial incentives or access to better education and healthcare services, while the stick approach is based on enforcing punishments for those who do not conform to the rules. China's policies tend to have more of an element of 'stick' to them, by providing strict penalties to couples who do not conform to the policy aimed at reducing births.

**Q5. How successful are the policies that have been tried?**

The One Child Policy has been successful in reducing the population of China by over 400 million people. It has reduced the overall fertility rate substantially. However, this has involved a change in the gender balance of the population, as boys are favoured over girls in Chinese society. There is also a great impact on family structure, as most children have no brothers or sisters, and no aunts or uncles.

#### • Suggested Film

– India: Curbing Population Growth

### • Why might some countries try to increase their population?

Historically, having a large population meant that a country had a larger army and more workers in the fields to produce food and resources. Today, a large population means a large number of consumers who, amongst other things, require education and health care, all of which costs countries money. As a country's population declines, the proportion of young people to older people changes, and within a few decades there may be a shortage of people of working age. It is important to have strong workforces who pay taxes in order to support those who are no longer working or are yet to start.

Some countries have realised that changes to a population are slow to prove effective, and changes made now will not be evident for decades to come.



20% of Japan's population are aged 65 or over

**Extension Questions**

**Q6. Which countries are facing a declining population?**

Most countries are still experiencing a rise in population, because of the built-in latency in populations. Even when there are limits placed on how many children couples are allowed to have, there are still millions of couples who are yet to have children. It is difficult to stop a population growing, because in any country there will be a proportion of the population who refuse to follow the guidance, or attempt to get round the rules. Germany, Italy and France are amongst the countries being affected by declining populations. Other countries face reducing populations because of high rates of HIV and AIDS or high levels of emigration.

**Q7. What incentives are being offered for people to have larger families?**

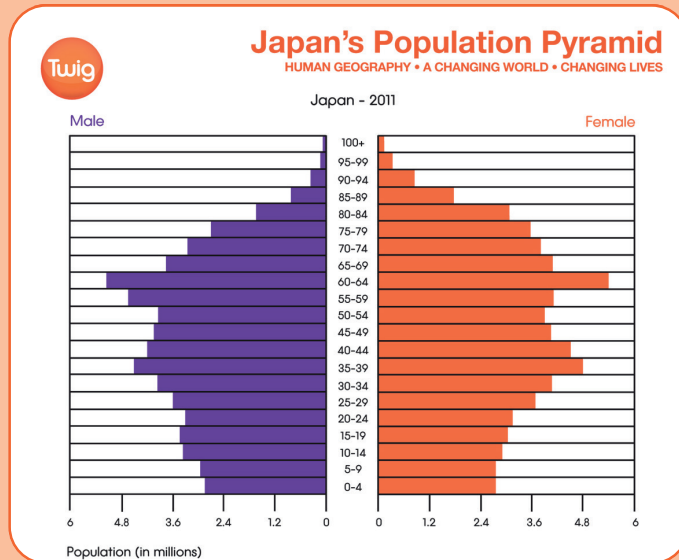
The general name for the policies that promote more births is pro-natal policies. Given that the average cost of raising a child to the age of 16 runs into tens of thousands of pounds, any small financial incentive is never going to cover all the costs. Any financial incentive can only work in the short term, and also work with those inclined to have more children in the first place.

French authorities have introduced a large-family card, or *carte famille nombreuse*, which gives discounts when using public transport and in other situations to save large families money on the extra costs that they would normally incur.

**Q8. Are large cities more sustainable than many smaller communities?**

There have been several articles in scientific journals which have identified large cities as a potential saviour for the planet. There are interesting potential benefits to concentrating more people into one central location. This would mean that more land could be turned over to food production. Food could even be grown in 'vertical farms' in buildings using the latest technology. Concentrating people in one place would potentially make it easier to organise access to the services that they needed. The 'footprint' of these cities would be huge, but at least it would be one large footprint rather than many smaller ones.

**DIAGRAM 01:**



**• Suggested Activity**

– Ask the students to explore the incentives that have been used in countries, like France and Japan, to encourage couples to have larger families. How big is their family? How would their life change if they were an only child, or one of four children? (This might already be the case).

**• Suggested Film**

– Japan: Encouraging Population Growth

Section 2: Climate

• How might climate change affect your life in the future?

The answer to this question depends partly on your location on the planet. The suggestions from climate scientists are that the impact is going to vary widely. The term 'global warming' suggests that all places will get warmer, but the climate mechanism is more complicated than that. Some places will perhaps get colder, and it is generally thought that there will be disruption to the accepted weather patterns across large parts of the Earth. You are likely to live well into the 21st century, and as a result are likely to see the first impacts of a changing global climate.

Extension Questions

Q9. How is climate change defined?

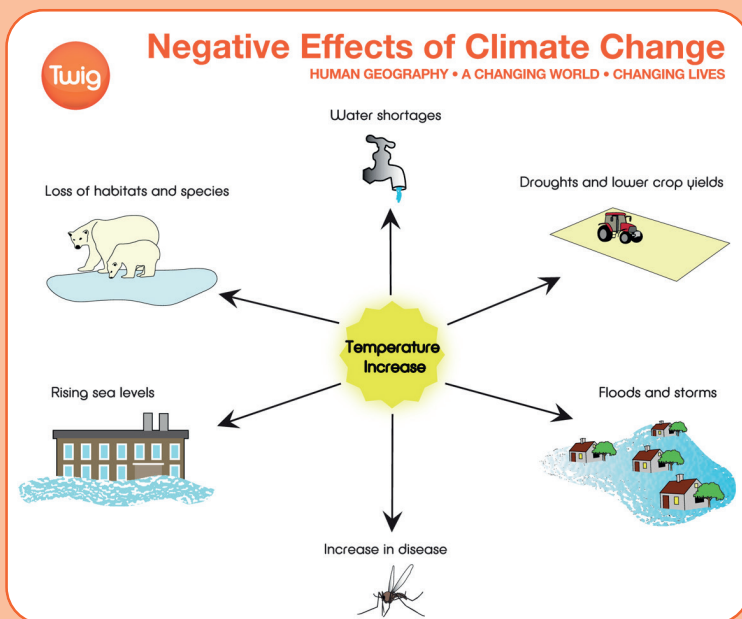
The process of climate change refers to a long-term and large-scale variation in climate over a significant part of the Earth's surface. It can be the result of natural variation, but has become associated with the actions of humans, and refers to an enhancement of the natural greenhouse effect. There is a range of gases that contribute to the changes in the atmosphere, many of which are produced by human activity.

The term 'global warming' may give the impression that the whole Earth is going to warm. However, there are some parts of the Earth that will potentially see a cooling trend. There will also be related changes in the pattern of precipitation that are perhaps as important.

Q10. How controversial is the issue of climate change?

The issue of climate change is certainly controversial within the scientific community. Although there is broad agreement over the warming trend that has been observed, there are some who disagree about the involvement of human activity in the changing temperature trends. Many studies have been carried out, but there is still some question over the accuracy of the science that is involved.

DIAGRAM 02:



• Suggested Activity

– Ask the students to research the changing nature of the world's climate, by keeping track of stories in local and national papers. What exactly are the suggested impacts? Which of them are positive and which are more negative? Do the negatives outnumber the positives?

• Suggested Film

– Could Climate Change Your Life?



### • Which areas of the world are going to be most affected by climate change?

There have been several reports by international agencies, which have tried to identify the locations that might be the most vulnerable to the impacts of climate change. These reports could then enable these areas to prepare appropriately and be able to cope with the changes. Some of the most vulnerable areas are the low-lying island chains that lie within the Indian and Pacific Oceans. People who live in poverty are likely to be the worst affected, as they are least able to cope with disruption.

Changing rainfall patterns and drought are likely to threaten hundreds of millions of people across Africa, and crop yields in South Asia may also suffer. Changing habitats will affect many plant and animal species. Countries that rely on glaciers and meltwater for their water supply, including cities like La Paz in Bolivia, will also be affected.



The severity and frequency of seasonal floods will increase as global temperatures rise

Because fertile soil is found near the mouths of rivers, many of the world's major cities are found on the coast, near to estuaries. This means that cities like New York, London, Sydney, Rio de Janeiro and Cape Town could be affected by rising water levels in the future. Some cities are already seeing the adverse affects of changing climate, for example, Brisbane, in north-east Australia, was badly affected by flooding during 2011, caused by heavy rainfall in the interior of the country.

- **Suggested Film**  
– **Could Climate Change Your Life?**

### Extension Question

Q11. Have any cities already been significantly affected by climate change?

No cities of significant size have been affected, but there are already some smaller towns that have. They have had to spend money on sea defences and relocate a number of homes from the most threatened areas. Some of these have been in the Arctic, where a lack of sea ice has exposed coastal areas to more rapid erosion. There are also management plans in place for some low-lying cities. For example, St Petersburg, Russia, has a new flood barrier to prevent damage to the city's art and architectural heritage.

### • How can we best prepare for the possible impacts of climate change?

It is important to take the risks of climate change seriously and begin to look at small changes that might help to postpone the potential impacts. Longer-term planning for sustainable energy, water and food would benefit the world's population. The measures should be devised to reduce the impacts of what most scientists judge as inevitable changes. Alteration can be made to our houses and gardens – some plants are more able to cope with reduced amounts of water and higher temperatures.

We all have our basic needs, but we have become used to a number of nonessential luxuries in our lives. It is these luxuries, such as personal gadgets, central heating, electrical appliances, multi-car households and foreign travel, which increase our personal consumption of energy and natural resources. The number of daily short- and long-haul flights has increased, producing significant amounts of greenhouse gases which, when placed into the atmosphere at high levels, are potentially more damaging. If you are reading this on a computer screen, fossil fuels are likely being consumed to power it.

#### Extension Question

Q12. How many degrees of warming can we expect by the end of the century?

Forecasts vary as to the degree of warming that we might expect by the end of the century, varying from 1°C upwards. Even 1°C would have a significant impact in some locations. Once the predictions move up towards 4°C, there will be some real danger of disruption to many people's way of life. The Intergovernmental Panel on Climate Change (IPCC) is an international body which assesses data in order to help us understand the potential impacts of climate change. The models produced to illustrate the potential increase in global temperature show great variation, as these are dependent on the level of greenhouse-gas emissions.

#### • Suggested Film

– *Could Climate Change Your Life?*

#### • Suggested Activity

– Ask the students to research the potential impacts of climate change in their local area. Identify the likely changes that will happen as the temperature rises by 1°C, 2°C, 3°C and so on, up to 6°C of warming. How will children in particular be affected by climate change?

## Section 3: Economy and Growth

### • Is India benefitting from changes in the world economy?



Living conditions are cramped in favelas and there are very few amenities

India's economy, like that of China, is growing rapidly. The country is a member country of the G20 group, and is also one of the BRICs (Brazil, Russia, India and China), which is a group of countries with emerging economies. There are some major firms, such as Tata which works in a range of areas, and Mittal Steel that are major world players. India's economy grew faster than most others during 2011, partly due to low labour costs encouraging the transfer of many companies from abroad to cities, such as Bangalore.

India's population is growing at a rapid pace, but the country does not have the same population policies in place as China. An important feature affecting India's economic development is what is referred to as the 'demographic dividend'. This means a large increase in the young population that will be of working age in the next 20 years, which will provide even more people to keep the Indian economy growing.

**Extension Questions**

**Q13. Which parts of India are growing the fastest?**

Indian cities are, not surprisingly, growing at a rapid rate, and this is creating problems for them. India's birth rate of 21 (per 1000 people) is already quite high, but the cities are also growing through migration. People are attracted by the foreign investment and jobs in Bangalore and the surrounding area. The city of Ghaziabad is growing by 5% a year through industrial development. As people grow wealthier they are also looking for places to spend their money, which drives further growth.

**Q14. How is India dealing with the rapid rate of population growth?**

India has made some efforts to reduce the rate of population growth, and has experienced success in some areas by providing people with free contraception. A construction boom in cities such as Surat and Nashik is attempting to keep pace with the rate of population growth. However, many cities still have large shanty towns, which house people temporarily and often in poor conditions.

**• Suggested Film**

– Brazil: Life in a Favela

**• What do we mean by a megacity?**

A megacity is defined as a city with a population of over 10 million people. This includes the wider urban area that surrounds the city, rather than just the city centre. If we think of London, for example, the actual City of London is a very small area, but Greater London extends for tens of kilometres in each direction. There are also a number of cities whose population exceeds 20 million people. There are issues with identifying where these cities 'begin' or 'end', as well as different definitions of what we mean by urban.

**DIAGRAM 03:**



**The World's Megacities**  
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Theoretically, there is no maximum size to a city but, as they grow, there are increasing issues of transport and housing. Despite many large cities have sophisticated transport networks and underground systems to overcome the increased time that it takes to cross a city, cities such as Los Angeles and Mumbai are struggling to cope with rapid population growth and they are having difficulties maintaining effective public transport networks.

Some large cities drain the resources from neighbouring areas, becoming 'primate' cities that dominate the country's wealth and resources. Primate cities, such as Paris, London and Bangkok, are at least twice the size of their next largest cities.

**• Suggested Film**

– Manila: Megacity



### Extension Question

#### Q15. Why has Manila grown so rapidly?

Manila is one of a number of cities that is experiencing dramatic growth for a combination of reasons which are related to the dramatic increase in population in the Philippines. Manila has experienced a large migration of people from the surrounding areas, sometimes as a result of problems in their home area, in search of a better quality of life. There has also been major investment by overseas companies, particularly in call centres and manufacturing, which has increased the number of people moving to the city in search of employment opportunities.

The UN went to Manila on the 31st October 2011 to document the birth of the 7 billionth person on the planet. This underlined the rapid growth of this area, and its significance to the global trends.



Manila, the capital of the Philippines, is a megacity with over 12 million inhabitants

#### • How could extreme poverty be reduced?

One in six people live in extreme poverty. Surviving on less than \$1 a day, they cannot afford to meet their basic needs. Many of these people are caught in a 'poverty trap'. Poor diet coupled with minimal education lead to poor health. This leads to poor employment opportunities and a low income, which leads to poor diet and poor education... and so the cycle continues. Extreme poverty therefore needs to be tackled by improving healthcare, diet, access to clean water and improving education. These are some of the areas that are included in the Millennium Development Goals.

There have been several analyses of the cost of ending poverty worldwide. Jeffrey Sachs calculated that it would cost about \$150 billion to fully eradicate poverty, which is less than 1% of what is produced globally each year, and 2% of the wealth of the richest people in the world. Social inequality is one of the major world issues. The gap between the richest and the poorest is widening and needs to be addressed.

We can all play a part in changing the world through our actions. This starts when we are born, and continues up to the point where you are at now and beyond. Think about what you consume, the places you go to and the means by which you travel. Identify some small actions that you can take which might change your local environment.



## • Quizzes

## Could Climate Change Your Life?

## Basic

• Which part of the world would experience longer growing seasons as a consequence of climate change?

- A – Europe
- B – Africa
- C – South America
- D – Australasia

• Which highly populated, low-lying countries are most at risk from rising sea levels?

- A – Netherlands, New Zealand and Brazil
- B – Iran, Japan and Finland
- C – Bangladesh, India and China
- D – Italy, Mexico and Russia

• Which diseases may increase as a result of climate change?

- A – measles and cholera
- B – HIV and tetanus
- C – TB and chickenpox
- D – malaria and skin cancer

## Advanced

• What is the predicted temperature increase over the next 100 years?

- A – 0°C to 2°C
- B – 3.7°C to 10°C
- C – 0.5°C to 7.8°C
- D – 1.4°C to 5.8°C

• How many people would be affected by water shortages as a result of climate change?

- A – 1 in 10
- B – 1 in 6
- C – 1 in 3
- D – 1 in 20

• What is a possible positive impact of climate change?

- A – increased income generated by tourists due to hot, sunny weather
- B – increased water supplies due to rising sea levels
- C – increased agricultural benefits worldwide
- D – fewer cold-related deaths due to milder winters

### Could Climate Change Your Life?

#### Basic

• What safety measure have authorities developed to mitigate the hazards associated with climate change?

A – coastal defences and reinforced buildings

B – coastal power stations and low-rise buildings

C – dams and high-rise buildings

D – coastguards and fewer buildings near sea level

#### Advanced

• A temperature rise of more than 3°C would...

A – allow longer growing seasons

B – produce higher crop yields

C – allow crops to grow in more parts of the world

D – produce droughts and lower crop yields

## Overpopulation

### Basic

• How many people are there on Earth?

- A – 4 billion
- B – 5 billion
- C – 6 billion
- D – over 7 billion

• Populations grow whenever...

- A – the number of births is equal to the number of deaths
- B – the number of births is higher than the number of deaths
- C – the number of births is lower than the number of deaths
- D – the number of deaths rises more quickly than births

• Developments in which of the following have increased life expectancy?

- A – medicine
- B – agriculture
- C – sanitation
- D – all the above

• Which of these is a policy used in China to try to reduce population growth?

- A – Family Planning Policy
- B – One Child Policy
- C – National Population Policy
- D – Future Population Policy

### Advanced

• Approximately how many people are born each day?

- A – 260,000
- B – 360,000
- C – 460,000
- D – 560,000

• How many people could the planet sustain if we all adopted the way of life in the USA?

- A – 1.5 billion
- B – 3 billion
- C – 4.5 billion
- D – 6 billion

• Which resources could become scarce as a result of overpopulation?

- A – food
- B – water
- C – land
- D – all the above

• Population growth is...

- A – higher in developed countries
- B – slower in developing countries
- C – the same in developed and developing countries
- D – higher in developing countries

## • Answers

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