

People make constant demands on resources. Geographers need to be able plan for the future and assist governments in making decisions that will benefit both the people and the environment.

World Population Growth over Time

The world’s population has changed over time. Demographers (people who study populations) have made educated guesses as to the size of the world’s population. We do not have reliable statistics from each and every county. The graph below shows how the world’s population has grown, it also shows the difference in growth between developed and developing countries.

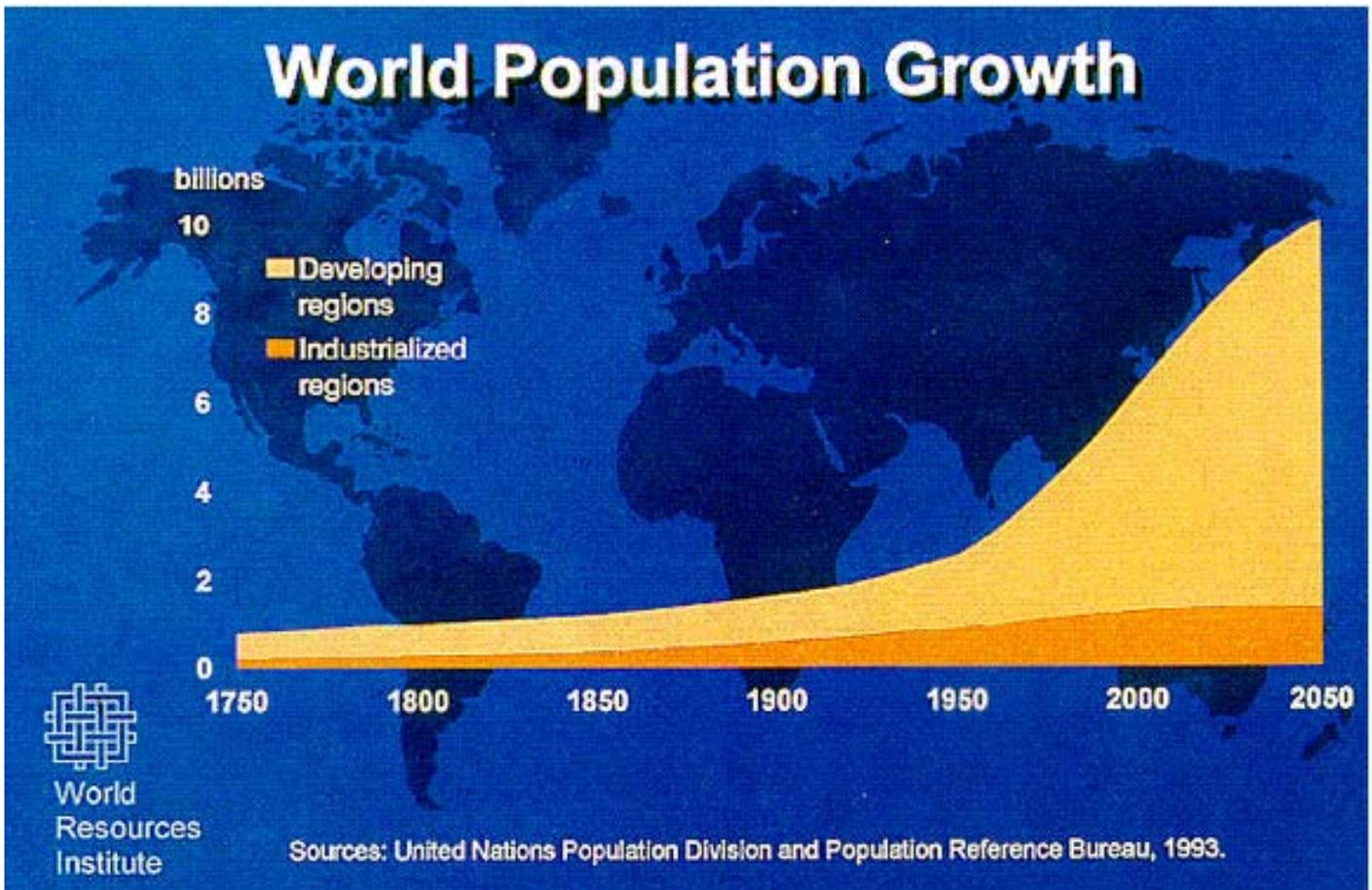


Figure 1: World’s Population Growth (<http://goo.gl/7zOY9K>)

Population growth through history:

- 8000 BC 5 – 10 million people
- 1 AD 300 million people
- 1750 800 million people
- 1950 2.5 billion people
- 1984 4.5 billion people
- 2000 6 billion people

If the current growth rate continues, there will be 12 billion people by 2030.

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FACTORS AFFECTING POPULATION GROWTH

1. Increased manufacturing output

The Industrial Revolution in Britain played a major part in the increase in population growth rates worldwide.

The Industrial Revolution brought with it an increase in the amount and variety of goods available to people. These improvements led to the warding off of certain illnesses.

Industrialisation also spread to other parts of the world and further increased populations.

2. Improved nutrition

The Agricultural Revolution resulted in decreased levels of malnutrition and lowered child mortality.

3. Medical advances

During the 19th century, significant medical advances were made – such as the discovery of penicillin.



Demographic Transition Model

Geographers show the changing relationships between birth and death rates on a graph known as the Demographic Transition Model (DTM). The model also shows the natural increase as well as the total population.

The graph represents the general trend across many countries rather than the changes in only one country. The model explains what happens to BR, DR, NI and Total population over time.

Some geographers believe that most countries go through this model as they develop. However, you need to remember that models are representations of real life and not all countries follow the model. Some countries may move more quickly through the stages than other.

The DTM is made of 5 stages:

Stage 1 – High Stationary

- High BR
- High DR
- Low total population
- Natural Increase/Decrease fluctuates – depending on situations (wars, diseases)

Stage 2 – Early Expanding

- BR remains high
- DR starts to decrease
- Total population starts to increase
- Natural Increase

Stage 3 – Late Expanding

- DR stabilises at a low level
- BR decreases
- Total population starts to level out

Stage 4 – Low Stationary

- BR stabilised (low)
- DR stabilised (low)
- Total population is stationary

Stage 5 – Declining?

- Population starts to decline
- There is no set description for this stage as it is still new.
- It is predicted that in this stage, BR, DR and the total population all decrease.

The figure below shows an example of a demographic transition model.

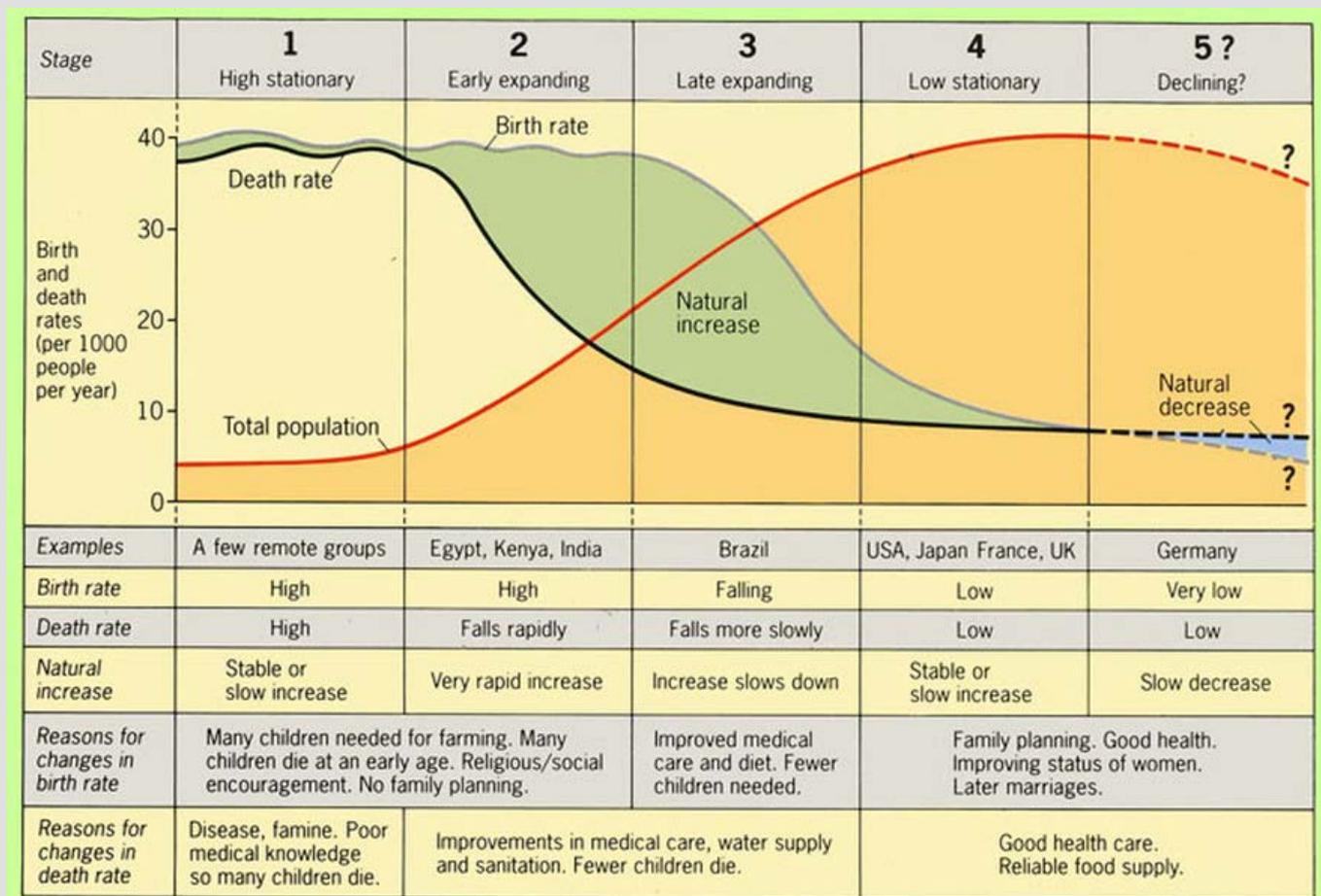


Figure 2: Demographic Transition Model. (<http://goo.gl/ffXhfR>)

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CONCEPT OF OVERPOPULATION

All the resources humans need to survive come from the earth. When there are too many people it means there is stress on the resources. Geographers biggest concern is that the number of people has exceeded the carrying capacity of the earth.

Overpopulation is caused by a number of factors. Reduced mortality rate, better medical facilities and depletion of resources. Growing advances in technology has also aided overpopulation. This is evident in the ability to save lives and create medical treatment.

Below are some examples that have caused overpopulation. Discuss these with your classmates and write down explanations for each in your book.

- Decline in the death rate
- Better medical facilities
- More hands to overcome poverty
- Technological advancement in fertility treatment
- Immigration
- Lack of family planning

Below are some effects of overpopulation. Again, discuss these with your classmates and write down explanations for each in your book.

- Depletion of natural resources
- Degradation of the environment
- Conflicts and wars
- Rise in unemployment
- High cost of living

Below are some solutions to overpopulation. Discuss these with your classmates and write down explanations for each in your book.

- Better education
- Making people aware of family planning
- Tax benefits
- Increase knowledge around sex education

Managing Population Growth

Countries face different problems when trying to manage their population growth and change over time. This differs greatly between Less Economically Developed Countries (LEDC) and More Economically Developed Countries. LEDCs generally have a rapid population growth and so different policies and strategies are put in place to try curb this population growth.

Read the two case studies below, one an example of a LEDC and the other an example of a MEDC.

Case Study A: China

In the late 1970s, the Chinese government introduced a number of measures to reduce the country's birth rate and slow the population growth rate. The most important of the new measures was a one-child policy, which decreed that couples in China could only have one child.

- In 1950 the rate of population change in China was 1.9 per cent each year. If this doesn't sound high, consider that a growth rate of only 3 per cent will cause the population of a country to double in less than 24 years!
- Previous Chinese governments had encouraged people to have a lot of children to increase the country's workforce. But by the 1970s the government realised that current rates of population growth would soon become unsustainable.



Figure 3: Cyclists in Beijing, China

The one-child policy

The one-child policy, established in 1979, meant that each couple was allowed just one child. Benefits included increased access to education for all, plus childcare and healthcare offered to families that followed this rule.

Problems with enforcing the policy:

- Those who had more than one child didn't receive these benefits and were fined.
- The policy was keenly resisted in rural areas, where it was traditional to have large families.
- In urban areas, the policy has been enforced strictly but remote rural areas have been harder to control.
- Many people claim that some women, who became pregnant after they had already had a child, were forced to have an abortion and many women were forcibly sterilised. There appears to be evidence to back up these claims.

Impact of the policy

- The birth rate in China has fallen since 1979, and the rate of population growth is now 0.7 per cent.
- There have been negative impacts too - due to a traditional preference for boys, large numbers of female babies have ended up homeless or in orphanages, and in some cases killed. In 2000, it was reported that 90 per cent of foetuses aborted in China were female.
- As a result, the gender balance of the Chinese population has become distorted. Today it is thought that men outnumber women by more than 60 million.

Long-term implications

China's one-child policy has been somewhat relaxed in recent years. Couples can now apply to have a second child if their first child is a girl, or if both parents are themselves only-children.

While China's population is now rising more slowly, it still has a very large total population (1.3 billion in 2008) and China faces new problems, including:

- the falling birth rate - leading to a rise in the relative number of elderly people
- fewer people of working age to support the growing number of elderly dependants - in the future China could have an ageing population

Source:<http://goo.gl/2vMhf4>

Case Study B: France

Many areas of Europe have a low *fertility rate* [*fertility rate: The average number of babies born to each woman.*] because of the following reasons:

- **education** - people are more aware of the availability of contraception and consequences an unplanned pregnancy can have on their career
- **women in careers** - Women may choose to follow their career choice rather than start a family while young
- **later marriages**
- **state benefits** - couples no longer need children to help care for them when older

France was a country with concerns that professional women were choosing not to have children. The government were worried that the population was not going to replace itself over time.

The policies that were put in place to encourage three-children families were:

- a cash incentive of £675 monthly (nearly the minimum wage) for a mother to stay off work for one year following the birth of her third child
- the ‘carte famille nombreuse’ (large family card), giving large reductions on train fares
- income tax based on the more children the less tax to pay
- three years paid parental leave, which can be used by mothers or fathers
- government subsidised daycare for children under the age of three, and full time school places for over three paid for by the government

This has resulted in mothers considering having children and remaining in work. The *fertility rate* [*fertility rate: The average number of babies born to each woman.*] in France is one of Europe’s highest.

Source: <http://goo.gl/s8uLEr>

Activity – Population policies: Limiting population growth

1. Can you think of reasons why people would not use birth control methods?

2. What methods are in place in South Africa educating youth about birth control and contraception

3. Why would a country, especially one like South Africa want to decrease its population growth rate?

4. What economic consequences does a high population have on a developing country?

5. How do the following two factors affect the population growth rate of a country:
 - a. Disease (such as HIV/AIDs)? _____
 - b. Poverty? _____
6. Discuss how education can affect the population growth rate of a country? Remember: most policies are in written form so how do they reach someone who is illiterate?
