

GCSE Geography- Revision booklet

Component 1. Global Geographical Issues

Exam date – 22nd May 2018. 90 mins

Topics

1. Hazardous Earth
 - a. Climate
 - b. Tectonics
2. Development Dynamics
3. Case Study – India's Development
4. Challenges of an Urban World
5. Case Study – Mumbai and Urbanisation

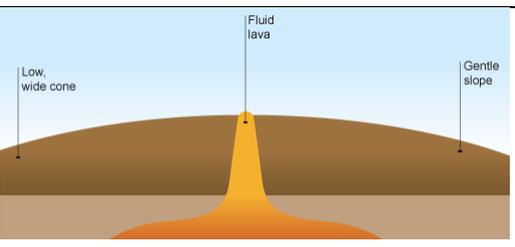
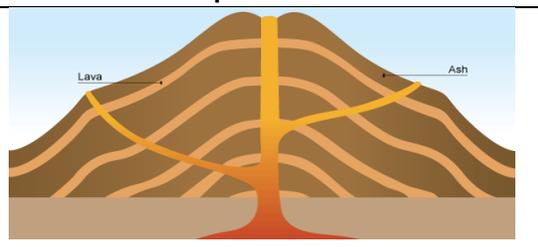


Hazardous Earth - Tectonics

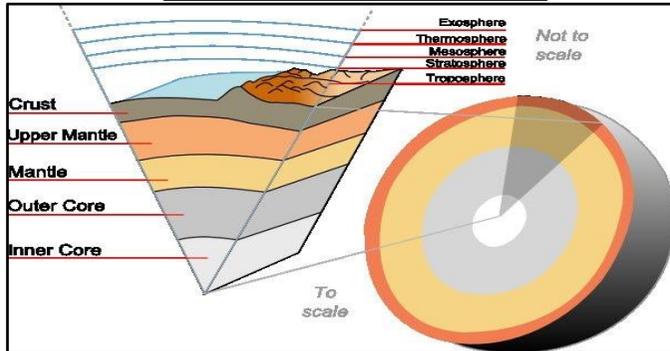
Plate Boundaries

Divergent	Convergent	Conservative	Collision
Rising convection currents pull crust apart forming volcanic ridge - Mid-Atlantic Ridge	Where two plates collide and one plate flows beneath the other – subduction.	Two plates slide past each other	Two continental plates collide and the two plates buckle
- E.g.: Eurasian and North American Plates	- Earthquakes and volcanoes occur here - E.g: Nazca Plate and South American Plate	- Earthquakes occur here	- Many earthquakes occur here - E.g.: Indo-Australian and Eurasian plates

Types of Volcanoes

Shield volcanoes	Composite volcanoes
	
<ul style="list-style-type: none"> Shield volcanoes are usually found at constructive or tensional boundaries. They are low, with gently sloping sides. They are formed by eruptions of thin, runny lava. <p>Eruptions tend to be frequent but relatively gentle.</p>	<ul style="list-style-type: none"> Are found on destructive plate boundaries Are formed by eruptions of viscous, sticky lava and ash that don't flow far Have steep sloping sides and a narrow base Made up of layers of thick lava and ash Contain andesitic magma which is less hot but contains lots of silica and gas Erupt infrequently but violently, including pyroclastic flows (mix of ash, gases and rock)

Structure of the Earth



- Inner Core – This is in the centre of the earth where it is hottest. It is solid and consists of Iron and Nickel.
- Outer Core – This is a liquid layer also composed of Iron and Nickel and is extremely hot.
- Mantle – This is the widest section of the Earth at approximately 2,900km. It is made up of semi-molten rock called magma.
- Crust – This is the thin outer layer of the earth which is only between 0-60km thick. The crust is the solid rock layer which we live on.

Distribution of the Earth's Tectonic Plates

The Earth's crust is broken up into pieces called plates.

- Convection currents in the mantle caused by heat rising and falling generated by radioactive decay in the core, causes the plates to move.
- The plate movements and the activity inside the earth is called plate tectonics.
- Plate tectonics cause earthquakes and volcanoes which usually occur on plate boundaries.

Measuring Earthquakes

Measuring earthquakes

The size of an earthquake is recorded using a **seismometer**. The **magnitude** (size) is then given according to the **Richter scale**, which gives a value between 1 and 10. The scale is logarithmic, meaning an earthquake measured at 7 is ten times more powerful than one measured at 6, and 100 times more powerful than one measured at 5. Another scale, the **moment magnitude scale (Mw)**, is frequently used today. It is similar to the Richter scale but it works over a wider range of earthquake sizes and is more accurate for larger earthquakes.

Case Studies

Earthquakes

Haiti, 2005 (Developing) January 2010, an earthquake measuring 7.6 on the Richter scale hit the Kashmir region of Pakistan.

Primary effects	Secondary effects
<ul style="list-style-type: none"> Buildings collapsed. 79,000 people were killed. Landslides, and large cracks appeared in the ground. 	<ul style="list-style-type: none"> Broken sewerage pipes contaminated water supplies and spread disease. People died of cold during the harsh winter.

Responses Tents were given out by charities. Aid workers arrived from abroad to find survivors and treat the injured.

Tohoku, Japan, 2011 (Developed) In March 2011. It measured 9.0 on the Richter scale.

Primary effects	Secondary effects
<ul style="list-style-type: none"> Around 1000 dead 1000 buildings collapsed despite their earthquake proof design. 	<ul style="list-style-type: none"> Tsunami leading to 127,000 deaths Roads, bridges and buildings collapsed \$300 damage caused
<ul style="list-style-type: none"> 	<ul style="list-style-type: none">

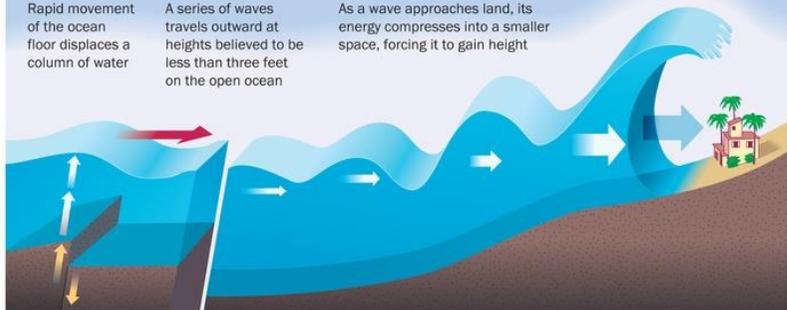
How is a tsunami formed?

HOW A TSUNAMI IS FORMED:

Rapid movement of the ocean floor displaces a column of water

A series of waves travels outward at heights believed to be less than three feet on the open ocean

As a wave approaches land, its energy compresses into a smaller space, forcing it to gain height



Volcanoes

(Developing) Pinatubo, Philippines,

	Primary effects	Secondary effects
Environmental	<ul style="list-style-type: none"> Ash cloud covered 125000km² bringing darkness to central Luzon. Volcanic ash smothered 80000 hectares of land. 150km² of reforestation projects destroyed. 	<ul style="list-style-type: none"> Lahars caused severe erosion to rivers. Global cooling caused by the ash. Temperatures dropped by 0.5°C. Lahars continued to affect the area for 6 years. Acid rain due to the 22million tonnes of SO₂ erupted.
	<ul style="list-style-type: none"> 800km² agricultural land destroyed and 800000livestock and poultry killed costing 1.5 billion pesos. 	<ul style="list-style-type: none"> Full economic recovery cost £10 billion.
	<ul style="list-style-type: none"> 847 people killed by collapsing roofs Ash and pumice destroyed 42000 homes 1.2 million people lost their homes 	<ul style="list-style-type: none"> 100 people killed by lahars 500 people died from diseases such as measles in refugee camps Many indigenous Aeta people had to move into government organised resettlement areas because their homes were destroyed. This caused the Aeta society to become fragmented.

Responses

The response to and management of Pinatubo
Several techniques were used to predict the Pinatubo eruption:

- PHIVOLCS (Philippine Institute of Volcanology and Seismology) seismologists detected swarms

of earthquakes beneath Pinatubo in March 1991, indicating that magma was on the move

- tiltmeters** were installed to monitor the deformation of the surface as the magma rose (Figure 14)

- helicopters with gas-monitoring equipment flew over the crater daily
- geologists mapped the distribution of lahar deposits from previous eruptions in order to better decide which areas should be evacuated.

(Developed) Kilauea, Hawaii, USA, Continuous eruption since 1983

Primary impacts	Secondary impacts
Since 1983, lava has covered >100 km ² of land	Weathering of the lava produces fertile soil
>200 homes and community buildings destroyed	Air pollution by volcanic smog (vog) and acid rain
Kalapana village buried beneath 15–25 m of lava	Excellent farming (sugar cane and pineapples)
Utilities (water and electricity) have been damaged	1986 – Kilauea released 2000 tonnes/day of SO ₂ (lethal within 1 km)
Roads have been blocked	Farming makes US \$30 million/year
2014 evacuation of Pahoa village, threat of explosions from steam and lava	2.6 million tourists visited Hawaii Volcanoes National Park, which supports locals

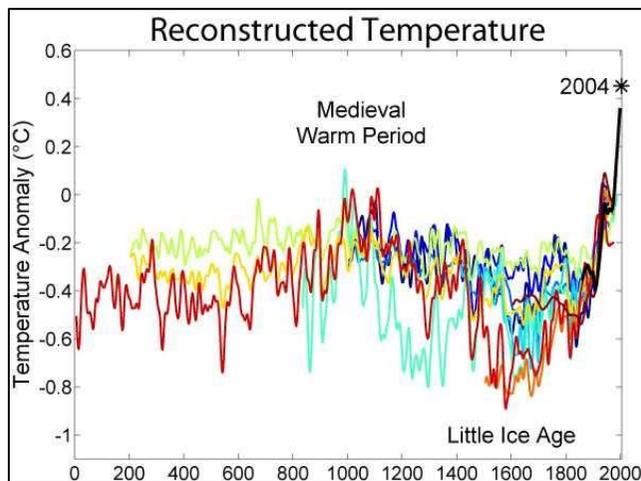
Responding to and managing Kilauea

Although Kilauea is not generally a threat to human life, the dangers still need careful management. The Hawaiian Volcano Observatory is located close to the crater and **volcanologists** there monitor the volcano (Figure 11) and issue warnings about possible eruptions and evacuations.

- 17 webcams and satellite data are used to monitor activity.
- Gas emissions are monitored; warnings are issued about air pollution levels.
- Seismometers detect minor earthquakes caused by magma movement underground.

However, weak planning laws and a growing population have resulted in building in areas at risk from the volcano. There is lots of evidence that Kilauea was more explosive in the past. An explosive eruption today could be devastating, as there are thousands of visitors on Kilauea each day.

Past Climate Change



This graph shows how the Earth's temperature has cooled and warmed over the past 2000 years. It demonstrates long-term temperature changes due to natural causes.

Hazardous Earth - Climate

Natural Causes of Climate Change

- The Earth's orbit changes a small amount once every 100,000 years. These are known as Milankovitch cycles
 - The amount of energy radiated from the sun changes over a 11-year cycle
 - Volcanic eruptions pump ash dust into the atmosphere causing a cooling effect
- **The Mini Ice Age** was a colder period in northern Europe starting in the 15th century and lasting to the mid 19th century.
 - It had various negative impacts on people;
 - Crops did not grow well which meant people had to go hungry because there was less productivity and food.

Bangladesh LEDC

Bangladesh is a low-lying country that is already suffering problems from coastal and river flooding, which is not helped by its very large and very poor population, making it extremely vulnerable to climate change.

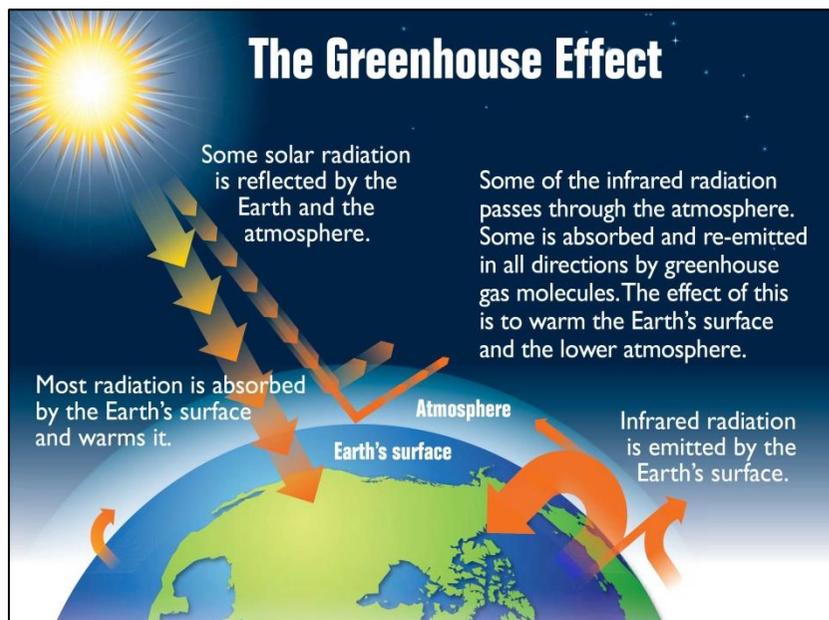
Economic Impacts

- A small rise in sea levels could massively impact upon Bangladesh's farmland and agricultural output
- More river flooding could cause damage to people's homes and more disruption to lives and the economy

UK MEDC

The climate of the UK is mild and wet – temperate maritime.

- Damage to cities such as London from flooding would be extremely disruptive and expensive
- Warmer weather may mean farmers can grow different crops and enjoy longer growing seasons
- Hotter summers could mean people spend more holidays here and not go overseas
- Cost of protecting places from flooding will be expensive and in some cases not practical.



Human Causes of Climate Change

Most people agree that humans are causing climate change through the production of various greenhouse gases.

- The rise in greenhouse gases, such as Carbon Dioxide and Methane, matches the start of the Industrial Revolution.
- Current levels of Carbon Dioxide are thought to be at their highest for at least 650,000 years.
- Current levels of Methane are thought to be at their highest for at least 900,000 years.
- Methane is 21 times more potent than Carbon Dioxide.

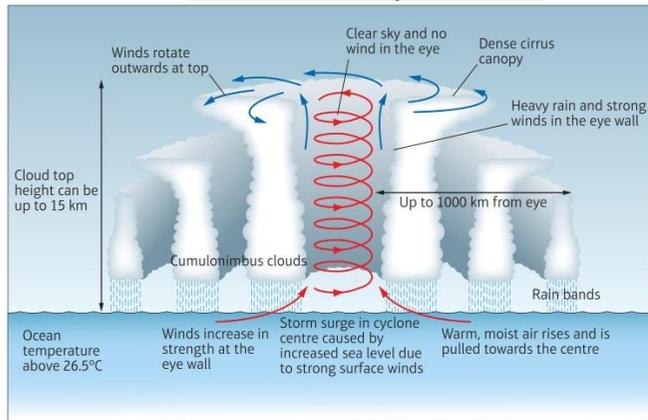
As a country develops, more greenhouse gases are produced and released into the atmosphere.

More Carbon Dioxide is produced because...

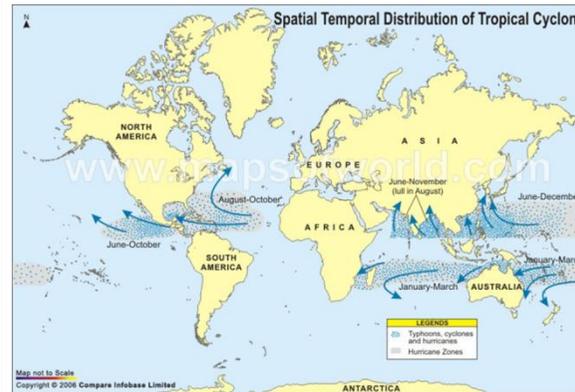
- there is more industry
- more energy is needed so more fossil fuels are burned
- transport increases so more vehicles on the road consuming petrol/diesel

Tropical Storms

Formation of Tropical Storms



Tropical Storm Distribution



Impacts of tropical storms

High Winds

Up to 250km per hour which can causes severe damage to people and the environment

Intense Rainfall

As tropical storms move over the ocean they bring with them huge amounts of water which they then drop as rainfall when they hit land.

Storm surges

A tropical storm creates a large area of low pressure which creates a bulge in the ocean (the sea level rises under a tropical storm). These storm surges can cause huge damage when they hit land.

Coastal Flooding

When the rainfall and the tropical storm hits land then the coastal areas are at high risk. Flooding causes damage to people, property and the environment.

Landslides

If the soils on the hills gets saturated by tropical storms then it gets heavier. If it gets too heavy then mass movement will happen as land will slide under the force of gravity.

Why are some countries vulnerable to tropical storms?

1. **Physical vulnerability**.- coastal areas are at risk as are low lying areas. In land hilly regions are then at risk to landslides
2. **Social vulnerability** – Poor developing countries are more at risk with poorer housing and less money to respond. The elderly are also more at risk
3. **Economic vulnerability** - developed nations have more money to predict (weather forecasting), prepare (defences) and respond to than developing nations.

Preparing for Tropical Storms

1. **Satellite tracking and radar** – these can look for huge cloud formations that look like tropical storms – tropical storms are easy to identify once they form an eye!
2. **Modelling** – using advanced computer packages information such as wind speed, atmospheric pressure, sea temperature can all be entered to create a model of a potential tropical storm.
3. **Communicating Information** – if a tropical storm is predicted then communication is vital to prepare defences, evacuate and prepare to respond.

Case Study – Hurricane Katrina, USA, 2005 v Case Study – Typhoon Haiyan, Philippines, 2013

Tropical cyclone name and date	Location	GDP per person of country (US \$)	Economic cost (US \$)	Number of deaths	Total population in the affected area
Haiyan (2013)	Phillippines	2 750	3 billion	7 000	14 million
Katrina (2005)	USA	53 000	100 billion	1 800	4 million

Development Dynamics - Development is the overall term which is used to measure how advanced a country is compared to others.

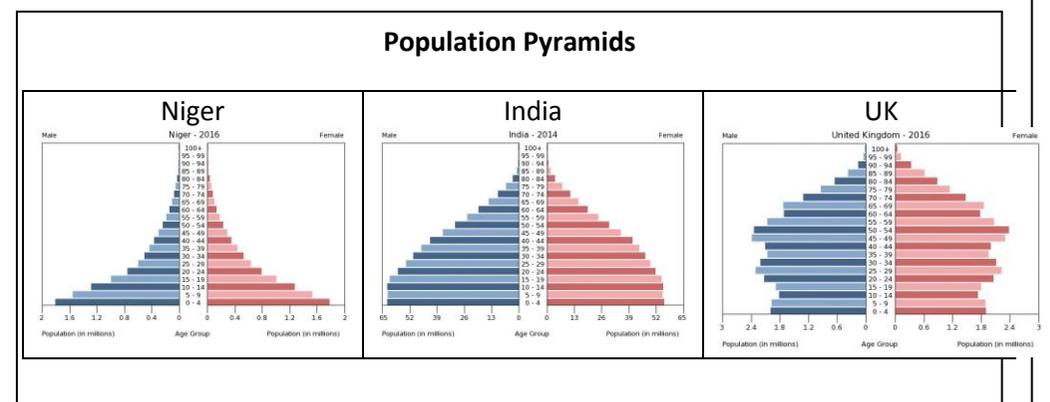
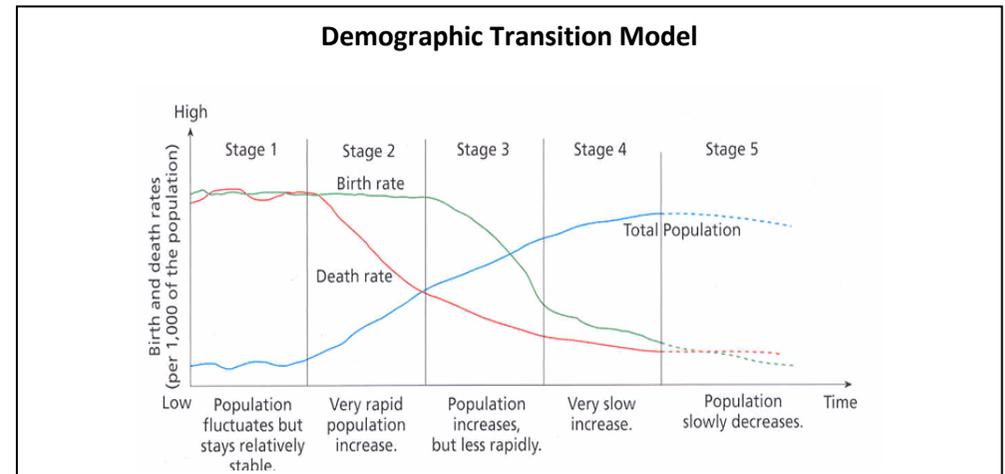
Measuring Development

Gross Domestic Product (GDP) Gross Domestic Product per capita is the total income of a country in a year divided by its population. It shows the average money per person in the population and can be used to measure development. **Advantages** - Available for every country with an economic structure **Disadvantages** - Because GDP is the average money per person, it covers up gaps between the rich and poor.

Human Development Index (HDI) - The Human Development Index is scale combining several different factors of development, including income, education and life expectancy. In 2011 the UK ranked 28th in the HDI out of 187 countries, while Brazil ranked 84th and Tanzania 152nd. **Advantages** - Covers a wide range of aspects of development, e.g. social and economic. **Disadvantages** - Some data is not available for all countries, Doesn't recognise the natural environment

How does demographic data vary at different levels of development? (demographic data is data about the population)

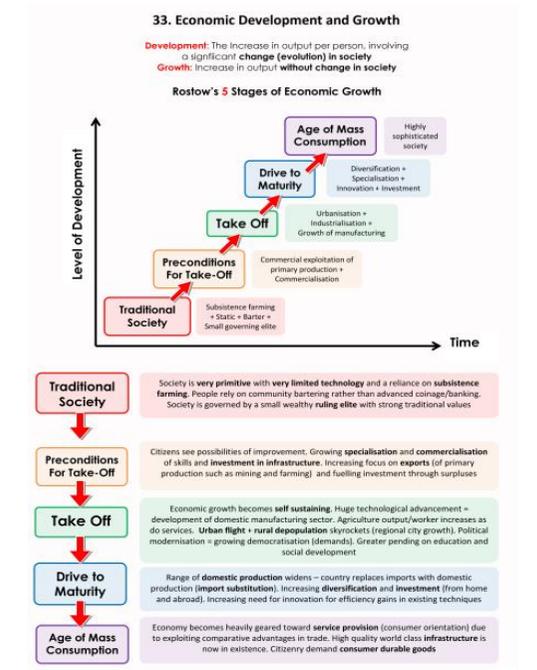
Country	Birth rate per 1000	Fertility rate (no. of children)	Death rate per 1000	Infant mortality per 1000 births	Maternal mortality per 100,000 births
Developed countries					
UK	12	1.9	9	3.9	8
Japan	8	1.4	10	2.1	6
Emerging countries					
Brazil	15	1.8	6	19	69
India	21	2.3	7	42	190
Developing countries					
Papua New Guinea	33	4.3	10	47	220
Niger	50	7.6	11	60	630



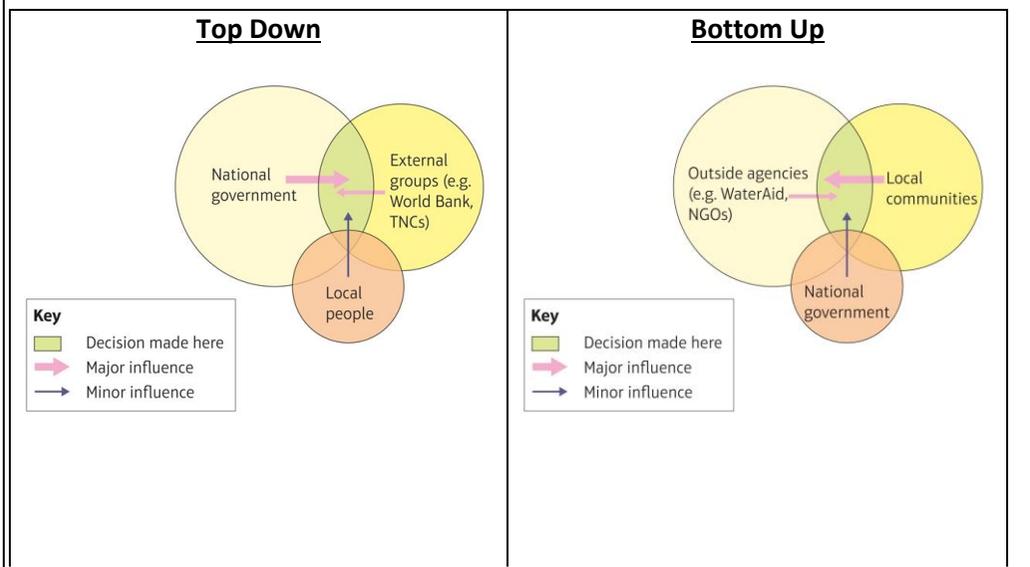
What are the causes and consequences of global inequalities? (Why are some places more developed than others and what is the outcome of this?)

<u>Causes</u>	<u>Consequences</u>
Physical environment – Access to the sea is important for example as it allows for trade. Landlocked countries can't trade as easily and therefore find it hard to develop. Climate is also important – the poorest nations in the world are all in sub Saharan Africa where there is a lack of access to water.	Economic – One in five of the world's population live on less than \$1 per day. Almost half live on less than \$2 per day. Developing nations often lack the money to invest in technology needed to develop.
History – COLONIALISM – colonialism is where European powers once had control over less developed nations and exploited their resources meaning that development was unequal.	Social - 775 million people cannot read or write in developing countries. 1 billion people have no access to clean water and 2.4 billion have no access to basic sanitation. Many developing nations have big problems with HIV/AIDS
Political and economic policies – open economies allow for trade which lead to development. Closed economies such as North Korea mean that there is no trade and therefore development is slow.	Environmental – climate change is a huge problem for developing nations as it is making already harsh conditions to live in even harsher
Social investment – countries that have invested in health and education generally develop more rapidly and equally than those who have not.	Political – Some nations have non democratic nations meaning that minority groups can be victimised

Rostows Development Theory – how does a country develop over time?



Approaches to development



What factors contribute to development? (Reducing the development gap)

Remittances - Remittances are money that is sent home from people that have migrated, either internally or internationally, to find better paid jobs. Remittances are important as they are a higher amount than countries receive in international aid and as the money is sent straight to families it can be used to develop.

Fair Trade - Fair trade is important in promoting development as the price that buyers pays the producers includes a supplement meaning that the extra money can be used to invest in healthcare and education in the community.

Aid and debt relief - Aid and debt relief is important in promoting development as it provides developing countries with money to make improvements to the standard of living. Aid is money given to a country which can be invested, usually in large projects. The problem with aid though is that it can leave some countries in debt that they can't afford. Because of this, it can be argued that debt relief is a better option as debt relief involves developed countries dropping debts they are owed from developing countries so that the money can be used for more development. An example of this is when the US dropped Costa Rica's debt as long as Costa Rica agreed to stop deforestation. This is known as debt for nature.

Location of India: Located in the continent of Asia. It is surrounded by 2 seas and shares a border with 6 countries. India is a large country 4.4 million km² approximately the size of Europe. **Population is 1.3 billion.**



India Development into a Newly Emerging Economy

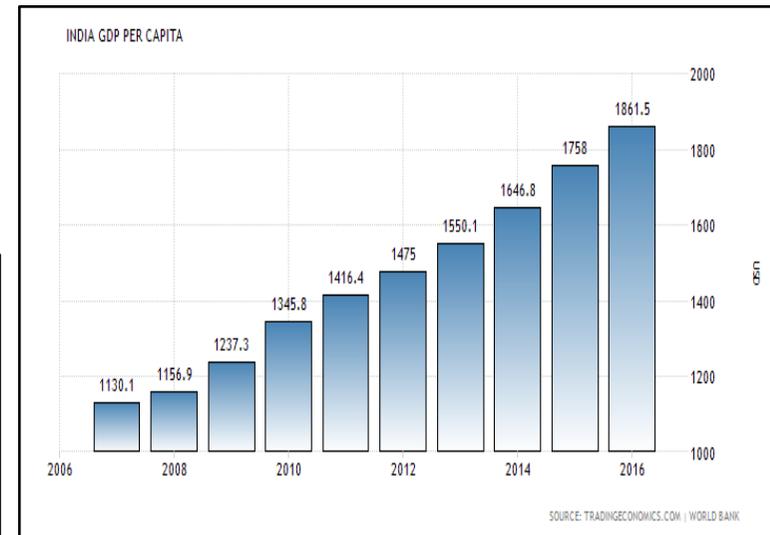
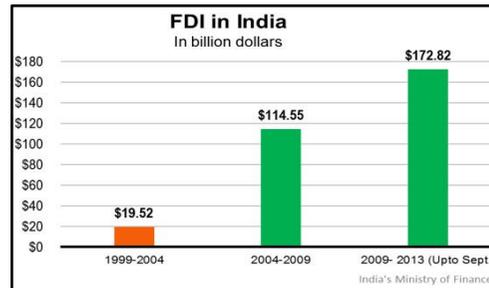
India Environmental, Political, Social and Cultural Context

Environmental	Social & Religious	Government	Colonial Legacy	India Diaspora
<ul style="list-style-type: none"> India has a variety of contrasting physical environments Himalayan mountains in the north Thar desert in the west Monsoon climate (heavy rainfall for a few months a year) 	<ul style="list-style-type: none"> Cultural diverse Hindu (80% of population) Muslim (10% of population) Caste structure-position in society determined by birth 	<ul style="list-style-type: none"> India is a democracy (people vote for their government) 29 states North West is most developed and has the capital city Lost levels of development in the North East 	<ul style="list-style-type: none"> Formerly part of the British Empire English widely spoken Part of the global economy 	<ul style="list-style-type: none"> Diaspora Indians living abroad 20 million Indians living abroad In 2014 send \$71 billion back to India

What has influenced economic change in India

Government Policy	Globalisation	Outsourcing	FDI	Transport
<ul style="list-style-type: none"> The government has focused on promoting foreign direct investment Developing the service and manufacturing industries Significantly invested in Education Encourage people to start their own business 	<ul style="list-style-type: none"> India has become part of the global economy Skilled work force with low wage costs English speaking Large population Tax breaks for business 	<ul style="list-style-type: none"> India low cost labour has encouraged IT companies to located there Call Centres Developing tourist industries 	<ul style="list-style-type: none"> 2014 \$253 billion dollars was invested in India by foreign firms Large infrastructure investment 	<ul style="list-style-type: none"> India road structure has doubled in length Rail network 61000 km long 12 major sea ports 11 international airports

India Economic Development: India GDP and GNI has steady grown from 1950. India economy has grown on average 7% a year, meaning it is one of the world's fastest growing economies and is the worlds 3rd largest economy. The number of people employed in agriculture has fallen with now service industries being the main employer.



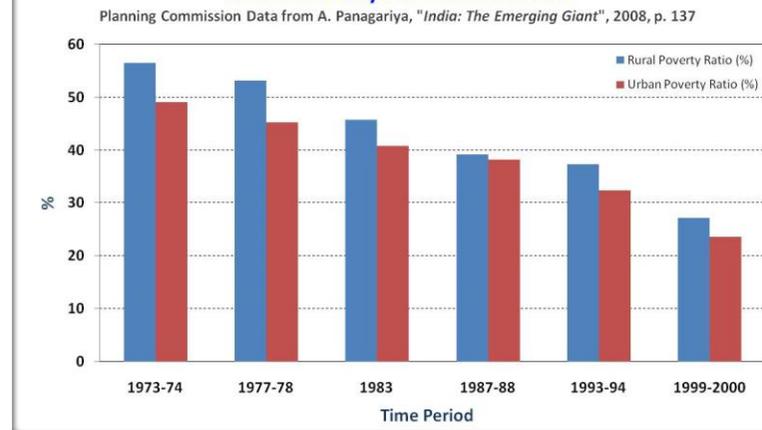
Impact of economic growth on the natural environment

Air pollution	Water Pollution	Deforestation and desertification	Green house gases	Climate Change
<ul style="list-style-type: none"> India has 2.4% of the worlds land but 18% of the worlds population World bank estimated environmental damage was costing India \$80 billion a year 13 of the worlds top 20 air polluted cities are in India Traffic congestion, old vehicles and low grade fuel are major causes Air pollution reduces life expectancy by 3.2 years for Indians living in cities Poor who live on the streets are most at risk Poor rural Indians at risk as they burn dung and have fires indoors 	<ul style="list-style-type: none"> India water supply is under pressure due to its population The Ganges and Yamuna are among the most polluted rivers in the world Industrial waste and sewage is regularly pumped into rivers On average 1/3 of sewage produced in cities is pumped into rivers 	<ul style="list-style-type: none"> Deforestation is a major problem due to commercial logging, urbanisation and agricultural growth 25% of India's land is experiencing desertification, reducing productivity and a creating food insecurity 68% of the country is prone to drought 	<ul style="list-style-type: none"> India is the worlds 3rd largest emitter of carbon dioxide Main energy source (4/5) is from coal power stations Plans to generate more electricity from renewable sources 400 million people with no electricity 	<ul style="list-style-type: none"> Climate change is considered the biggest threat to economy 60% of Indian farming relies on monsoon, drought is threatening agricultural productivity Posing a potential annual loss of \$370 million and hundreds of million of jobs

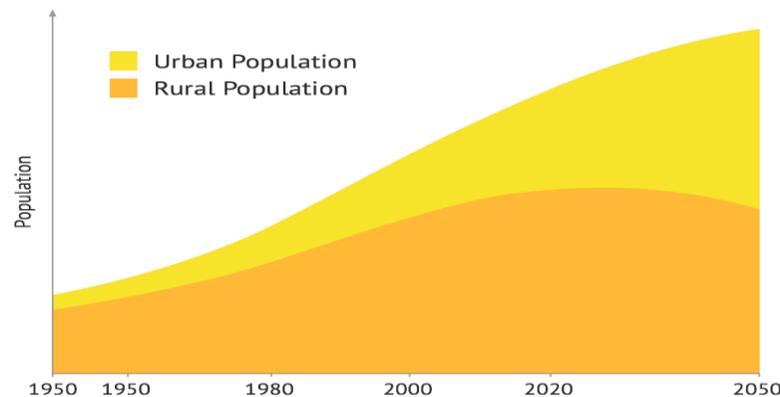
How has India International Role changed?

- India economy has become the second largest market in the world
- India economy has become the third largest in the world
- Its **geopolitical** influence has increased becoming a major international player
- It is one of the BRICS- Group of 5 emerging countries
- Its is member of the G-20 the group of 20 major and developing economies
- In 2014 India exported 35,500 million Euros to Europe. India imported 37,000 Euros from Europe.
- Political ambitions- India growing economy means it wants to play a major global role. It has a seat on the UN Security Council and contributes to the World Bank.
- India plays a role in climate change negotiations but says it needs to use non renewable resources to maintain its economic growth.

Official Poverty Estimates for India



India: Urban and Rural Population
(UN Department of Economic and Social Affairs)



What are the conflicting views about development?

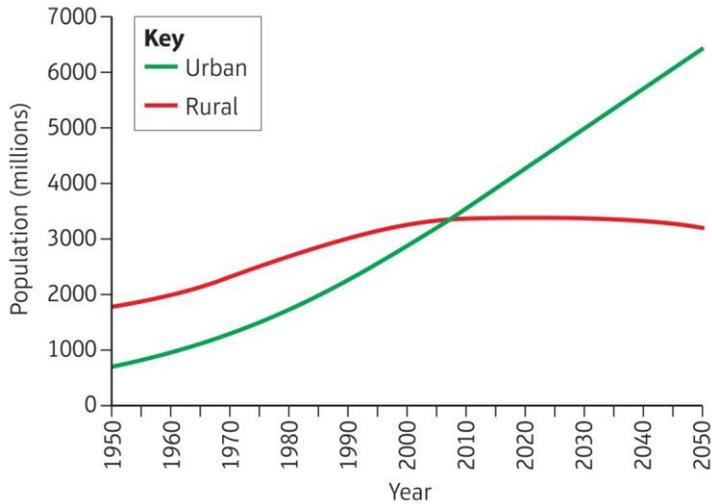
- Despite India's rapid economic growth the high levels of poverty and inequality have remained
- FDI- Although TNCs have brought investment concern exists over the exploitation of workers and lack of tax payments
- India increasing international role causes some individuals concern as they believe they should focus on their domestic issues
- One 3rd of the population live on less than \$1.25 a day approximately 400 million people
- 40% of the worlds malnourished children are in India
- 54% of the population don't have access to drinking water in their home
- High levels of corruption exist
- Urban population will increase by 230 million in 20 years



Challenges of an Urbanising World

Urbanisation - the movement of people from rural areas to urban areas like towns and cities

Urbanisation over time



PULL

Most of these people *choose* to move, for example:

- to improve their standard of living, e.g. more job opportunities, better-paid jobs
- to improve their quality of life, e.g. retiring to a warmer climate, working in a more pleasant environment
- to benefit from better services and amenities, e.g. schools, hospitals, shops, entertainment
- for increased personal freedom, e.g. greater religious freedom, or political tolerance
- to be with family and friends, or people of a similar culture.

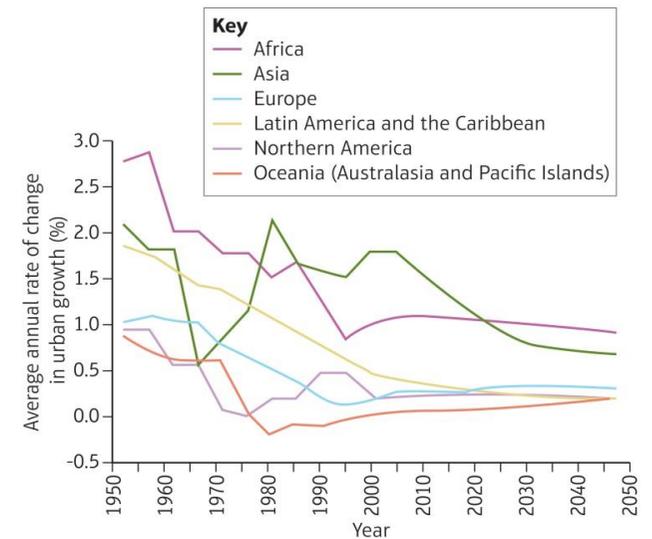
URBAN CENTRE

PUSH

People are *forced* to move – they have no choice. reasons for moving include:

- natural disasters, e.g. earthquakes, volcanic eruptions, drought, floods
- human disasters, e.g. war, ethnic cleansing, political change – people become refugees
- overpopulation or lack of resources, e.g. crop failure, famine
- religious or political persecution
- racial discrimination
- government schemes, e.g. redevelopment of an area, building of a new motorway.

Global patterns of urbanisation



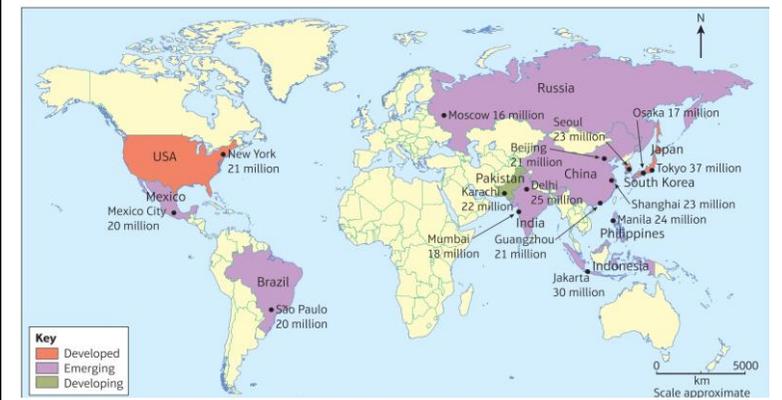
Social and economic changes leading to urbanisation can be divided into two main factors –

- Migration (movement towards urban areas)
- Economic change (when the economy grows due to more or better jobs or investment from TNC's)
- These can be subdivided into –
 - National (internal) migration – e.g. from Nottingham to London
 - International migration – e.g. from Poland to the UK
 - Economic growth of cities – e.g. China and the growth of cities and investment of TNC's
 - Economic decline of cities – e.g. Detroit and the loss of car manufacturing.

Major, Mega and Primate Cities

This trend of urbanisation leads to populations of cities increasing.

- **Major cities** – cities with a population of over 200,000
- **Megacities** – cities with a population of more than 10 million
- **Primate cities** – cities that are so important within a country that they dominate the economic, political and financial systems.



Urban areas and the economy

Formal and informal economy

Table 1 Differences between formal and informal employment

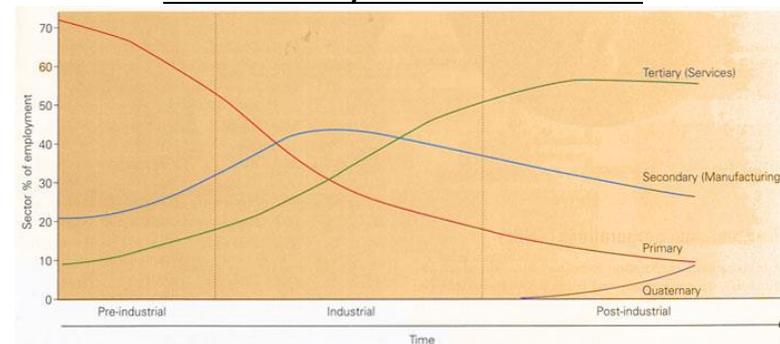
Features	Formal employment e.g. traditional industry such as car manufacture	Informal employment e.g. street seller
Scale of activity	Large scale – usually in a factory	Small scale – may be on street corners
Level of skill	Some high-level skill work	Mostly low level of skills
Ease of entry	Needs sizeable funding and often a lot of equipment to get started	Needs little funding or equipment to start
Need for capital	Needs a lot of capital to get started, often financed by the government	Needs little capital to start
Number of workers	Often more than 100 workers	Usually just a few workers or self-employed
Working conditions	Workers usually have some protection to ensure the environment in which they work is safe, e.g. to prevent accidents or stop pollution. There may also be set hours of work. Some have trades unions to ensure good working conditions	No protection for workers. No set hours of work, so hours may be long. May have to pay protection to gangs. There are no trades unions to support the workers
Location	Factory	May be at home or on the street
Taxes	Pay taxes to the government	Pay no taxes

Main features of urban economies

Table 2 Main features of urban economies in developed, emerging and developing countries

Developed e.g. London, Paris	Emerging e.g. Mexico City, Mumbai	Developing e.g. Lagos
Usually have a broad range of different industries and jobs:	Often have:	Usually have:
<ul style="list-style-type: none"> Little, if any, primary industry Secondary (manufacturing) industries such as engineering, printing Many tertiary industries such as tourism, education, finance, health and other services Quaternary industries such as IT, media, consultation and culture, as well as top-level decision-making 	<ul style="list-style-type: none"> Little primary industry Manufacturing that processes primary products, such as sugar refining and flour milling. Some, for example in China and India, have heavy industry and engineering Very large tertiary industries, including government administration, and service industries such as tourism, transport and entertainment Smaller quaternary sector, which is growing rapidly 	<ul style="list-style-type: none"> Little primary industry Secondary industry that often processes primary products, such as textiles, sugar refining and flour milling Very large tertiary industries, including large government administration and finance, and service industries such as tourism, transport and entertainment A small initial quaternary sector, which is growing

This is shown by the Fisher Clark Model



What are the factors that influence urban land use?

There are four main factors that influence urban land use –

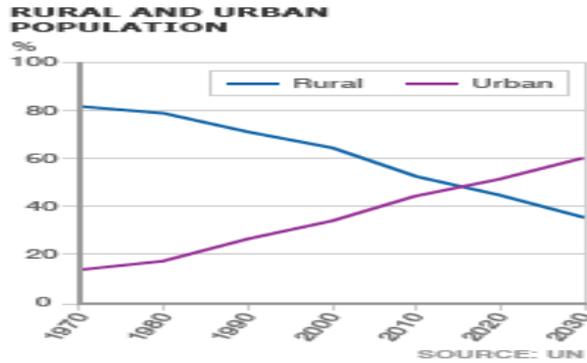
- **Accessibility** - Shops and offices in the centre of cities need to have good transport links so that people can get to them. Some cities are accessible by motorway
- **Availability** – City centres are generally densely built up with little free land. When industry closes, brownfield sites are created and can be regenerated into housing, shops and offices
- **Cost** – Due to not much land being free in the CBD, it is very expensive and has higher rents that only businesses can afford rather than individuals. This explains why more business than residential is located there.
- **Planning regulations** – Government planners (local and national) decide how to use the land in what they think is in the best interests of the city

What factors influence urban land use?

Similarities	Differences
<ul style="list-style-type: none"> Both have a Central Business District (CBD) usually with tall office blocks Have areas that are mainly residential and areas that are mainly industrial Are spread over a large area Have extensive suburbs Have issues linked to traffic congestion and air pollution 	<ul style="list-style-type: none"> Residential and industrial zones are more distinct (separate) in developed nations In developing countries the affluent (wealthy) areas are closer to industrial zones or squatter settlements. This is not the case in developed nations. Developed nations do not have squatter settlements Cities in developing or emerging nations generally haven't experienced counter-urbanisation
<p>Developed</p>	<p>Developing</p>

Challenges of an Urbanising World

World Urban Population Growth



Urbanisation is the process by which an increasing percentage of people live in towns and cities. It is largely caused by migration from rural areas. By 2007, the majority of the world's population lived in cities.

Differing urban economies



Formal Employment: Jobs that pay taxes and provide workers with job security and legal protection (hard to get in developing countries).

Informal Employment: Jobs that are not regulated. Informal workers' pay no taxes but are not protected by law (easy to get in developing countries).

Push and Pull factors

Rural	Urban
Few opportunities	More Jobs
Poor Healthcare	Better paid jobs
Low pay, difficult work	Better healthcare
Low levels of education	Perceived improved opportunities

Definitions:

Mega cities: A city with at least 10 million inhabitants

World City: A city with a dominant role in global process.

Urban Primacy: The most important city in a country.

International Migration (London):

- 2011 London had a population of just over 8 million largely as a result of international migration.

Pull Factors:

- Employment- high pay
- Entertainment and culture
- Services
- UK and international transport network.

Push Factors: high cost of living

National Migration (China):

Chongqing population increased by 10 million in 10 years!

High rates of rural to urban migration.

Pull factors:

- Jobs available in factories (manufacturing)
- Better Education and healthcare in cities.
- Low wages in agriculture (farming) in the countryside.

Changing Cities Definitions:

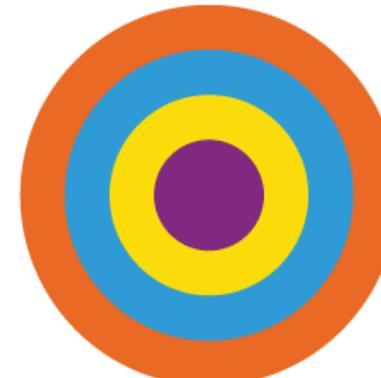
Urbanisation: The increase in the number of people living in cities.

Suburbanisation: The movement of people industry and jobs from the centre of the cities to its outer areas.

Counter-urbanisation: The movement of people out of the cities into the countryside.

Regeneration: New investment into old run down parts of the city.

Burgess Model



Key

Central business district (CBD)
Inner city
Inner suburbs
Outer suburbs

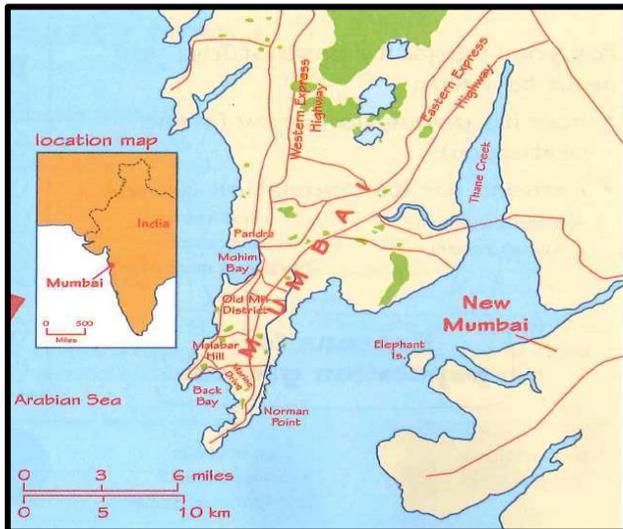
Change over time:

- The central business district (CBD) is located where the city first develops.
- A manufacturing zone develops around it.
- New immigrants live in the inner city where the housing is inexpensive.
- Developing public transport lets richer people live further out.
- The city is too congested for industry so the move to the suburbs.

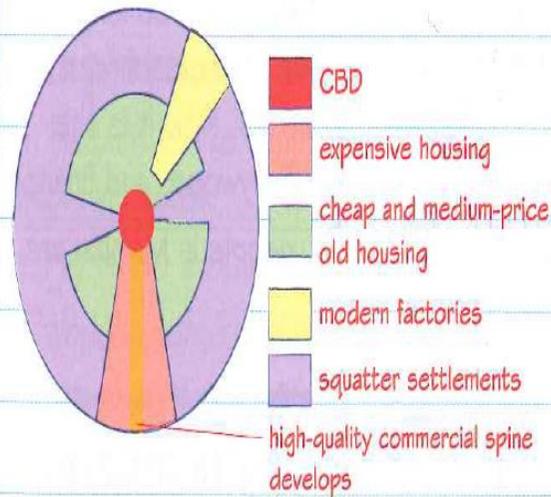
Mumbai Fact File

- **Population 2013** 12 million people
- **Population growth rate** 2.9% per year
- **Population density** 20482 people per km²
- **Slum population** 42% of population
- **Informal Sector** 68% of workers

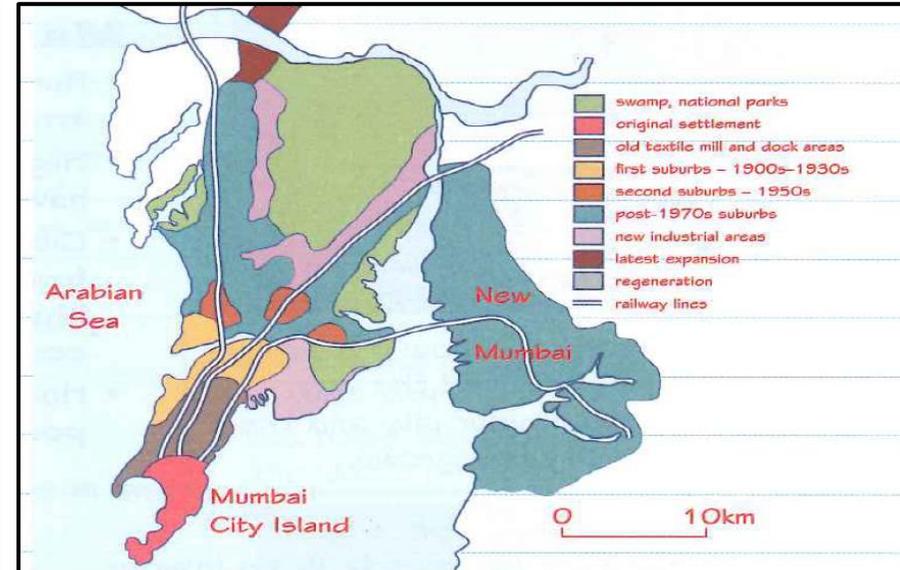
Site and Situation



Emerging Mega City Mumbai (India)



The structure of megacities in emerging or developing countries is often quite complex. Transport routes are often important.



Mumbai has had several stages of expansion, with suburbs spreading along railway routes and onto the mainland. Industrial sectors have moved away from the old city centre too.

Site:

Mumbai is located on one of the world's deepest natural harbours. This gives it big advantages as a major port.

Mumbai is built on 7 islands meaning that space is limited and land is highly expensive.

Situation:

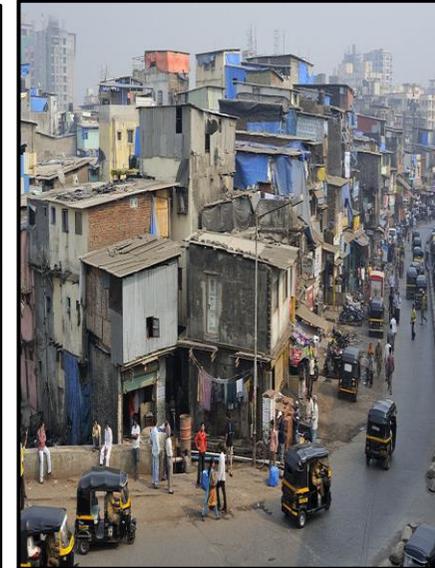
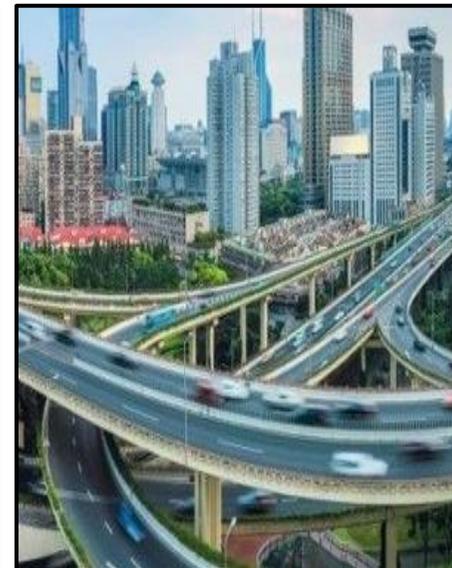
Located within central Asia gives it trading advantages. Centre of the finance and film industry.

Reasons for Growth:

- **Rural to urban migration**- 1000 migrants arrive in Mumbai daily
- **High rate of natural increase**- Large families and a high birth rate
- **Strong economy**- Attracts FDI and people to move there. Finance and Bollywood.
- **High informal sector**- Ease of employment

Opportunities: Access to jobs

- Access to education and healthcare
- Marriage opportunities



Challenges in Mumbai

- **Housing:** Shortage of housing meaning it is very expensive and people are forced to live in slums.
- **Water Supply and Waste Removal:** Slums settlements don't have enough water pipes or main taps for people to use.
- **Waste:** People go to the toilet on waste ground. This can spread diseases and smells.
- **Employment Opportunities:** Most people are employed in the informal sector. This has low wage and poor working conditions.

Quality of Life

Is measured according to different factors that range from how much money people earn life expectancy, literacy rates and crime rates.

Challenges to the quality of life in Mumbai:

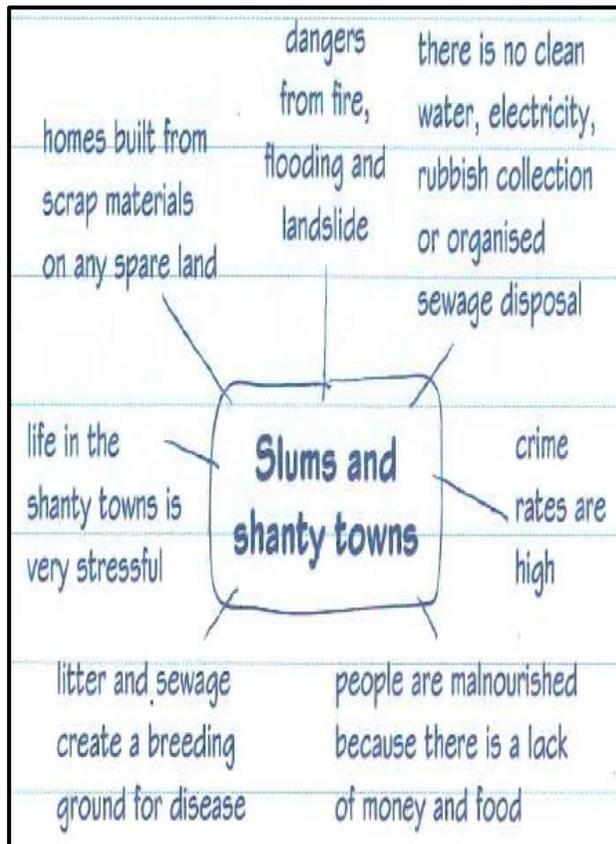
- **In effective government:** decisions around infrastructure and housing take a long time.
- **Corruption:** Land for affordable properties has been sold to private developers.
- **40 % of the population live in slums.** These are often close to the centre on expensive land.
- **Traffic Congestion:** Very dense traffic jams meaning it takes a long time to travel anywhere.

Development Strategies in Mumbai

Top Down: Large scale ways to improve the city funded and controlled by the central government e.g. Major road building. These deal with major problems but are very expensive and don't consider local people's opinions.

Bottom up: Small scale ways of improving the city lead by the community or charities e.g. hand pumps for clean water or programs where people improve their homes themselves.

Sustainability: In cities this means planning in a way for a city that uses little electricity, recycles and limits pollution. This creates a high living standard for all.



Top Down Mumbai Monorail

Positives

- Takes passengers off the road reducing congestion
- Constructed over built up areas
- Travel is quick 40mph
- Tickets are cheap 11 rupees

Negatives

- Very expensive £130 million
- Not as well used as had been hoped.
- 15000 take the trip each day but many are tourists.

Bottom Up SPARC Community Toilets

- Charity has built 800 toilet blocs in slums
- Local families construct the toilet meaning they are cheap to build
- They have electricity and are connected to sewage pipes

- Not enough- 12 million people live in Mumbai
- Charge 25 rupees a month so the poorest cant access
- Should be the government's responsibility not a charity