GCSE Geography- Revision booklet

Component 1. Global Geographical Issues

Exam date – 22\textsuperscript{nd} 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
### Plate Boundaries

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

### 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, cause 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.**

### 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.

### Types of Volcanoes

- **Shield volcanoes**
  - Shield volcanoes are usually found at constructive or tensional boundaries.
  - They are low, with gently sloping sides.
  - Eruptions tend to be frequent but relatively gentle.

- **Composite volcanoes**
  - 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)

### 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.

<table>
<thead>
<tr>
<th>Primary effects</th>
<th>Secondary effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buildings collapsed.</td>
<td>Broken sewerage pipes contaminated water supplies and spread disease.</td>
</tr>
<tr>
<td>79,000 people were killed.</td>
<td>People died of cold during the harsh winter.</td>
</tr>
<tr>
<td>Landslides, and large cracks appeared in the ground.</td>
<td></td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Primary effects</th>
<th>Secondary effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Around 1000 dead</td>
<td>Tsunami leading to 127,000 deaths</td>
</tr>
<tr>
<td>1000 buildings collapsed despite their earthquake proof design.</td>
<td>Roads, bridges and buildings collapsed</td>
</tr>
<tr>
<td>$300 damage caused</td>
<td></td>
</tr>
</tbody>
</table>

**Volcanoes**

(Developing) Pinatubo, Philippines,

<table>
<thead>
<tr>
<th>Primary effects</th>
<th>Secondary effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ash cloud covered 125000km² bringing darkness to central Luzon.</td>
<td>Lahars caused severe erosion to rivers.</td>
</tr>
<tr>
<td>Volcanic ash covered 80000 hectares of land.</td>
<td>Global cooling caused by the ash.</td>
</tr>
<tr>
<td>150km² of rice paddy devastated</td>
<td>Temperatures dropped by 0.3°C.</td>
</tr>
<tr>
<td>Broken sewerage pipes contaminated water supplies and spread disease.</td>
<td>Lahars continued to affect the area for 6-years.</td>
</tr>
<tr>
<td>Landslide and large cracks appeared in the ground.</td>
<td>Acid rain due to the 22 million tonnes of SO₂ emitted.</td>
</tr>
<tr>
<td>847 people killed by collapsing roofs</td>
<td>Full economic recovery cost £10 billion.</td>
</tr>
<tr>
<td>Ash and pumice devastated 42000 homes</td>
<td></td>
</tr>
<tr>
<td>1.2 millions people lost their homes</td>
<td></td>
</tr>
<tr>
<td>100 people killed by lahars</td>
<td></td>
</tr>
<tr>
<td>500 people died from diseases such as measles in refugee camps</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Primary impacts</th>
<th>Secondary impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since 1983, lava has covered &gt;100 km² of land</td>
<td>Weathering of the lava produces fertile soil.</td>
</tr>
<tr>
<td>&gt;200 homes and community buildings destroyed</td>
<td>Air pollution by volcanic smog (vog) and acid rain.</td>
</tr>
<tr>
<td>Kalapana village buried beneath 15-25 m of lava</td>
<td>Excellent farming (sugar cane and pineapples).</td>
</tr>
<tr>
<td>Utilities (water and electricity) have been damaged</td>
<td>1986 – Kilauea released 2000 tonnes/day of SO₂, lethal within 1 km.</td>
</tr>
<tr>
<td>Roads have been blocked</td>
<td>Farming makes US $30 million/year.</td>
</tr>
<tr>
<td>2014 evacuation of Pahoa village, threat of explosions from steam and lava</td>
<td>2.6-milion tourists visited Hawaii Volcanoes National Park, which supports tourism.</td>
</tr>
</tbody>
</table>

**Responses** The response to and management of Pinatubo eruption:

- **PHIVOLCS (Philippine Institute of Volcanology and Seismology) seismologists detected swarms of earthquakes beneath Pinatubo in March 1991, indicating 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.**

**How is a tsunami formed?**

HOW A TSUNAMI IS FORMED:

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.

2014 evacuation of Pahoa village, threat of explosions from steam and lava

Since 1983, lava has covered >100 km² of land

Weathering of the lava produces fertile soil.

Air pollution by volcanic smog (vog) and acid rain.

Excellent farming (sugar cane and pineapples).

1986 – Kilauea released 2000 tonnes/day of SO₂, lethal within 1 km.

Farming makes US $30 million/year.
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.

**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.

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**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.

**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.
Tropical Storms

**Formation of Tropical Storms**

- Winds rotate outwards at top
- Clear sky and no wind at the eye
- Heavy rain and strong winds in the eye wall
- Cumulus clouds
- Storm surge in cyclone centre caused by increased sea level due to strong surface winds
- Warm, moist air rises and is pulled towards the centre
- Cloud top height can be up to 15 km
- Ocean temperature above 26.5°C

**Tropical Storm Distribution**

- Spatial Temporal Distribution of Tropical Cyclones

**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.

**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.

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

<table>
<thead>
<tr>
<th>Tropical cyclone name and date</th>
<th>Location</th>
<th>GDP per person of country (US $)</th>
<th>Economic cost (US $)</th>
<th>Number of deaths</th>
<th>Total population in the affected area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haiyan (2013)</td>
<td>Philippines</td>
<td>2750</td>
<td>3 billion</td>
<td>7000</td>
<td>14 million</td>
</tr>
<tr>
<td>Katrina (2005)</td>
<td>USA</td>
<td>53 000</td>
<td>100 billion</td>
<td>1800</td>
<td>4 million</td>
</tr>
</tbody>
</table>
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 a 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)

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

Demographic Transition Model

![Demographic Transition Model](image)

Population Pyramids

![Population Pyramids](image)
What are the causes and consequences of global inequalities? (Why are some places more developed than others and what is the outcome of this?)

<table>
<thead>
<tr>
<th>Causes</th>
<th>Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical environment</strong> – Access to the sea is important for example as it allows for trade. <em>Landlocked</em> countries can’t <em>trade</em> as easily and therefore find it hard to develop. <strong>Climate</strong> is also important – the poorest nations in the world are all in sub Saharan Africa where there is a lack of access to water.</td>
<td><strong>Economic</strong> – 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.</td>
</tr>
<tr>
<td><strong>History – COLONIALISM</strong> – colonialism is where European powers once had control over less developed nations and exploited their resources meaning that development was unequal.</td>
<td><strong>Social</strong> – 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</td>
</tr>
<tr>
<td><strong>Political and economic policies – open economies</strong> allow for trade which lead to development. <em>Closed economies</em> such as North Korea mean that there is no trade and therefore development is slow.</td>
<td><strong>Environmental</strong> – climate change is a huge problem for developing nations as it is making already harsh conditions to live even harsher</td>
</tr>
<tr>
<td><strong>Social investment</strong> – countries that have invested in health and education generally develop more rapidly and equally than those who have not.</td>
<td><strong>Political</strong> – Some nations have non demographic nations meaning that minority groups can be victimised</td>
</tr>
</tbody>
</table>

**Approaches to development**

**Top Down**
- National government
- External groups (e.g. World Bank, NGOs)
- Decision made here
- Major influence
- Minor influence

**Bottom Up**
- Local communities
- Outside agencies (e.g. WaterAid, NGOs)
- Decision made here
- Major influence
- Minor influence

**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.
India Development into a Newly Emerging Economy

**India Environmental, Political, Social and Cultural Context**

<table>
<thead>
<tr>
<th>Environmental</th>
<th>Social &amp; Religious</th>
<th>Government</th>
<th>Colonial Legacy</th>
<th>India Diaspora</th>
</tr>
</thead>
</table>
| • India has a variety of contrasting physical environments | • Cultural diverse population  
Hindu (80% of population)  
Muslim (10% of population)  
Caste structure - position in society determined by birth | • 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 | • Formerly part of the British Empire  
English widely spoken  
Part of the global economy | • Diaspora Indians living abroad  
20 million Indians living abroad  
In 2014 send $71 billion back to India |
| • Himalayan mountains in the north  
Thar desert in the west  
Monsoon climate (heavy rainfall for a few months a year) | | | | |
| • Cultural diverse  
Hindu (80% of population)  
Muslim (10% of population)  
Caste structure - position in society determined by birth | | | | |

**What has influenced economic change in India**

<table>
<thead>
<tr>
<th>Government Policy</th>
<th>Globalisation</th>
<th>Outsourcing</th>
<th>FDI</th>
<th>Transport</th>
</tr>
</thead>
</table>
| • 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 | • India has become part of the global economy  
Skilled work force with low wage costs  
English speaking  
Large population  
Tax breaks for business | • India low cost labour has encouraged IT companies to located there  
Call Centres  
Developing tourist industries | • 2014 $253 billion dollars was invested in India by foreign firms  
Large infrastructure investment | • 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 steadily 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 world’s 3rd largest economy. The number of people employed in agriculture has fallen with now service industries being the main employer.

[Graph showing FDI in India (in billion dollars) from 1998-2004 to 2016.]
Impact of economic growth on the natural environment

<table>
<thead>
<tr>
<th>Air pollution</th>
<th>Water Pollution</th>
<th>Deforestation and desertification</th>
<th>Green house gases</th>
<th>Climate Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>• India has 2.4% of the world's land but 18% of the world's population</td>
<td>• India water supply is under pressure due to its population</td>
<td>• Deforestation is a major problem due to commercial logging, urbanisation and agricultural growth</td>
<td>• India is the world's 3rd largest emitter of carbon dioxide</td>
<td>• Climate change is considered the biggest threat to economy</td>
</tr>
<tr>
<td>• World Bank estimated environmental damage was costing India $80 billion a year</td>
<td>• The Ganges and Yamuna are among the most polluted rivers in the world</td>
<td>• 25% of India's land is experiencing desertification, reducing productivity and creating food insecurity</td>
<td>• Main energy source (4/5) is from coal power stations</td>
<td>• 60% of Indian farming relies on monsoon, drought is threatening agricultural productivity</td>
</tr>
<tr>
<td>• 13 of the world's top 20 air polluted cities are in India</td>
<td>• Industrial waste and sewage is regularly pumped into rivers</td>
<td>• Plans to generate more electricity from renewable sources</td>
<td>• Air pollution reduces life expectancy by 3.2 years for Indians living in cities</td>
<td>• Posing a potential annual loss of $370 million and hundreds of millions of jobs</td>
</tr>
<tr>
<td>• Traffic congestion, old vehicles and low grade fuel are major causes</td>
<td>• On average 1/3 of sewage produced in cities is pumped into rivers</td>
<td>• 68% of the country is prone to drought</td>
<td>• Poor who live on the streets are most at risk</td>
<td></td>
</tr>
<tr>
<td>• Air pollution reduces life expectancy by 3.2 years for Indians living in cities</td>
<td></td>
<td>• Poor rural Indians at risk as they burn dung and have fires indoors</td>
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</table>

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
• It 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.

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 world's 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
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 scope for political tolerance.
    - to be with family and friends, or people of a similar culture.

- **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.
      - economic or social deprivation, e.g. crop failures, famine.
      - religious or political persecution.
      - government orders, e.g. nationalisation 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>
<thead>
<tr>
<th>Features</th>
<th>Formal employment</th>
<th>Informal employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scale of activity</td>
<td>Large scale – usually in a factory</td>
<td>Small scale – may be on street corners</td>
</tr>
<tr>
<td>Level of skill</td>
<td>Some high-level skill work</td>
<td>Mostly low level of skills</td>
</tr>
<tr>
<td>Ease of entry</td>
<td>Needs sizeable funding and often a lot of equipment to get started</td>
<td>Needs little funding or equipment to start</td>
</tr>
<tr>
<td>Need for capital</td>
<td>Needs a lot of capital to get started, often financed by the government</td>
<td>Needs little capital to start</td>
</tr>
<tr>
<td>Number of workers</td>
<td>Often more than 100 workers</td>
<td>Usually just a few workers or self-employed</td>
</tr>
<tr>
<td>Working conditions</td>
<td>Workers usually have some protection to ensure the environment in which they work is safe, e.g. to prevent accidents or stop pollution. They may also set hours of work. Some have trade unions to ensure good working conditions.</td>
<td>No protection for workers. No set hours of work, so hours may be long. May have to pay protection to gangs. There are no trade unions to support the workers.</td>
</tr>
<tr>
<td>Location</td>
<td>Factory</td>
<td>May be at home or on the street</td>
</tr>
<tr>
<td>Taxes</td>
<td>Pay taxes to the government</td>
<td>Pay no taxes</td>
</tr>
</tbody>
</table>

### Main features of urban economies

<table>
<thead>
<tr>
<th>Developed e.g. London, Paris</th>
<th>Emerging e.g. Mexico City, Mumbai</th>
<th>Developing e.g. Lagos</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usually have a broad range of different industries and jobs.</td>
<td>Often have: 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 finance, and service industries such as tourism, transport and entertainment. Smaller quaternary sector, which is growing rapidly.</td>
<td>Usually have: 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.</td>
</tr>
</tbody>
</table>

#### What factors 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.
**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**

**Urbanisation**
- 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.

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

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

**Push and Pull factors**

<table>
<thead>
<tr>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few opportunities</td>
<td>More Jobs</td>
</tr>
<tr>
<td>Poor Healthcare</td>
<td>Better paid jobs</td>
</tr>
<tr>
<td>Low pay, difficult work</td>
<td>Better healthcare</td>
</tr>
<tr>
<td>Low levels of education</td>
<td>Perceived improved opportunities</td>
</tr>
</tbody>
</table>

**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!
- 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**

1. **The central business district (CBD)** is located where the city first develops.
2. A manufacturing zone develops around it.
3. New immigrants live in the inner city where the housing is inexpensive.
4. Developing public transport lets richer people live further out.
5. 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)

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

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.
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:

- **Ineffective 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.

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<th>Bottom Up SPARC Community Toilets</th>
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<td>Negatives</td>
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<td>Takes passengers off the</td>
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<tr>
<td>road reducing congestion</td>
<td>Not as well used as had been hoped.</td>
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<tr>
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<td>15000 take the trip each day but many are tourists.</td>
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