

GEOGRAPHY

REVISION

NOTES

FOR EDEXCEL
SIMPLE

**NOTE: THIS BOOK HAS NOT YET BEEN
COMPLETED – IT WILL OCCASSIONALLY BE
UPDATED WITHIN THE NEXT TWO MONTHS
(MARCH/APRIL 2020)**

CHAPTER 1

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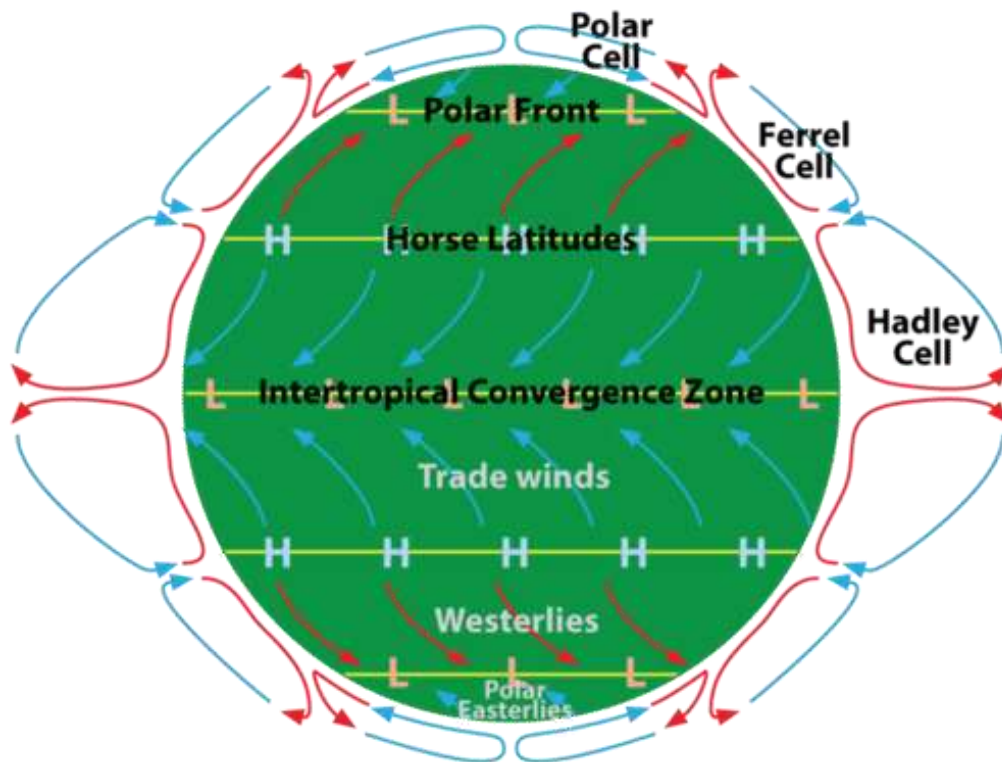
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1 HAZARDOUS EARTH

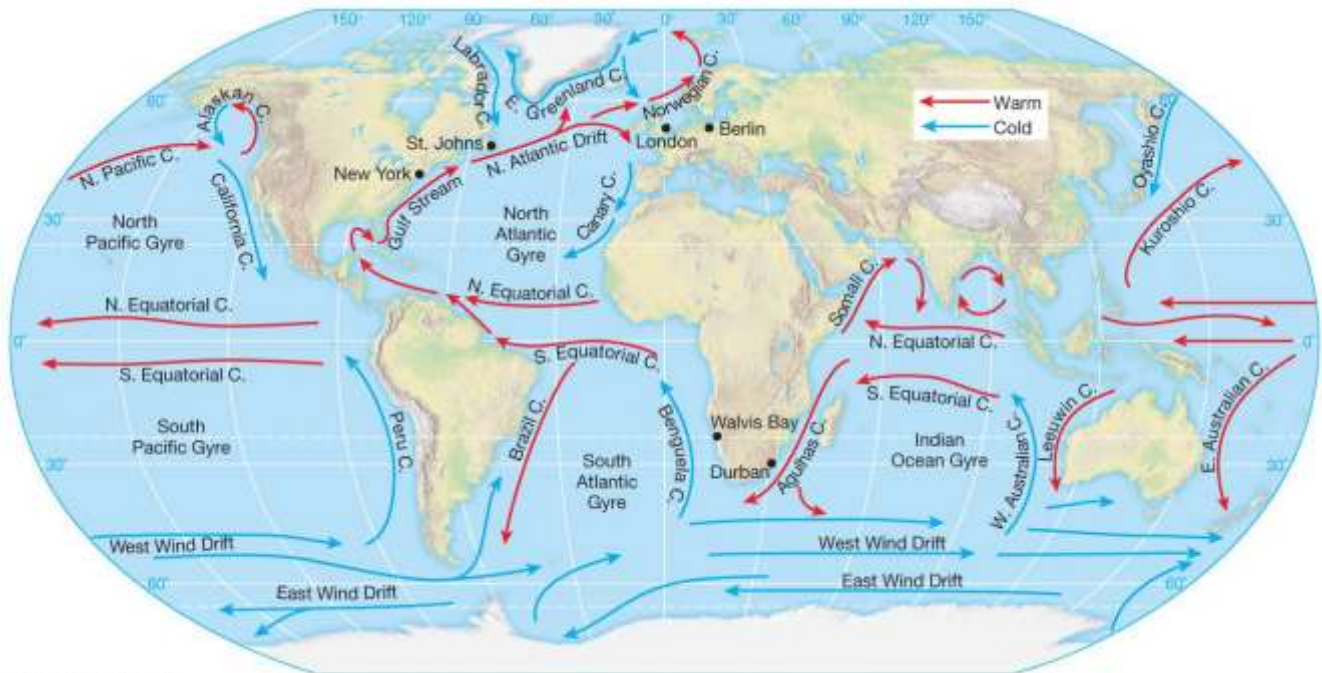
1.1 The atmosphere operates as a global system which transfers heat around the Earth

- The **global atmospheric circulation** is the way heat energy is transferred and redistributed around the Earth.



- Circulation cells:
 - the sun's energy is highest at the equator
 - air at the surface warms and rises
 - therefore a low pressure zone is created at the equator
 - this draws north-westerly trade winds south to West Africa
 - these Trade Winds converge with south-easterly trade winds from the Gulf of Guinea at the Inter-Tropical Convergence Zone (ITCZ)
 - as the winds meet, they rise, the air cools and water vapour condenses
 - this creates heavy rainfall

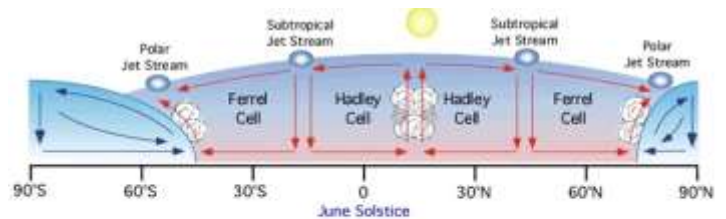
Topic 1



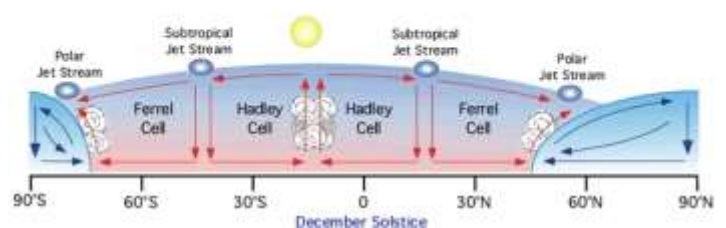
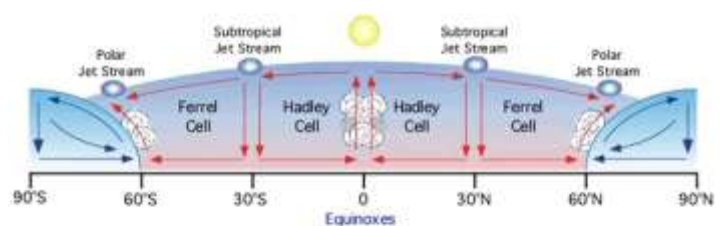
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- Ocean currents:
 - differences are caused by the Gulf Stream, a warm ocean current
 - it begins in the Gulf of Mexico as part of the N. Equatorial Current
 - it is driven by westerly winds across the Atlantic
 - it turns towards north-western Europe as the North Atlantic Drift, and then joins the Norwegian current where it is chilled by the icy Arctic
 - around N. Canada and S. Greenland, the current cools, turns south around Greenland, joining the cold Labrador Current, chilling Newfoundland

- Movement of ITCZ:
 - by January, the pattern shifts south, bringing a dry season to West Africa and a rainy season to Southern Africa



- Arid and high rainfall areas:
 - in January, cooling air falls to create high pressure at the surface, so dry air and no clouds
 - in June, despite movement of the ITCZ, rains never reach the deserts in the tropics (beyond 30°)



1.2 Climate has changed in the past through natural causes on timescales ranging from hundreds to millions of years

- Natural causes of climate change:
 - **asteroid collisions:** impact releases ash and dust into the atmosphere, which could be the reason for the extinction of dinosaurs
 - **orbital changes:** shape, tilt and spin vary in Milankovitch Cycles, which could be the reason for an ice age every 100,000 years
 - **volcanic activity:** release ash and sulfur dioxide, causing less light to reach the Earth and a global decrease in temperature, which could be the reason for ice ages
 - **variations in solar output:** sunspots tell us how active the Sun is, which could be the reason for the Little Ice Age (1600-1830) and the Modern Warm Period (1930-pr)
- Evidence for natural climate change:
 - **ice cores:** carbon dioxide concentrations at different depths show composition of air in the last hundreds of thousands of years (Quaternary period)
 - **tree rings:** yearly rings on the edge of trees are thicker in better growth conditions in the last few hundred years (Roman times to the present day)
 - **historical sources:** paintings, books, harvest records give an insight on climate in the last thousand years (Roman times to the present day)

Topic 1

1.3 Global climate is now changing as a result of human activity, and there is uncertainty about future climates

- How human activities produce greenhouse gases:
 - **industry:** factories require electrical energy (usually non-renewable) to operate
 - **transport:** petrol/diesel cars produce CO₂, NO₂ and other pollutants
 - **energy:** non-renewable energy from coal, oil and gas releases CO₂
 - **farming:** rice in paddy fields and cattle both release CH₄ (methane)
- Greenhouse gases:
 - carbon dioxide (CO₂)
 - methane (CH₄)
 - water vapour (H₂O)
- The greenhouse effect:
 - short-wave solar radiation passes through the atmosphere to the Earth's surface
 - Earth's surface heats up
 - it cools down by emitting long-wave radiation
 - greenhouse gases partially reflect this radiation back into the atmosphere, keeping global air temperature moderately high
 - more greenhouse gases cause more reflection and an increase in mean global air temperature
- Evidence for how human activity is causing climate change:
 - **sea levels rise and warming oceans:** higher temperatures cause glaciers to melt
 - **global temperature rise:** hottest ten years on record have occurred since 1998
 - **declining Arctic ice:** floating ice has shrunk by over 50% since 1979
 - **increased extreme weather events:** more frequent flooding over the last 10 years
- Possible consequences on people
 - **food shortages** due to crop failure
 - **economic recession** due to having to recover from extreme weather
- Range of projections for global temperature change and sea level rise in the future:
 - temperatures will rise between 1.1 °C and 6.4 °C by 2100
 - sea levels will rise between 30cm and 100cm by 2100
 - more frequent floods, droughts and heatwaves
 - stronger storms and hurricanes
 - changes to farming ability
- Reasons for uncertainty about these projections:
 - **physical processes:** temperature is believed to naturally fluctuate every 400 years
 - **human reasons:** population growth, promotion of renewable energy, lifestyle

1.4 Tropical cyclones are caused by particular meteorological conditions

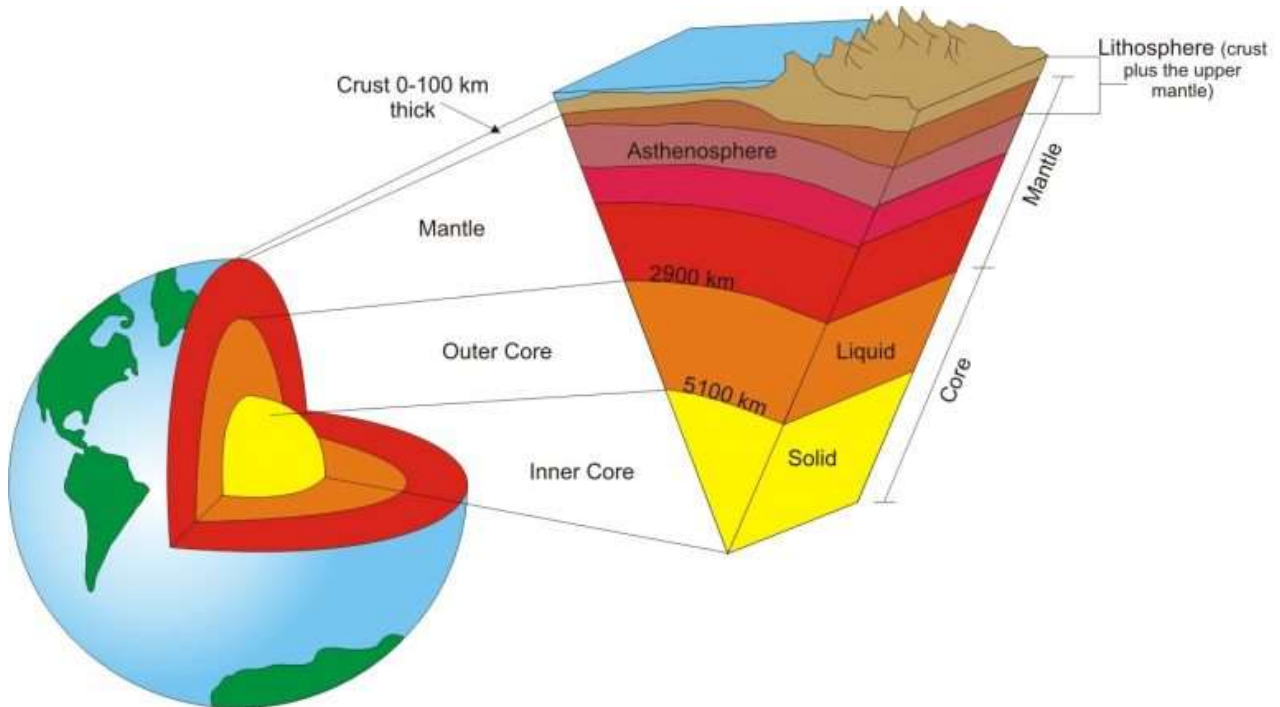
Topic 1

1.5 Tropical cyclones present major natural hazards to people and places

1.6 The impacts of tropical cyclones are linked to a country's ability to prepare and respond to them

Topic 1

1.7 Earth's layered structure, and physical properties is key to plate tectonics



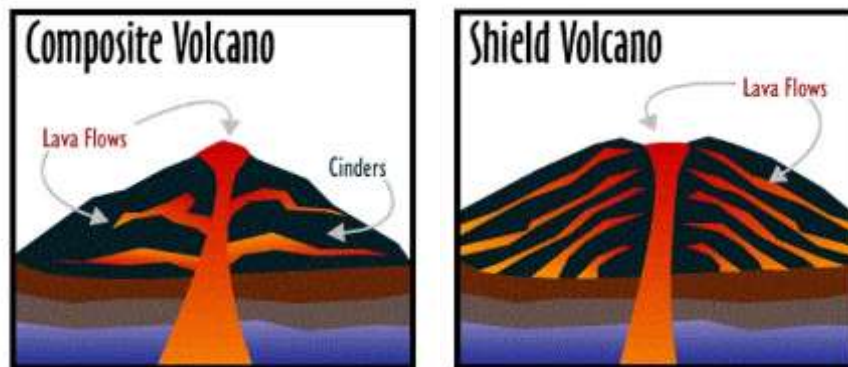
Layer		Temperature	Density	Composition	Physical state
Lithosphere	continental crust	900° C	2.7 g/cm ³	granite	solid
	oceanic crust	900° C	2.3 g/cm ³	basalt	solid
Mantle	asthenosphere	900-1600° C	3.4-4.4 g/cm ³	peridotite	partially molten
	mesosphere	1600-4000° C	4.4-5.6 g/cm ³	magnesium and silicon oxides	solid
Core	outer core	4000-5000° C	9.9-12.2 g/cm ³	iron, sulfur and nickel	liquid
	inner core	5400° C +	12.8-13.1 g/cm ³	iron, sulfur and nickel	solid

- How convection is generated in the Earth:
 - elements in the core and mantle undergo radioactive decay
 - this releases energy
 - parts of the core and mantle heat up
 - they rise towards the crust
 - as the heat rises, a convection current is formed
 - convection currents cause plate motion

1.8 There are different plate boundaries, each with characteristic volcano and earthquake hazards

Type of plate boundary	Distribution	Characteristics
conservative	Northern Africa, Northern China	two plates slide past each other
convergent	Andes Mountains, West Pacific	two plates collide
divergent	Western America, mid-Atlantic	two plate boundaries move apart

- Hotspots:
 - plumes are parts of convection cells where heat moves towards the surface
 - plumes bring magma to the surface
 - when they are like columns of heat they form hot spots
 - hot spots are areas under the crust where magma is hotter than surrounding magma
- Causes of contrasting volcanic hazards:



- **volcano type:** composite volcanoes (at convergent boundaries) or shield volcanoes (at divergent boundaries)
- **magma type/lava flows:** andesitic lava (composite) is thicker and travels less than basaltic lava (shield) which travels more
- **explosivity:** composite volcanoes are more explosive than shield volcanoes
- Causes of earthquake hazards (including tsunamis):
 - **shallow/deep:** shallow-focus earthquakes (<70km below surface) are more damaging than deep-focus earthquakes due to the movement being further away (tsunamis are caused by earthquakes at the bottom of the seabed)
 - **magnitude:** seismic waves measured on the Richter Scale (0-9 where each scale is an order of magnitude greater than the previous) where a greater magnitude brings greater hazards

Topic 1

1.9 Tectonic hazards affect people, and are managed, differently at contrasting locations

- Primary and secondary impacts of earthquakes:

	Sendai, Japan (2011 tsunami)	Port-au-Prince, Haiti (2010)
Details	<ul style="list-style-type: none"> - magnitude of 9.0 - focus was 30km deep - epicentre was 70km from coast 	<ul style="list-style-type: none"> - magnitude of 7.0 - focus was 13km deep - epicentre was 25km from Port-au-Prince
primary impacts	<ul style="list-style-type: none"> - 1 million buildings damaged - 120 000 buildings destroyed - waterlogged soil caused buildings to sink into the ground - US\$ 235 billion of damage caused 	<ul style="list-style-type: none"> - 316 000 dead - 300 000 injured - 1 million people made homeless - port, communication links and roads destroyed
secondary impacts	<ul style="list-style-type: none"> - 15 900 dead (<i>caused by tsunami</i>) - 2 600 missing (<i>not earthquake directly</i>) - 6 150 injured - loss of electricity nuclear station cooling systems damaged - homelessness, disrupted schooling, unemployment - took 4 years to rebuild 	<ul style="list-style-type: none"> - cholera outbreak killed 8 000 people - destruction of port made Haiti inaccessible - 20% unemployment - took 5 years to rebuild houses

- Management of earthquake hazards:

	Japan	Pakistan
short-term relief	<p>shelter: people go to safe buildings</p> <p>supplies: distribution by army and helpers from other countries</p>	<p>shelter: limited shelters so people sometimes wait away from buildings</p> <p>supplies: from the UN and countries</p>
long-term planning	<p>emergency services: high-quality training/funding for army and public services in the event of an earthquake</p> <p>public training: 1st September drill</p>	<p>emergency services: limited training and funding so rural areas may not be helped at all while urban areas rely on community work</p>
preparation	<ul style="list-style-type: none"> - early warning systems/communication - building regulations involve shock absorbers, strong foundations, safety - trains automatically stop 	<ul style="list-style-type: none"> - homes built of wood which is less dangerous than concrete collapsing - generally poor infrastructure so limited warning
prediction	Japan Meteorological Agency (JMA) led rapid warning system before 2011 earthquake	Pakistan Meteorological Department standardised in 2005 to monitor seismic activity

2 DEVELOPMENT DYNAMICS

2.1 There are different ways of defining and measuring development

- Defining development:
 - **economic criteria:** assessing net income and GDP
 - **broader social and political measure:** assessing whether a country has the 'modern way of thought' and its political stability

- Measuring development:
 - **Gross Development Product (GDP) per capita:** the total value of goods and services produced by a country in a year, per head
 - **Human Development Index (HDI):** a value between 0 and 1 considering life expectancy, education and GDP per capita
 - **measures of inequality:** percentage of GDP owned by the top and bottom 10% of a population
 - **indices of political corruption:** a value between 0 and 10 showing how corrupt a country is (i.e. bribes, unofficial tax money use)

- Different levels of development:
 - **developing:** e.g. Eritrea, Malawi, Democratic Republic of Congo
 - **emerging:** e.g. India, China, Brazil, Chile
 - **developed:** e.g. UK, USA, France

- Demographic data and development:

Demographic data (2019)	Developing	Emerging	Developed
Example	Malawi	Brazil	UK
Fertility rate (<i>per woman</i>)	4.1 – high	1.7 – lower	1.7 – low
Death rate (<i>per 1000</i>)	6.6 – high	6.5 – lower	9.3 – high due to baby boom after WW2
Population structure	small working population high child and senior population high dependency ratio	small working population medium child and senior population medium dependency ratio	large working population low child and senior population low dependency ratio
Maternal mortality rate (<i>per 1000 births</i>)	4.4 – high	0.6 – lower	0.1 – low
Infant mortality rate (<i>per 1000 live births</i>)	41.3 – high	12.6 – lower	4.8 – low

Topic 2

2.2 There is a global inequality in development and different theories in how it can be reduced

- Causes and consequences of global inequality:

Social

- **education:** lack of qualification leads to low income or unemployment
- **health:** poor healthcare results in high death rates and long term illness

Historical

- **colonialism:** land owned by other countries is managed by exploited workers
- **neo-colonialism:** globalisation can take advantage of low salary employment

Environmental

- **climate:** flooding or droughts threaten crops and food exports
- **topography:** mountainous areas only for pastoral farming, infertile land does not allow subsistence farming

Economic and Political

- **systems of governance:** unstable politics, communist governments etc.
- **international relations:** free trade policies organised by the WTO

- Development theories:

Rostow's modernisation theory	Frank's dependency theory
1. <i>traditional society</i> (subsistence agriculture)	- there are core (developed) and peripheral (developing) regions of the world
2. <i>pre-take off</i> (shift from farming to manufacturing of goods)	- peripheral regions produce and sell raw materials to core regions
3. <i>take off</i> (rapid investment in technology for manufacturing and overseas trade)	- core regions process these materials into higher-value products, gaining wealth
4. <i>drive to maturity</i> (continued trade)	- this continues for a long time
5. <i>high mass consumption</i> (comfort, luxuries)	

2.3 Approaches to development vary in type and success

Top-down strategy	Bottom-up strategy
<p>Richer individuals and larger companies are the driving force behind economic growth.</p> <p>Scale: large Aims: create wealth and distribute to everyone Funding: rich individuals and large companies Technology: manufacturing equipment etc.</p> <p>Example: the Narmada River Scheme in India features several dams which will ensure enough water gets to residents and farmers</p>	<p>Local peripheral communities plan and control small-scale development schemes.</p> <p>Scale: small Aims: directly help people out of poverty Funding: charities and universities Technology: water infrastructure, tractors etc.</p> <p>Example: providing low-tech biogas generators to rural residents in India to produce heat and electricity in the home</p>

- Players in globalisation:
 - **transnational corporations (TNCs):** investing in secondary and tertiary sectors in places like India, where labour is particularly cheaper
 - **governments:** benefit from international relations caused by globalisation and therefore encourage foreign direct investment in their country

- Some countries benefit more from globalisation than others because:
 - richer countries where TNC headquarters are based benefit from employing poorly paid employees from developing/emerging countries to boost profits
 - countries where TNCs operate are poorly paid but this is relatively high compared to the average salary in some countries such as India

Approach to development	Advantages	Disadvantages
NGO-led intermediate technology	<ul style="list-style-type: none"> - prevents poverty - relatively cheap intermediate tech 	<ul style="list-style-type: none"> - not always possible for people to fully utilise the new technology without sufficient education
IGO-funded large infrastructure	<ul style="list-style-type: none"> - ensures clean water and sanitation for more residents - new Indian canals will irrigate 1.8 million hectares of farmland 	<ul style="list-style-type: none"> - new dams cause flooding - only cities can afford electricity - destruction of habitats and historic/religious sites
Investment by TNCs	<ul style="list-style-type: none"> - boosts country's GDP - provides employment - payment is relatively high compared with average salary 	<ul style="list-style-type: none"> - wealthier countries benefit more from paying employees far less - can have a Western influence on a country's culture

Topic 2

2.4 Development of India is influenced by its location and context in the world

- India on the whole:
 - **site:** major rivers for transport of people and goods, lots of farmland
 - **situation:** between Europe, Middle East and Eastern Asia
 - **connectivity:** cities connected with Fibre-Optic cables etc.

- Significance of India:
 - **nationally:**
 - ***environmentally:*** richest biodiversity
 - ***culturally:*** birthplace of four religions and is very diverse
 - ***socially:*** large population and large rich-poor divide
 - ***politically:*** world's largest democracy, key role in United Nations
 - **regionally:** lots of coastal land for marine transport/trade
 - **globally:** world's second largest population and 4th and 5th largest cities (Mumbai and Kolkata)

2.5 Globalisation causes rapid economic change in India

- Economic trends since 1990:
 - **GDP:** from US\$1.2 trillion to \$7.3 trillion (multiplied by 6)
 - **per capita GNI:** from US\$1150 to \$5800 (multiplied by 5)
 - **importance of economic sectors:** primary sectors less important, while more people work in the secondary, tertiary and quaternary sectors
 - **imports:** from US\$24.7 billion to \$508 billion
from *petroleum/clothing* to *crude oil/jewellery/fertiliser*
 - **exports:** from US\$17.2 billion to \$342 billion
from *tea/coffee/fish* to *petroleum/jewellery/steel/clothing*
net: – \$7.5 billion *net: – \$166 billion*
 - **type and origin of FDI:** international banks and TNCs investing in IT, telecoms, call centres and research

- The roles of globalisation and government policy in development:
 - Globalisation
 - **advances in communications and transport technology:** allows India to trade both more easily and more quickly to the rest of the world
 - **TNCs:** create reputable job opportunities for qualified Indians
 - **outsourcing:** companies move services (e.g. call centres) overseas where labour is cheaper so that profits can increase

 - Government policy
 - **receipt of tied or multi-lateral aid:** helps poorest people cope
 - **education investment:** encourages more qualifications available
 - **infrastructure investment:** allows easier transport of people and goods
 - **pro-FDI policy:** following economic liberalisation, individuals can choose which products to make, and reduce import tariffs and taxes

Topic 2

2.6 Rapid economic growth results in significant positive and negative impacts on people and environment in India

- Impacts on rapid economic change:
 - Demographic change
 - **fertility rates:** decreased from 4 to 2.5 (1991 to 2014 – nearly halved)
 - **death rates:** decreased from 10 to 7.4 per 1000 people
- Urbanisation
- **rural-urban migration:** more employment opportunities in cities
- **city growth:** e.g. new homes built for single professionals on outskirts
- Contrasting regions
- **Maharashtra:** contains Mumbai, has a large coastal area for ports, many factories, the home of Bollywood, high GDP
- **Bihar:** mainly rural, many without electricity, low school attendance, low gender equality, low GDP



Impacts of economic development and globalisation on people	Positives	Negatives
Age groups	<ul style="list-style-type: none"> - lower dependency ratio - better education for youth - better healthcare for seniors - more employment for working age 	<ul style="list-style-type: none"> - rural areas do not benefit from employment or education - rural families trapped in cycle of poverty (subsistence farming)
Gender groups	<ul style="list-style-type: none"> - women in urban areas with similar wages to men - boys and girls can go to school 	<ul style="list-style-type: none"> - women in rural areas mainly illiterate - urban job opportunities generally taken by men as priority

- Impacts of economic development and globalisation on the environment:
 - **air, water and land pollution:** from factories, sewage, household waste
 - **greenhouse gases:** urban traffic, coal-fired power stations, livestock
- Scales of impact of economic development and globalisation:
 - **human health:** air pollution shortens life by an average of 3.2 years in India, water pollution leads to diseases such as cholera amongst people
 - **global climate change:** greenhouse gas emissions from transport and machinery contribute to global warming

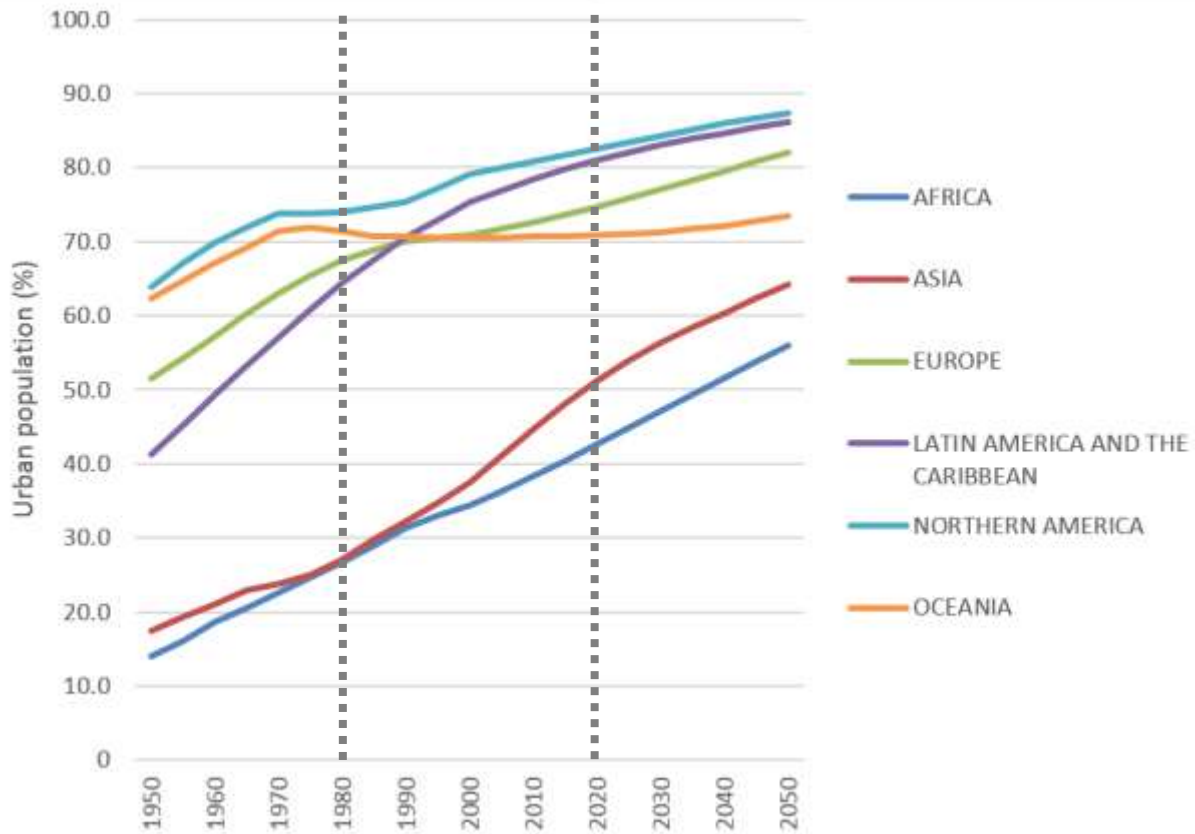
2.7 Rapid economic development has changed the international role of India

- International impact of rapid economic development in India:
 - **regional influence:** EU supports health and education programmes in India, USA buys renewable and nuclear energy from India
 - **role in international organisations:** one of the founders of the UN, hence an important country in a global context
- Costs and benefits of changing international relations and FDI in India's economic development:

Costs	Benefits
- loss of culture by Western influence - rural Indians continue through cycle of poverty - even though TNC employment in India is relatively well-paid in India, this is under 20% of the equivalent pay in the UK	- higher employment - higher GDP - better education - better healthcare - stronger international relations due to FDI

3 CHALLENGES OF AN URBANISING WORLD

3.1 The world is becoming increasingly urbanised



- The global pattern of megacities:
 - **size:** high population density, so relatively small compared to population
 - **location:** mainly in developed and emerging countries
 - **growth rates:** increasing number of megacities in emerging countries
- **Urban primacy:** in many countries some urban areas have disproportionate economic and political influence, e.g.:
 - London is a world city that plays a very large role in global investments
 - Rural areas in India, such as Poovar, may contribute less democratically

3.2 Urbanisation is a result of socio-economic processes and change

Impacts of economic change and migration on cities	Developing/emerging countries	Developed countries
Economic change	new jobs in businesses, construction etc. cause national migration	deindustrialisation means new jobs in tertiary and quaternary sectors
National migration	rural-urban migration causes growth of cities	rural-urban migration causes growth of cities
International migration	those who are skilled often move to more developed countries	highly skilled workers are attracted to the country in search of good pay

- Differences between urban economies in developing, emerging and developed countries:
 - **formal vs informal employment:** informal employment (e.g. cooking food, selling groceries etc.) is not counted towards development data and is more common in developing countries where formal employment is limited and poorly paid
 - **relative importance of economic sectors:** in developing countries primary and informal tertiary employment is more common, whereas in developed countries tertiary and quaternary employment are the focus of the economy
 - **working conditions:** developed countries have stricter guidelines on health and safety, hence working in developed countries is considerably safer

Topic 3

3.3 Cities change over time and this is reflected in changing land use

- How urban population numbers, distribution and spatial growth change over time:
 - **urbanisation:** caused by economic reputation and job opportunities
 - **suburbanisation:** richer people prefer accessible and better suburban housing
 - **de-industrialisation:** decline in manufacturing causes people to leave to find jobs
 - **counter-urbanisation:** people who have earned well leave the city for quieter lives
 - **regeneration:** places like Canary Wharf have reattracted workers who left the docks
- Characteristics of different urban land uses:
 - **commercial:** mostly in CBD, high density, tall, smaller business parks in rural areas
 - **industrial:** inner city, close to transport links, large buildings
 - **residential:** outer city and suburbs, size and garden size increase away from CBD
- Factors influencing land-use type:
 - **accessibility:** industrial buildings usually near motorway or rivers, commercial buildings in/near CBD, residential areas near public transport to reach CBD
 - **availability:** less land available in CBD, so new residential areas are further away
 - **cost:** land costs less away from CBD, so new buildings tend to be near suburbs
 - **planning regulations:** harder to build taller buildings outside of CBD and inner city

3.4 The location and context of the chosen megacity influences its growth, function and structure

- Significance of Mumbai's site, situation and connectivity:

	Site	Situation	Connectivity
National	entertainment industry thrives in Mumbai (Bollywood)	in the West of India, which is typically more developed	has India's second-largest port
Regional	located in Maharashtra, India's richest state	accessibility from mainland India drives urbanisation	can access multiple parts of mainland India over the channel
Global	surrounded mainly by Arabian Sea (exports)	close to other major economies, e.g. China	physically connected to mainland India

- Mumbai's structure:

	Function	Building Age	Building Density	Land-use	Environmental equality
CBD	commercial headquarters	oldest	highest	high-rise commercial	lowest
Inner City	low quality residential	old	high	low quality buildings	low
Suburbs	residential and industrial	young	medium	slums/poor conditions	medium
Urban-rural fringe	residential	young	low	detached, fenced, large	high

Topic 3

3.5 Mumbai is growing rapidly

- Reasons for trends in Mumbai's population growth:
 - **rates of natural increase:** 1.4% as marriage/families form important part of society
 - **national and international migration:** young internal migrants and immigrants from neighbouring countries seeking better employment opportunities in Mumbai
 - **economic investment and growth:** investment in services (tertiary sector) and manufacturing of internationally exported goods (secondary sector)

- Population growth has affected:
 - **pattern of spatial growth:** Mumbai is expanding inwards from the tip of the island as more migrants come to Mumbai to live in its outskirts
 - **changing urban functions:** more services, entertainment and leisure in the CBD due to rapid urbanisation, so manufacturers move out of the CBD for more land
 - **land use:** more high-rise buildings in the CBD, new accommodation in the suburbs

3.6 Rapid population growth creates opportunities and challenges for people living in Mumbai

- Opportunities for people living in Mumbai:
 - **access to resources:** availability of food and clean water supplies for those who are well-off in the inner city of Mumbai, availability of recyclable waste for the recycling industry
 - **employment:** more informal economy employment available on a daily basis, more tertiary employment is becoming available as Mumbai's CBD grows
- Challenges for people living in Mumbai caused by rapid population growth:
 - **housing shortages:** private companies are put off building new homes due to the government's rent limit, lack of money to build, not enough time to build
 - **development of squatter and slum settlements:** e.g. Dharavi, these are on the outskirts of Mumbai where there are no formal living arrangements
 - **inadequate water supply and waste disposal:** communal taps, power cuts, dumping of waste in rivers, e.g. Mithi River, many work in the recycling industry
 - **poor employment conditions:** children collect materials to recycle from the polluted ground and rivers, high air pollution for those working outdoors
 - **limited service provision and traffic congestion:** overcrowded railways lead to 3500 deaths per year, too few buses, high road traffic congestion
- Pattern of residential areas of extreme wealth relative to slums and squatter settlements:
 - less disease
 - lower population density
 - larger homes
- Reasons for differences in quality of life:
 - Mumbai is very expensive compared to other Indian cities
 - low mean salaries
 - limited money for the government to spend on improvements
 - inadequate water supply and waste disposal in many areas

Topic 3

3.7 Quality of life in the chosen megacity can be improved by different strategies for achieving sustainability

- Advantages and disadvantages of city-wide government (top-down) strategies for making Mumbai more sustainable:

Strategy	Advantages	Disadvantages
managing water supply	<ul style="list-style-type: none"> - reduces spread of diseases such as cholera - prevents dehydration 	<ul style="list-style-type: none"> - costly - hard to install pipes where there are squatters etc.
waste disposal	<ul style="list-style-type: none"> - cleaner rivers - higher biodiversity - better appearance of city 	<ul style="list-style-type: none"> - costly - congestion makes it hard for rubbish trucks to pass through Mumbai - nothing to stop people from dumping waste in the rivers
transport	<ul style="list-style-type: none"> - reduces deaths from improper transport (including overcrowded trains) - improvements in transport infrastructure make rural areas more accessible and decreases the rate of urbanisation 	<ul style="list-style-type: none"> - costly - difficult to install new tracks etc. in an overcrowded megacity - limited time per day to repair transport infrastructure
air quality	<ul style="list-style-type: none"> - reduced risk of pollution-related illness - can easily be achieved through using LPG, improving public transport, charging higher road taxes on more polluting vehicles 	<ul style="list-style-type: none"> - hard to police and enforce - will not stop pollution from traffic congestion - will take a long time to have an effect

- Advantages and disadvantages of community and NGO-led (top-down) strategies for making Mumbai more sustainable:

Strategy	Advantages	Disadvantages
city housing	<ul style="list-style-type: none"> - charities can reduce slums - better conditions and less disease 	<ul style="list-style-type: none"> - limited donations to charities - availability of space in slums etc. attracts more migrants
health services	<ul style="list-style-type: none"> - reduced disease - increased awareness of health conditions 	<ul style="list-style-type: none"> - costly to run - limited doctors/paramedics per thousand of the population
education services	<ul style="list-style-type: none"> - younger generations better suited to improve community services - teaching on production of compost for resale - increased awareness of how to avoid diseases (sanitisation) 	<ul style="list-style-type: none"> - very small, local-scale project - generally prioritised for boys over girls

GEOGRAPHY PAPER 1

1 HAZARDOUS EARTH

2 DEVELOPMENT DYNAMICS

3 CHALLENGES OF AN URBANISING WORLD
