NFS

NOTTINGHAM
FREE SCHOOL

Human Geography Knowledge Organiser

Urban Issues & Challenges

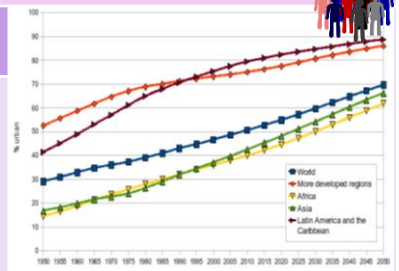
AQA

What is Urbanisation?

This is an increase in the amount of people living in urban areas such as towns or cities. In 2007, the UN announced that for the first time, more than 50 % of the world's population live in urban areas.

Where is Urbanisation happening?

Urbanisation is happening all over the word but in LICs and NEEs rates are much faster than HICs. This is mostly because of the rapid economic growth they are experiencing.



Causes of Urbanisation

Rural - urban migration (1) — **The movement of people from rural to urban areas.**

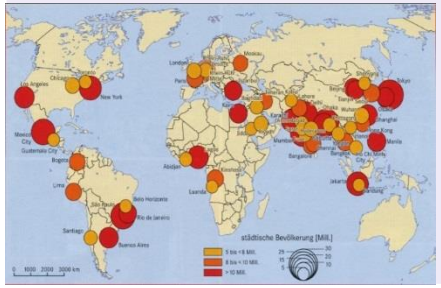
Push	Pull
• Natural disasters • War and Conflict • Mechanisation • Drought • Lack of employment	• More Jobs • Better education & healthcare • Increased quality of life. • Following family members.

Natural Increase (2) — **When the birth rate exceeds the death rate.**

Increase in birth rate (BR)	Lower death rate (DR)
• High percentage of population are child-bearing age which leads to high fertility rate. • Lack of contraception or education about family planning.	• Higher life expectancy due to better living conditions and diet. • Improved medical facilities helps lower infant mortality rate.

Types of Cities

Megacity — An urban area with over **10 million people** living there.



More than two thirds of current megacities are located in either NEEs (Brazil) and LICs (Nigeria). The amount of megacities are predicted to increase from 28 to 41 by 2030.

Sustainable Urban Living

Sustainable urban living means being able to live in cities in ways that do not pollute the environment and using resources in ways that ensure future generations also can use then.

Water Conservation

This is about reducing the amount of water used.

- Collecting rainwater for gardens and flushing toilets.
- Installing water meters and toilets that flush less water.
- Educating people on using less water.

Energy Conservation

Using less fossil fuels can reduce the rate of climate change.

- Promoting renewable energy sources.
- Making homes more energy efficient.
- Encouraging people to use energy.

Creating Green Space

Creating green spaces in urban areas can improve places for people who want to live there.

- Provide natural cooler areas for people to relax in.
- Encourages people to exercise.
- Reduces the risk of flooding from surface runoff.

Waste Recycling

More recycling means fewer resources are used. Less waste reduces the amount that eventually goes to landfill.

- Collection of household waste.
- More local recycling facilities.
- Greater awareness of the benefits in recycling.

Sustainable Urban Living Examples: BedZed, Curitiba, Vaxjo, Vegas

Sustainable Strategies

- Rainwater butts retain water for use later on.
- The use of sustainable energy such as solar and wind.
- Polygeneration plants
- Triple Glazing
- Banned watering in the middle of the day (hottest part)
- BRT travel systems


Integrated Transport System

This is the linking of different forms of public and private transport within a city and the surrounding area.

Brownfield Site

Brownfield sites is an area of land or premises that has been previously used, but has subsequently become vacant, derelict or contaminated.

Traffic Management

Urban areas are busy places with many people travelling by different modes of transport. This has caused urban areas to experience different traffic congestion that can lead to various problems.

Environmental problems

- Traffic increases air pollution which releases greenhouse gases that is leading to climate change.

Economic problems

- Congestion can make people late for work and business deliveries take longer. This can cause companies to loose money.

Social Problems

- There is a greater risk of accidents and congestion is a cause of frustration. Traffic can also lead to health issues for pedestrians.

Congestion Solutions

- Widen roads to allow more traffic to flow easily.
- Build ring roads and bypasses to keep through traffic out of city centres.
- Introduce park and ride schemes to reduce car use.
- Encourage car-sharing schemes in work places.
- Have public transport, cycle lanes & cycle hire schemes.
- Having congestion charges discourages drivers from entering the busy city centres.


Traffic Management Example: Nottingham

The city aims to develop it's integrated transport system to encourage more people to use the public transport. The city has also invested in cycle routes and hiring schemes.

Greenbelt Area

This is a zone of land surrounding a city where new building is strictly controlled to try to prevent cities growing too much and too fast.

Urban Regeneration

The investment in the revival of old, urban areas by either improving what is there or clearing it away and rebuilding.

Urban Change in a Major UK City: London Case Study

Location and Background

London is a city in the south-east of the UK. It has a population of 10 million people. The city was founded by the Romans and grew dramatically during the industrial revolution. Docks and ports traded around the world.

City's Importance

- The city enjoys a large sporting heritage with famous athletes and football clubs.
- London is famous for its wide range of leisure and cultural attractions.
- London is the centre of UK trade and a hub of financial trade
- London attracts graduates from all over the UK and the world to work in it s many expanding businesses. UK's wealthiest city
- Major UK transport hub – airports etc.

Migration to London

During the industrial revolution, the population dramatically increased with people migrating from nearby rural communities.

With attraction of making money and getting a job people came from all over the world. Lots of people from India, Nigeria, Jamaica. One of the most multicultural places on the planet.

Recent migration from Eastern Europe. Due to free movement from the EU.

City's Opportunities

Social: Cultural mix, lots of recreation facilities and tourist attractions. Lots of bars and restaurants and theatres.

Economic: Major world financial centre, highly skilled workforce. Likely to be employed in managerial/professional roles, which earn more money.

Environmental: Urban greening –increase the % of green spaces in a city. Rooftop gardens - better quality of life, reduce flooding, wildlife habitats. Lots of parks for walking and a better environment.

City Challenges

Social: Urban deprivation, inequalities in housing, education, health, employment. House prices too high, unequal incomes, children do not get equal exam grades, people in wealthy areas live longer than those in poor areas. Different cultures do not always mix.

Economic: Employment rate is above national average 10% - major issue. Lack of integration between cultures.

Environmental: Urban sprawl has led to increased pressure and decline of greenfield sites around the city. Dereliction – lots of empty brownfield sites. Waste disposal and air pollution – lots of traffic. Waste – lots of waste, incineration and landfill, developing more recycling.

London Olympic Regeneration Projects

Why was it needed:

Socially deprived area of Newham
Lea Valley was a former industrial area now in decline
Lack of school spaces
Idea to improve the area through regeneration – reuse the land, new homes, improve infrastructure and buildings

Success

Socially – Athletes village used for new housing estate/new school/unemployment fell
Economically: new tube station/improved infrastructure/9bn of investment
Environmentally- new parkland, improve water quality River Lea

Problems

Socially – new rents too high, people moved out of their homes to make the new housing
Economically – 5bn over budget – could be spent on deprivation
Environmentally – much wildlife relocated, 3.3 mill tonnes of CO2

Urban Change in a Major NEE City: RIO DE JANEIRO Case Study

Location and Background

Rio is a coastal city situated in the South East region of Brazil within the continent of South America. It is the second most populated city in the country (6.5 million) after Sao Paulo.

City's Importance

- Has the second largest GDP in Brazil It is headquarters to many of Brazil's main companies, particularly with Oil and Gas.
- Sugar Loaf mountain is one of the seven wonders of the world.
- One of the most visited places in the Southern Hemisphere.
- Hosted the 2014 World Cup and 2016 Summer Olympics.

Migration to Rio De Janeiro

The city began when Portuguese settlers with slaves arrived in 1502. Since then, Rio has become home to various ethnic groups.

However, more recently, millions of people have migrated from rural areas that have suffered from drought, lack of services and unemployment to Rio. People do this to search for a better quality of life.

This expanding population has resulted in the rapid urbanisation of Rio de Janeiro.

City's Opportunities

Social: Standards of living are gradually improving. The Rio Carnival is an important cultural event for traditional dancing and music. Chance to go to school/get medicines from doctors

Economic: Rio has one of the highest incomes per person in the country. The city has various types of employment including oil, retail and manufacturing.

Environmental: The hosting of the major sporting events encouraged more investment in sewage works and public transport systems.

City Challenges

Social: There is a severe shortage of housing, schools and healthcare centres available. Large scale social inequality, is creating tensions between the rich and poor.

Economic: The rise of informal jobs with low pay and no tax contributions. There is high employment in shanty towns called Favelas

Environmental: Shanty towns called Favelas are established around the city, typically on unfavourable land, such as hills.

Self-help schemes - Rocinha, Bairro Project

- The authorities have provided basic materials to improve peoples homes with safe electricity and sewage pipes.
- Government has demolished houses and created new estates.
- Community policing has been established, along with a tougher stance on gangs with military backed police.
- Greater investment in new road and rail network to reduce pollution and increase connections between rich and poor areas.

Nigeria's Context:

Nigeria is a Newly Emerging Economy (NEE) county which is experiencing rapid economic development which is leading to significant social, environmental and cultural change.

Nigeria's Location:

- It is in West Africa.
- 3 times larger than the UK
- 184 million people live there.
- By 2050 it will have the fourth biggest population in the world

Nigeria – A Newly Emerging Economy

Social and cultural context

Formed in the 20th Century under British rule

Gained independence in 1960

500 ethnic groups which leads to lots of tension

Three main religions – Christianity, Islam and traditional African

Recent rapid urbanisation has meant lots of people moving in towns and cities

Environmental context

5-12 degrees north of the Equator in tropical Africa

As you move further north the country becomes drier

In the south it is a hot and humid climate with tropical rainforest

Savannah grassland in the north

Much natural vegetation has been replaced by agriculture

Political context

Civil war from 1967-1970 followed by military dictatorships

Stable democracy in 1998 with regular elections

Conflict with Boko Haram in the north – an Islamic extremist organisation

Changing industrial structure

The largest economy in Africa

Economy is growing very rapidly but most people are still poor – living on less than US$1.25 a day

A growing inequality – a few rich people some well-paying jobs in cities

Most wealth in the south around Lagos with greater poverty in the north and south-east

Moving form a mainly agricultural economy into an industrial economy

Half of GDP comes from manufacturing and service industries

- Telecommunications – 115 million mobile phone users
- Retail and wholesale – small business growing to become part of the formal sector
- Film industry in Nigeria (Nollywood) – third biggest in the world

Nigeria – A Newly Emerging Economy

How can manufacturing industry stimulate economic development?

- New manufacturing industries can increase the pace of economic development in Nigeria in several ways:
- Improving the standard of living by products of industries such as cement
- Producing manufactured goods in the country reduces the need to import goods and can be cheaper
- New industries create jobs, give people an income and contribute to the country's wealth through taxes
- The expansion of Nigerian companies into other countries increases Nigeria's influence in the region

Trans-National Corporations (TNCs)

In Nigeria TNCs pay a large role in industrial development. When TNCs operate in a country they build factories which provide jobs for the local people and the government can receive taxes from this. The TNCs spend money on developing the local infrastructure (roads & services) which make the lives of the local people better.

Advantages of TNCs to the host country	Disadvantages of TNCs to the host country
Bring new investment into the country's economy	Take profits out of the country to pay shareholders or to invest elsewhere
Provide jobs, often at higher levels than average in the local economy	Wage levels in LICs and NEEs are usually lower than HICs
Bring expertise and new skills that the country does not have	Can cause environmental damage and deplete natural resources
Have international links that bring access to world markets	TNCs can withdraw their investment from a country if they wish
Provide new technology that helps economic development	They are powerful organisation can exert political influence over the government in a country

Nigeria's changing political and trading relationships in the wider world

- Relationship with Britain – Strong trading relationship from colonial times with palm oil and slavery. Now Nigeria exports lots of natural commodities to Britain in exchange for imported manufactured goods
- Nigeria still trades with the UK but now does lots of business with the USA, China, India and the EU. Since independence, oil has replaced other natural commodities as Nigeria's main export. But the country still manufactured goods like machinery, chemicals and transport equipment
- Relationship with China – Main export partner for manufactured goods. China is investing in Nigeria to improve its infrastructure. China's economy and people need lots of resources so its economy can grow and the quality of life continue to improve

- TNCs such as Shell which drills for oil has had a large environmental impact on Nigeria
- Oil spills from leaking pipelines damage farmland so crops no longer grow
- Gas flares are used to burn off gas from the oil. Apart from being wasteful, the fumes affect people's health and contribute to global warming
- Oil heated by the sun becomes highly flammable and can burn out of control
- Oil pollution, which occurs offshore from tankers, kills fish in the sea

Nigeria – A Newly Emerging Economy

Aid in Nigeria

AID is defined as helping a person or a country. There are many different types of AID.

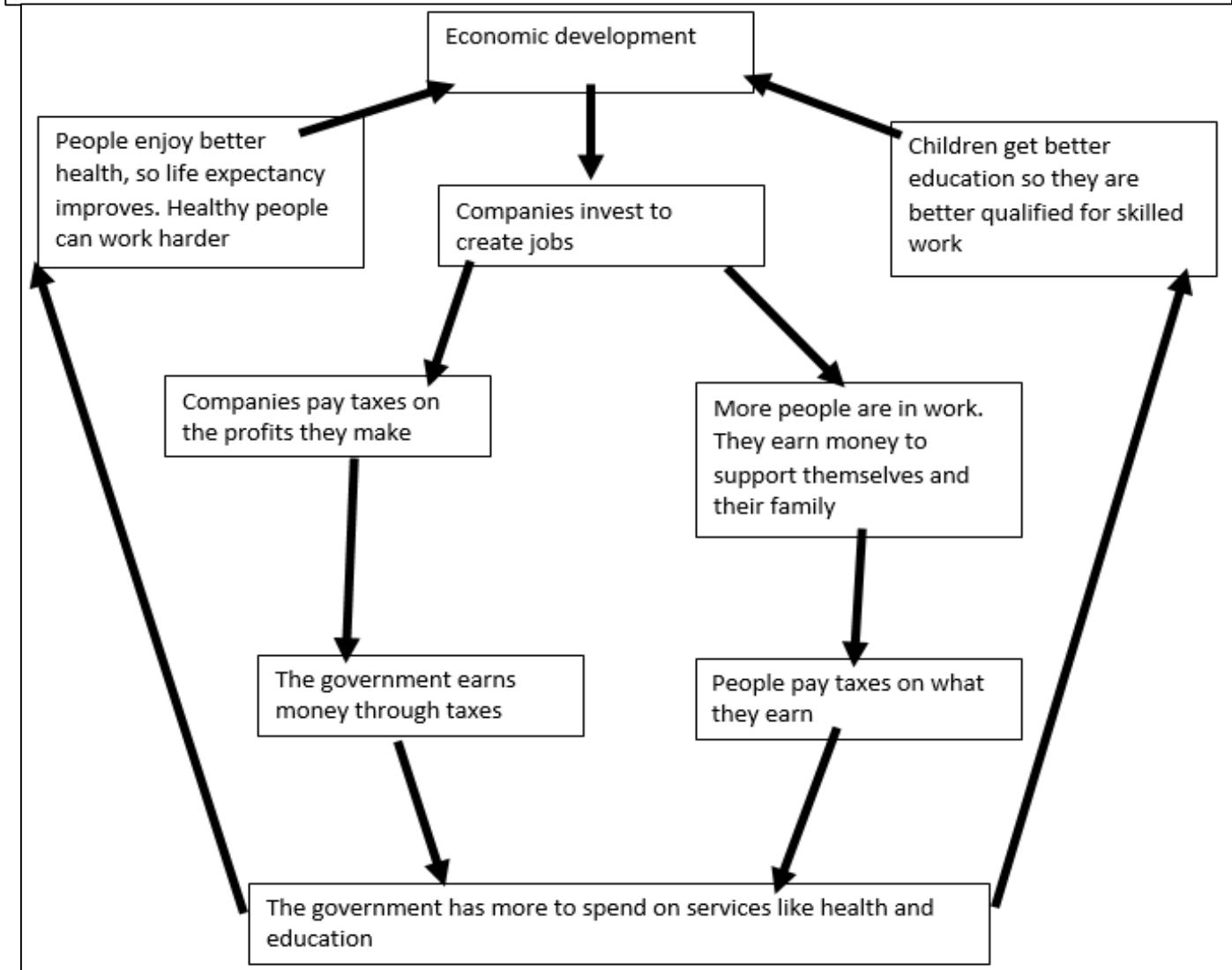
Most AID in Nigeria is international aid.

Official Development Assistance	Given by governments and paid for by taxes. Fr this reason, it is sometimes unpopular with taxpayers in those countries
Multilateral aid	Given by countries through international organisation, like the World Bank or International Monetary Fund (IMF)
Bilateral aid	Given directly by one country to another. Sometimes it is tied aid, with conditions attached. For example, the recipient may be required to buy goods from the donor country with the aid
Voluntary aid	Given by individuals or companies and distributed through charities and non-governmental organisations (NGOs) like OXFAM
Short-term emergency aid	To cope with immediate problems caused by disasters like earthquakes and wars
Long-term development assistance	Helps people to improve their lives through education, healthcare or agricultural development

Aid has been very useful in Nigeria – from 2009-2013, 60 million mosquito nets were distributed to households across Nigeria as part of an internal aid project funded by the World bank, IMF and USA government.

The effects of economic development on quality of life for the population

Quality of life can be measured in a number of ways. The Human Development Index (HDI) combines life expectancy, years of schooling and Gross National Income (GNI)



Why is Rio important?

Where is Rio?

Rio is a large coastal city located on the South-East coast of Brazil

Rio is important nationally because…..

- Second largest city in Brazil
- Main tourist destination – Christ the Redeemer and the Carnival
- Population of approximately 6 million people
- Second largest city of industrial production as well as its financial and service industries (chemicals, pertroleum, processed foods, pharmaceuticals, textiles, clothing and furniture).

Rio is important internationally because…

- Host the 2016 Olympics and Para Olympics
- Major oil reserves and industrial powerhouse
- Largest economy in Latin America

Rio, Brazil – A city in a NEE

Why is Rio growing?

Rural-to-urban migration – people moving from the countryside to the city

Natural increase – people having more babies. As more people live in towns and cities there will be an increase in births

Push Factors	Pull Factors
Poor healthcare	Good healthcare
No jobs	Jobs
Poor sanitation	Good sanitation
Drought	Clean water
War	Access to food
No food	No crime
Poor housing	Protection from persecution

What opportunities has urban growth created? – These are good things that cities provide for people who move there:

Social opportunities	Economic opportunities
Sick children can get treated.	Easier to get permits for travel and business
Anti-biotics are available in the hospitals for babies	Lots of people in the city to sell goods to
Children can go to school and get qualifications for the future	Consistent electricity supply so machines always run making it easier to make money
Water is cleaner in the city	New industrial areas (Santa Cruz) – this has attracted lots businesses and industry such as sawmills
Satellite TV and good electricity supply	New businesses like sawmills cause new businesses to set up such as paper shop and a machine repair business
Access to good schools and university	

Challenges/problems

Rio, Brazil – A city in a NEE

Effects of economic growth

Issue	Challenges	Solutions
Health care	Only 55% of the city had a local family health clinic Services for pregnant women are very poor	Many favelas are inaccessible on steep slopes and crowded – doctors took health kits to each house and tested for 20 diseases and treated them Infant mortality decreased
Education	Only half of children above the age of 14 go to school School enrolment is low because A shortage of nearby schools A lack of money and the need to work A shortage of teachers Low pay and poor training for teachers	Encourage local people to volunteer to help in school Give grants to poor kids Make money available for free lessons in volleyball & squash in the favelas
Water supply	12% of people in Rio do not have access to running water 37% of water is lost through leaky pipes	7 new treatment plants built between 1998 and 2014 Over 300km of pipes were laid By 2014 95% of population had a mains water supply
Energy	The whole city suffers frequent blackouts Made worse during the world cup and the Olympics Many people in the poorest parts get their electricity illegally – this is risky and unsafe	Installing 60km of new power lines Building a new nuclear generator Developing the new Simplicio hydro-electric complex which will increase Rio's supply of electricity by 30%

- Rio provides 6% of all employment in Brazil
- Lots of jobs in service industries – finance, tourism and retail
- Lots of jobs in manufacturing – steel, oil with associated import & export

Unemployment

- Big recession in 2015 – increased unemployment and with high taxes led to riots
- 20% unemployment in the favelas
- Lots people in the informal economy – not regulated & taxed but low paid

Crime

- Pacifying Police Units (UPPs) were established to reclaim favelas from drug dealers
- Police have taken control of crime-dominated Complexo do Alemao and 30 smaller favelas

Favela-Bairro Project – Helps the poor in Rio's Favelas

Urban planning scheme can help reduce the impact of the problems/challenges and improve the quality of life

The project ran from 1995-2008 and involved 253,000

Social improvements: day care centres for pupils, adult education classes, services to help with drug addiction

Economic improvements: people getting legal ownership of their properties and running training schemes to help people find better jobs

ENV improvements: wooden buildings being replaced with brick buildings, streets have been widened and paved, and there are now rubbish collection services

Environmental problems with urban growth

Air pollution

Problems

- Heavy traffic and congestion on roads causes a build-up of exhaust fumes
- Steep mountains – roads can only be built on coastal lowlands
- Tunnels are need to connect different areas of the city
- 40% increase in the number of cars

Solutions

- Expansion of the metro system
- New toll roads to reduce congestion
- Make coast roads one-way during rush hours to improve traffic flow

Water pollution

Problems

- Ends up on the beaches – could put of tourists and the country loses vital income
- 55 rivers heavily polluted
- 200 tonnes of raw sewage enters the bay every day

Solutions

- 12 new sewage works have been built since 2004 at a cost of US$ 68 million
- Ships fined for discharging fuel into the bay illegally
- 5km of new sewage pipes have been installed around badly polluted areas

Waste pollution

Problems

- Biggest problems in the favelas
- Built on steep slopes with few proper roads – difficult for waster collection trucks to access
- Dumped in the streets and water sources – causes diseases like cholera and encourages rats

Solutions

- Power plant set up to make methane from rotting rubbish – 30 tonnes of rubbish a day makes enough electricity for 1000 homes

Rio, Brazil – A city in a NEE

How can we improve squatter settlements?

Self-help occurs where local authorities support the residents of the squatter settlements in improving their homes. This involves the improvements outlined above, but it is more organised. There is cooperation between residents to work together and remove rubbish. There is also cooperation from local authority, which offers grants, cheap loans and possibly materials to encourage improvements to take place. Standpipes are likely to be provided for access to water supply and sanitation. Collectively, the residents, with help from the local authority, may begin to build health centres and schools. Legal ownership of the land is granted to encourage improvements to take place, marking an acceptance of the housing.

Site and service schemes are a more formal way of helping squatter settlements residents. Land is identified for the scheme. The infrastructure is laid in advance of settlement, so that water, sanitation and electricity are properly supplied in individually marked plots. People then build their homes using whatever materials they can afford at the time. They can add to and improve the structure if finances allow later.

Characteristics and problems of squatter settlements

- settlements are unplanned so the houses do not have basic infrastructure such as sanitation, piped water, electricity and road access
- houses are made of any material available nearby - corrugated iron, pieces of board - haphazardly assembled to provide a basic shelter
- houses have a simple layout that may have a living area separate from a sleeping area
- parents and large families inhabit a small shack which is often overcrowded and the squatter settlements are very overcrowded
- there are no toilets, water must be collected from a nearby source - often at a cost - and carried back
- rubbish is not collected and the area quickly degenerates into a place of filth and disease
- the inhabitants tend to create poorly paid jobs where the income is unreliable or they work in the less well-paid jobs part of the formal sector
- quality of life is poor; the housing and environment are largely responsible for this
- the residents have very little money so cannot improve their homes or environments
- crime is a problem, children often do not go to school, the family lives on top of each other, there is no privacy, disease is rife and life is one of trying to survive from one day

The Changing Economic World

What is development?

Development is an improvement in living standards through better use of resources.

Economic	This is progress in economic growth through levels of industrialisation and use of technology.
Social	This is an improvement in people's standard of living. For example, clean water and electricity.
Environmental	This involves advances in the management and protection of the environment.

Measuring development

These are used to compare and understand a country's level of development.

Economic indictors examples

Employment type	The proportion of the population working in primary, secondary, tertiary and quaternary industries.
Gross Domestic Product per capita	This is the total value of goods and services produced in a country per person, per year.
Gross National Income per capita	An average of gross national income per person, per year in US dollars.

Social indicators examples

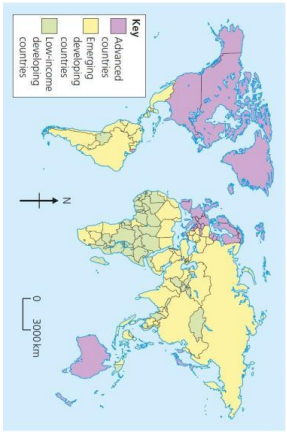
Infant mortality	The number of children who die before reaching 1 per 1000 babies born.
Literacy rate	The percentage of population over the age of 15 who can read and write.
Life expectancy	The average lifespan of someone born in that country.

Mixed indicators

Human Development Index (HDI)	A number that uses life expectancy, education level and income per person.

Variations in the level of development

LICs	Poorest countries in the world. GNI per capita is low and most citizens have a low standard of living.
NEEs	These countries are getting richer as their economy is progressing from the primary industry to the secondary industry. Greater exports leads to better wages.
HICs	These countries are wealthy with a high GNI per capita and standards of living. These countries can spend money on services.



Causes of uneven development

Development is globally uneven with most HICs located in Europe, North America and Oceania. Most NEEs are in Asia and South America, whilst most LICs are in Africa. Remember, development can also vary within countries too.

Physical factors affecting uneven development

Natural Resources

- **Fuel sources** such as oil.
- Minerals and metals for fuel.
- **Availability for timber**.
- Access to **safe water**.

Natural Hazards

- Risk of tectonic hazards.
- Benefits from **volcanic material** and **floodwater.**
- Frequent hazards **undermines redevelopment**.

Climate

- **Reliability** of rainfall to benefit farming.
- **Extreme climates** limit industry and affects health.
- Climate can **attract tourists.**

Location/Terrain

- **Landlocked countries** may find trade difficulties.
- Mountainous terrain makes farming difficult.
- **Scenery attracts tourists**.

Human factors affecting uneven development

Aid

- Aid can help some countries develop **key projects** for infrastructure faster.
- **Aid** can improve services such as schools, hospitals and roads.
- Too much **reliance on aid** might stop other trade links becoming established.

Trade

- Countries that export more than they import have a **trade surplus**. This can improve the national economy.
- Having **good trade relationships**.
- **Trading goods** and services is more profitable than raw materials.

Education

- Education creates a **skilled workforce** meaning more goods and services are produced.
- **Educated people earn more money**, meaning they also pay more taxes. This money can help develop the country in the future.

Health

- **Lack of clean water** and poor healthcare means a large number of people suffer from **diseases**.
- People who are ill cannot work so there is little contribution to the economy.
- More money on healthcare means less spent on development.

Politics

- **Corruption** in local and national governments.
- The **stability of the government** can effect the country's ability to trade.
- Ability of the country to **invest into services and infrastructure**.

History

- **Colonialism** has helped Europe develop, but slowed down development in many other countries.
- Countries that went through industrialisation a while ago, have now develop further.

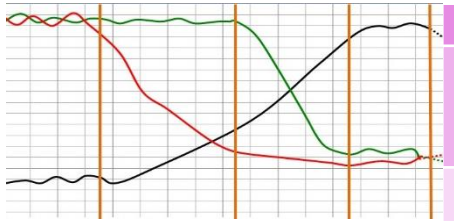
Consequences of Uneven Development

Levels of development are different in different countries. This uneven development has consequences for countries, especially in wealth, health and migration.

Wealth	People in more developed countries have higher incomes than less developed countries.
Health	Better healthcare means that people in more developed countries live longer than those in less developed countries.
Migration	If nearby countries have higher levels of development or are secure, people will move to seek better opportunities and standard of living.

The Demographic Transition Model

The demographic transition model (DTM) shows population change over time. It studies how birth rate and death rate affect the total population of a country.



STAGE 1	STAGE 2	STAGE 3	STAGE 4	STAGE 5
High DR High BR Steady	*BR Low Declining DR Very High*	*Rapidly falling DR Low BR High*	*Low DR Low BR Zero*	*Slowly Falling DR Low BR Negative*
e.g. Tribes	e.g. Kenya	e.g. India	e.g. UK	e.g. Japan

Reducing the Global Development Gap

Microfinance Loans
This involves people in LICs receiving smalls loans from traditional banks.
+ Loans enable people to begin their own businesses
- Its not clear they can reduce poverty at a large scale.

Foreign-direct investment
This is when one country buys property or infrastructure in another country.
+ Leads to better access to finance, technology & expertise.
- Investment can come with strings attached that country's will need to comply with.

Aid
This is given by one country to another as money or resources.
+ Improve literacy rates, building dams, improving agriculture.
- Can be wasted by corrupt governments or they can become too reliant on aid.

Debt Relief
This is when a country's debt is cancelled or interest rates are lowered.
+ Means more money can be spent on development.
- Locals might not always get a say. Some aid can be tied under condition from donor country.

Fair trade
This is a movement where farmers get a fair price for the goods produced.
+ Paid fairly so they can develop schools & health centres.
-Only a tiny proportion of the extra money reaches producers.

Technology
Includes tools, machines and affordable equipment that improve quality of life.
+ Renewable energy is less expensive and polluting.
- Requires initial investment and skills in operating technology

Case Study: Economic Development in Nigeria

Location & Importance

Nigeria is a NEE in West Africa. Nigeria is just north of the Equator and experiences a range of environments. Nigeria is the most populous and economically powerful country in Africa. Economic growth has been base on oil exports.

Influences upon Nigeria's development

Political
Suffered **instability** with a **civil war** between 1967-1970.
From 1999, the country became **stable** with **free and fair elections**.
Stability has **encouraged global investment** from China and USA.

Social
Nigeria is a **multi-cultural, multi-faith society**.
Although mostly a strength, diversity has caused **regional conflicts** from groups such as the Boko Haram terrorists.

Cultural
Nigeria's **diversity** has created rich and varied **artistic culture**.
The country has **a rich music, literacy and film industry** (i.e. Nollywood).
A successful national football side.

Industrial Structures
Once mainly based on agriculture, **50% of its economy is now manufacturing and services**.
A thriving manufacturing industry is **increasing foreign investment** and **employment opportunities**.

The role of TNCs
TNCs such as **Shell** have played an important role in its economy.
+ Investment has **increased employment and income**.
- **Profits move to HICs**.
- Many **oil spills** have **damaged fragile environments**.

Changing Relationships
Nigeria plays a leading role with the **African Union** and **UN**.
Growing links with **China** with huge **investment in infrastructure**.
Main import includes petrol from the EU, cars from Brazil and phones from China.

Environmental Impacts
The 2008/09 **oil spills devastated swamps** and its **ecosystems.**
Industry has caused **toxic chemicals** to be discharged in open sewers - **risking human health**.
80% of forest have been **cut down**.
This also increases **CO^2 emissions**.

Aid & Debt relief
+ Receives **$5billion** per year in aid.
+ **Aid groups** (ActionAid) have improved health centres, provided anti-mosquito nets and helped to protect people against AIDS/HIV.
- Some aid fails to reach the people who need it due to **corruption**.

Effects of Economic Development

Life expectancy has increased from 46 to 53 years. 64% have access to safe water. Typical schooling years has increased from 7 to 9.

Case Study: Economic Change in the UK

UK in the Wider World

The UK has one of the largest economies in the world.
The UK has huge political, economic and cultural influences.
The UK is highly regarded for its fairness and tolerance.
The UK has global transport links i.e. Heathrow and the Eurostar.

Causes of Economic Change

De-industrialisation and the **decline** of the UK's industrial base.
Globalisation has meant many industries have moved overseas, where labour costs are lower.
Government investing in supporting vital businesses.

Towards Post-Industrial

The **quaternary industry** has **increased**, whilst **secondary** has **decreased**.
Numbers in **primary** and **tertiary industry** has **stayed the steady**.
Big increase in **professional** and **technical jobs**.

Cambridge Science Park

A major **quaternary industry** on the outskirts.
Good transport access to the **A14** and **M11**.
A good **location for sourcing highly educated workers** from **Cambridge University**.
Staff benefit from **attractive working conditions**.
Attracts **clusters** of related **high-tech businesses**.

Change to a Rural Landscape - South Cambridgeshire

Cambridge is one of the fastest growing cities in the UK. Current population is 155,000 but will increase to 175,000 by 2026.

Social
Rising house prices have caused tensions in villages.
Villages are **unpopulated** during the day causing **loss of identity**.
Resentment towards **poor migrant communities**.

Economic
Lack of affordable housing for local first time buyers.
Sales of farmland **has increased rural unemployment**.
Influx of poor migrants puts **pressures** on local services.

Improvements to Transport
A **£15 billion 'Road Improvement Strategy'**. This will involve 10 new roads and 1,600 extra lanes.
£50 billion HS2 railway to improve connections between key UK cities.
£18 billion on Heathrow's controversial **third runway**.
UK has many **large ports** for importing and exporting goods.

UK North/South Divide
- Wages are **lower** in the North.
- Health is **better** in the South.
- Education is **worse** in the North.
+ The government is aiming to support a **Northern Powerhouse** project to resolve regional differences.
+ More **devolving of powers** to disadvantaged regions.

Changing Economic World – Measuring Development

What is development?
Development is the progress in economic growth, use of technology and improving welfare that a country has made.
When a country develops it gets better for the people and their quality of life improves (their wealth, health and safety).

Development indicators – we use these (see table below) to measure how successful a country has been.

Issues:
Individual indicators can be misleading if they are used on their own because as a country develops some aspects develop before others. So it might seem that a country is more developed than it is.
Using more than one measure of development (i.e. wealth and something else), or using the human development index avoids these problems

Name	What it is	A measure of…..	As a country develops it gets….
Gross National Income (GNI)	The total value of goods and services produced by a country in a year, including income from oversea. It often given in US$.	Wealth	Higher
GNI per head	The GNI divided by the population of a country. It's also often given in US$ and is sometimes known called GNI per capita	Wealth	Higher
Gross Domestic Product (GDP)	The total value of goods and services a country produces in a year. It's often given in US$	Wealth	Higher
Birth Rate	The number of live babies born per thousand of the population per year	Women's rights	Lower
Death Rate	The number of deaths per thousand of the population per year	Health	Lower
Infant Mortality rate	The number of babies who die under 1 year old, per thousand babies born	Health	Lower
People per doctor	The average number of people for each doctor	Health	Lower
Literacy rate	The % of adults who can read and write	Education	Higher
Access to safe water	The % of people who can get clean drinking water	Health	Higher
Life expectancy	The average age a person can expect to live to	Health	Higher
Human Development Index (HDI)	This is a number that's calculated using life expectancy, literacy rate, education level (e.g. average number of years of schooling) and income per head. Every country had an HDI value between 0 (least developed) and 1 (most developed)	Lots of things	Higher

Using wealth on its own can cause problems:
GNI per head can be very misleading when used on its own because it is an average – variations within the country do not show up
It can hide big variations between regions in the country, and between classes – the rich in big cities may have much higher measures of development than the poor in rural areas.
For example if you looked at the GNI per head of Russia it might seem quite developed (because it is high enough to be a HIC), but in reality there are a small number of extremely wealthy people and a lot of very poor people

Countries are classified in different ways:
HICs – (Higher income countries) – the wealthiest countries in the world where GNI per head is high and most citizens have a high quality of life, e.g. UK, USA
NEEs – (Newly Emerging Economies) are rapidly getting richer as their economy is moving from being based on primary industry (e.g. agriculture) to secondary industry (manufacturing). Quality of life for many citizens is improving, e.g. China, Brazil, Nigeria
LICs – (Lower Income Countries) – are the poorest countries in the world where the GNI per head is very low and most citizens have a low quality of life, e.g. Somalia, Uganda, Nepal

Changing Economic World – Measuring Development

Development is linked to the Demographic Transition Model (DTM)

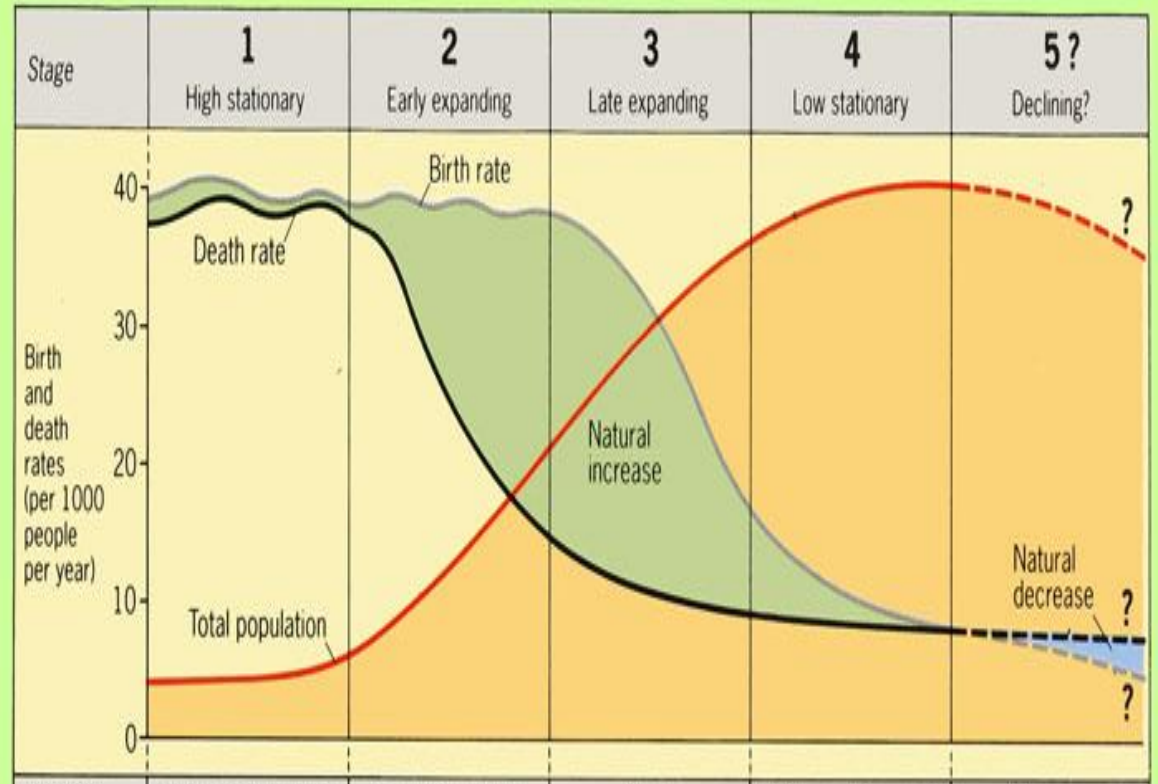
- The DTM shows how changing birth rates and death rates affect population growth
- When the birth rate is higher than the death rate, more people are being born than are dying so the population grows – this is called natural increase. Its called natural decrease when the death's rate's higher than the birth rate
- Birth rates and death rates differ from country to country. This means that population growth is faster in some countries than others, especially in less developed countries

Stage 1 – least developed stage – birth rate is high as there's no use of contraception. People have lots of children because poor healthcare means that many infants die. The death rate is also high due to poor healthcare or famine, and life expectancy is low (few people reach old age). Income is low.

Stage 2 – not very developed – many LICs in stage 2. The economy is based on agriculture so people have lots of children to work on farms, which means that birth rates are high. Death rates fall due to improved healthcare and diet so life expectancy increases.

Stage 3 – more developed – most NEE are at stage 3. The birth rate falls rapidly as women have a more equal place in society and better education. The use of contraception increases and more women work instead of having children. The economy also changes to manufacturing, so income increases and fewer children are need to work on farms> Healthcare improves so life expectancy increases.

Stage 4 & 5 – most developed = most HICs are at one of these stages. Birth rates are low because people want possessions and a high quality of life, and may have dependent elderly relatives, so there is loess money available for having children. Healthcare is good, so the death rate is low and life expectancy is high. Income is high



Stage	1 High stationary	2 Early expanding	3 Late expanding	4 Low stationary	5? Declining?
Examples	A few remote groups	Egypt, Kenya, India	Brazil	USA, Japan France, UK	Germany
Birth rate	High	High	Falling	Low	Very low
Death rate	High	Falls rapidly	Falls more slowly	Low	Low
Natural increase	Stable or slow increase	Very rapid increase	Increase slows down	Stable or slow increase	Slow decrease
Reasons for changes in birth rate	Many children needed for farming. Many children die at an early age. Religious/social encouragement. No family planning.		Improved medical care and diet. Fewer children needed.	Family planning. Good health. Improving status of women. Later marriages.	
Reasons for changes in death rate	Disease, famine. Poor medical knowledge so many children die.	Improvements in medical care, water supply and sanitation. Fewer children die.		Good health care. Reliable food supply.	

<table>
<tr><td>Topic: Development Gap</td><td>Context: How the growth of tourism in an Lower Income Country (LIC) helps to close the development gap</td></tr>
<tr><td colspan="2">Country: Kenya, East Africa</td></tr>
<tr><td colspan="2">Background:
• Kenya is a LIC in East Africa.
• It attracts tourists because of its tribal culture, safari wildlife, warm climate and beautiful unspoilt scenery.
• Kenya’s government is trying to boost tourism as a way of increasing its development.
○ Visa fees for adults were cut by 50% in 2009 to make it cheaper to visit the country. They were also scrapped for children under 16 to encourage more families to visit.
○ Landing fees at airports on the Kenyan coast have been dropped for charter airlines.
○ Tourism has increased from 0.9 million visitors per year in 1995 to 1.8 million in 2011</td></tr>
<tr><td>Effectiveness – Benefits
• Tourism now contributes over 12% of Kenya’s GDP – money that can be spent on development and improving quality of life
• Nearly 600,000 people are directly or indirectly employed by the tourism industry – that 1-% of all employment in Kenya
• The 24 national parks charge entry fees to tourists. This money is used to maintain the national parks which helps to protect the environment and wildlife
• Since 2000, Kenya’s score on the Human Development Index has increased from 0.45 to 0.55</td><td>Effectiveness - Negatives
• Only a small proportion of the money earned goes to locals. The rest goes to big companies, often based in High Income Countries overseas, so doesn’t help to close the development gap
• Some Maasai tribespeople were forced off their land to create national parks for tourists
• Tourist vehicles damage the environment, e.g. safari vehicles destroying vegetation and disturbing animals</td></tr>
<tr><td colspan="2">Example questions:
Using an example explain how tourism can reduce the development gap – 6 marks
Assess the effectiveness of tourism in reducing the development gap in a LIC or NEE you have studied – 9 marks</td></tr>
</table>

The Challenge of Resource Management

AQA

Resource Challenges

Resources are things that humans require for life or to make our lives easier. Humans are becoming increasingly dependent on exploiting these resources, and as a result they are in high demand.

Significance of Water

Resources such as food, energy and water are what is needed for basic human development.

FOOD	WATER	ENERGY
Without enough nutritious food, people can become **malnourished**. This can make them ill . This can prevent people working or receiving education.	People need a supply of **clean and safe water** for drinking, cooking and washing. Water is also needed for food, clothes and other products.	A good supply of energy is needed for a basic standard of living. People need **light and heat** for cooking or to stay warm. It is also needed for industry.

Demand outstripping supply

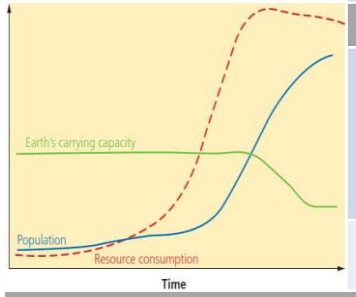
The demand for resources like food, water and energy is rising so quickly that supply cannot always keep up. Importantly, access to these resources vary dramatically in different locations

1. Population Growth

- Currently the global population **is 7.3 billion**.
- Global population has risen **exponentially** this century.
- Global population is expected to reach **9 billion by 2050**.
- With more people, the **demand** for food, water, energy, jobs and space **will increase**.

2. Economic Development

- As **LIDs** and **NEEs** develop further, they require **more energy** for industry.
- **LIDs** and **NEEs** want similar lifestyles to **HICs**, therefore they will need to **consume more resources**.
- Development means **more water is required** for food production as diets improve.



Resource Reliance Graph

Consumption – The act of using up resources or purchasing goods and produce.
Carry Capacity – A maximum number of species that can be supported.

Resource consumption exceeds Earth's ability to provide!

3. Changing Technology and Employment

- The demand for resources has driven **the need for new technology** to reach or gain more resources.
- More people in the **secondary and tertiary industry** has increased the **demand for resources** required for electronics and robotics.

Food in the UK

Growing Demand

- The UK imports about 40% of its food. This increases people's **carbon footprint**.
- There is growing demand for greater choice of **exotic foods** needed all year round.
- Foods from abroad are more affordable.
- Many food types are unsuitable to be grown in the UK.

Impact of Demand

Foods can travel long distances (food miles). Importing food adds to our carbon footprint.
+ Supports workers with an income
+ Supports families in LICs.
+ Taxes from farmers' incomes contribute to local services.
- Less land for locals to grow their own food.
- Farmers exposed to chemicals.

Agribusiness

Farming is being treated like a large industrial business. This is increasing food production.
+ Intensive faming maximises the amount of food produced.
+ Using machinery which increases the farms efficiency.
- Only employs a small number of workers.
- Chemicals used on farms damages the habitats and wildlife.

Sustainable Foods

Organic foods that have little impact on the environment and are healthier have been rising.
Local food sourcing is also rising in popularity.

- **Reduces emissions** by only eating food from the UK.
- **Buying locally sourced** food supports local shops and farms.
- A third of people **grow their own food**.

Energy in the UK

Growing Demand

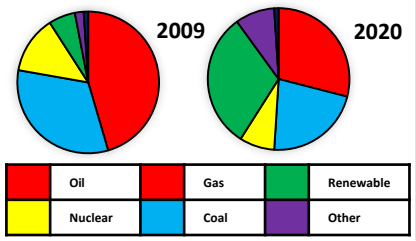
The UK **consumes less energy** than compared to the 1970s despite a smaller population. This is due to the **decline of industry**.

Energy Mix

The majority of UK's energy mix comes from **fossil fuels**. By 2020, the UK aims for 15% of its energy to come from **renewable sources**. These renewable sources do not contribute to **climate change**.

Changes in Energy Mix

- 75% of the UK's oil and gas has been used up.
- Coal consumption has declined.
- UK has become too dependent on imported energy.



Water in the UK

Growing Demand

The average water used per household has risen by 70%. This growing demand is predicted to increase by 5% by 2020.
This is due to:

- A growing UK population.
- Water-intensive appliances.
- Showers and baths taken.
- Industrial and leisure use.
- Watering greenhouses.

Deficit and Surplus

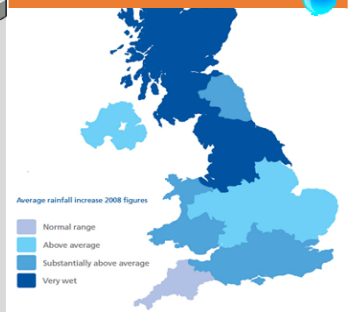
The north and west have a **water surplus** (more water than is required).
The south and east have a **water deficit** (more water needed than is actually available).
More than half of England is experiencing **water stress** (where demand exceeds supply).

Pollution and Quality

Cause and effects include:

- Chemical run-off from farmland can destroy habitats and kills animals.
- Oil from boats and ships poisons wildlife.
- Untreated waste from industries creates unsafe drinking water.
- Sewage containing bacteria spreads infectious diseases.

Water stress in the UK



Management

UK has **strict laws** that limits the amount of discharge from factories and farms.
Education campaigns to inform what can be disposed of safety.
Waste water treatment plants remove dangerous elements to then be used for safe drinking. Pollution traps catch and filter pollutants.

Water Transfer

Water transfer involves moving water through pipes from areas of surplus (Wales) to areas of deficit (London).
Opposition includes:

- Effects on **land and wildlife**.
- High maintenance **costs**.
- The **amount of energy** required to move water over long distances.

Energy in the UK (continued)

Significance of Renewables

+ The UK government is investing more into low carbon alternatives.
+ UK government aims to meet targets for reducing emissions.
+ Renewable sources include wind, solar and tidal energy.
- Although infinite, renewables are still expensive to install.
- Shale gas deposits may be exploited in the near future

Exploitation

Nuclear	New plants provide job opportunities. Problems with safety and possible harm to wildlife. Nuclear plants are expensive.
Wind Farm	Locals have low energy bills. Reduces carbon footprint. Construction cost is high. Visual impacts on landscape. Noise from wind turbines.

Resource Management

Food in the UK

Seasonal food:
We want food all year round
Need to import food to meet demand – apples from different countries
Demand for high-value exotic foods such as spices
Demand for organic produce as they have less chemicals in and are healthier

The carbon footprint of our food is growing:
Growing, processing and packaging of food produces CO2
Transporting food releases greenhouse gas emissions
Imported food comes from a long way which releases a lot of CO2
People are concerned about this so now focus on buying local food – farmer's markets. Vegetable boxes for local farmers

Farming is becoming more industrialised:
Growth in agribusiness in the UK – large scale industrial farming where processes are controlled by large firms
Farm sizes have got bigger
More chemicals used in food to increase crop yields – more fertilisers and pesticides

Water in the UK

Demand for water varies across the UK:
North and west of the UK has lots of rain
South east and central areas of the UK have high population densities – means there's a high demand for water
South east and the Midlands are in a water deficit (demand is greater than supply)
North and west are areas of water surplus (greater supply than demand)
Demand for water is increasing – more homes, more people, more appliances like dishwashers

Water pollution needs to be managed:
Polluted or low quality water reduces the amount available for use
River water quality has been improving but:
- Nitrates and phosphates from fertilisers used on crops are being washed into rivers and groundwater
- Pollutants from vehicles are being washed into rivers due to runoff
- Accidental oil and chemical spills

Pollution of ground water
Strategies to maintain water quality: improve drainage systems, imposing regulations on the amount and types of fertilisers and pesticides used

Water transfers can help maintain supplies:
Moving water from areas of surplus to areas of deficit
Issues:
Dams and aqueducts – transfer water but are expensive to build
Can affect wildlife - fish migration disrupted by dams
Political issues & conflicts – people may not want their

Energy in the UK

The UK's energy mix has changed:
UK did rely on fossil fuels
Large gas reserves were discovered in the 1980s – North Sea
1990s – developed nuclear technology
2000s – to today – shift from fossil fuels to renewable energy – in 2014 19% of all electricity comes from renewable sources
Wind and bioenergy are our biggest sources of renewable energy

UK's supplies of fossil fuels are running out:
North sea oil and gas reserves are being rapidly used up – production has declined since 2000
Coal reserves have declined hugely
Costs of mining coal have risen really quickly
Coal mining and burning is bad for the environment
Fracking is being used

Exploiting energy sources causes <u>economic issues:</u>
Extracting fossils fuels are expensive
Cost of producing electricity from nuclear & renewable is relatively high
Money is needed to research into alternative energy sources

Exploiting energy sources causes <u>environmental issues:</u>
Burning of fossil fuels releases CO2
Fracking can pollute groundwater and cause mini-earthquakes

Resource Management

Food	Water	Energy
• Without enough food people become malnourished • Malnourishment increases the likelihood of getting diseases • Hungry people may not perform well at school or in their work harming economic development	• People need safe water for drinking, cooking and washing • Without proper sanitation, water sources get polluted by raw sewage • Water-borne diseases kill people • People walk long distances to get water – time is wasted as opposed to working	• Needed for industry, transport and in homes • Electricity can allow industries to develop creating jobs and making countries wealthier • Way of life in HICs depends on a large, stable supply of energy • With no electricity people burn wood for cooking causing deforestation & CO2 emissions

Global distribution of resources…

- We need resources such as food water and energy which are needed for basic human development
- People need food and water to survive and stay healthy
- Energy is needed for a basic standard of living - to provide lighting and heat for cooking
- Access to food water and energy affects the economic and social well-being or people and countries

Global supply and consumption of resources is uneven…

- Some countries don't have their own energy and import – others have poor climates so cannot grow their own food
- To get more resources countries import them or find technological solutions
- Consumption of resources depends on a countries wealth – the more money – the more resources you need
- HICs consume more resources to support their quality of life
- NEEs – consumption is increasing rapidly as the economy needs energy and the population is getting more wealthy
- LICs – they cannot afford to exploit the resources or have to import the resources they lack

Energy – Global demand for energy

Energy security depends on Energy Production and Consumption

- Energy security means having a reliable, uninterrupted and affordable supply of energy available
- It depends on the supplies available (either produced or imported), the size of the population and the amount of energy that a typical person uses
- Producing more energy than is required by the population is an energy surplus (this can then be exported to the other countries). Having too little energy to meet people's needs is a deficit,

Global demand for energy is increasing:

- World's population is increasing – more people need more energy
- Economic development in NEE means people have more money so buy more things which use energy – cars, fridges etc.
- Technological advances have created loads of new devices that all need energy – computers, mobiles – these are becoming more popular so more energy is needed

Global energy production is unevenly distributed:
Some countries produce lots of energy as they have large energy reserves and the money to do so (UK)
Some countries produce little energy as they have few resources or are unable to exploit their resources due to a lack of money or political instability (Sudan)

Global energy consumption is unevenly distributed:
Wealthy developed countries consume lots of energy per person as they can afford to. Most people I these countries have access to electricity and heating and use energy-intensive devices
Poorer, less developed countries consume less energy per person as they are less able to afford it. Less energy is available and lifestyles are less dependent on high energy consumption than in wealthier counties.

Energy supply – factors affecting it – energy supply varies across the world

Physical factors	Economic factors	Political factors	Technological factors
Unequal distribution of energy sources – some countries have more resources than others Fossils fuels are non-renewable so run out eventually Variations in Geography can influence the potential of areas for renewable energy	Hard to get the remaining non-renewable energy sources left Prices of fossil fuels are very changeable due to economic & political factor – some countries may not be able to afford the price rises Costs of getting to energy sources is too high	Wars and political instability in countries with large energy reserves can affect their ability to export their resources Climate change led to international agreements to reduce carbon emissions – cannot burn as much fossil fuels Concerns over the safety of nuclear power	Some countries are not able to exploit their energy resources as the technology required is unavailable or too expensive

Energy – Global demand for energy

Energy insecurity has a range of impacts

As fossil fuels get use up, reserves in more difficult and environmentally sensitive areas are explored. This increases the cost of producing energy and risks environmental damage.

Demand for cleaner and cheaper energy sources increases demand for biofuels.

Growing crops for biofuels has negative impacts on the environment and takes up land that could be used for growing food.

Energy shortages and higher energy costs reduce industrial output – factories have to produce less due to power cuts

Potential for political instability or conflict between countries with an energy surplus and those with an energy deficit

Sustainable energy

This provides energy today without preventing future generations from meeting their energy needs

It is important because demand for energy is increasing as the world's population is increasing but non-renewable energy resources are running out

We need to find new renewable energy sources and use energy more efficiently so that future generations can meet their energy needs

A carbon footprint is a measure of energy use

This is a measure of the amount of greenhouse gases an individual's activities produce

This includes direct emissions (produced rom things that use energy e.g. heating) and indirect emissions (produced making things that we buy e.g. food & clothing)

Energy can be conserved in various ways

Sustainable design	Increasing efficiency	Demand reduction
Insulating walls – traps in heat Modern boilers – more efficient so waste less energy Switch to electric cars	Hybrid cars – combine diesel and electricity to become more efficient Power stations and engines are becoming more efficient	Switching off lights in empty rooms Improve public transport and encourage walking

Sustainable energy sources

Biomass – burning wood or animal waste or used to produce biofuels, limited technology, only renewable if the biomass used is managed sustainably

Wind – wind blows and the turbines turns a generator – on land or out at sea – no CO_2 once the turbines have been installed – not always windy

Solar – energy is used to heat water and electricity generated using photovoltaic cells. Solar cookers are cheap – good in LICs – the cells are expensive

Hydro – uses the energy of falling water. Water is trapped by a dam and allowed to fall through tunnels to turn the turbines. Dams destroy environments and communities and are expensive

Tidal – waves turn a turbines to power a generator. Does not work all day long but can reliably predicted

Wave – wind blowing across the water makes waves, which drives turbines and generates electricity. Expensive and does not produce much energy in calm conditions

Geothermal – water pumped into the mantle, the surrounding heat turns it to steam, the steam rises and turns turbines to generate electricity. Cheap to set up but every country has tectonically active areas

Non-renewable sources will run out

Fossil fuels – the supply of fossil fuels can be increased by searching for new reserves to exploit or by exploiting reserves that have been discovered but not yet used. As technology develops, it has become possible to extract resources that were previously too difficult or costly to use

Nuclear – can be used to generate a large amount of energy. Power plants very expensive to build and get rid of them, nuclear waste is hard to dispose of safely. Accidents could be catastrophic. New technology is making them more efficient –no CO_2 given off.

Energy – Global Demand for Energy

Topic: Energy	Context: Extracting fossil fuels has advantages and disadvantages

Country: **Fracking in the UK**

Background:

- **Fracking is a way of extracting shale gas – natural gas that is trapped underground in shale rock**
- **Liquid is pumped into the shale rock at high pressure. This causes the rock to crack (fracture), releasing the gas, which is then collected as it comes back out the well.**

Advantages:

- There appears to be lots shale gas available in the UK. Fracking increases the energy security of the UK as supplies of other fossil fuels start running out
- Gas is less polluting that other fossil fuels. It releases half the carbon dioxide of coal
- Fracked gas is a cheaper source than some renewables – although it can cost more to extract than gas from some other sources
- The technology has already been tested (in the USA) and shown to work, unlike some renewable sources

Disadvantages:

- Gas is not a sustainable energy source. It's non-renewable, and releases carbon dioxide when it's burned – contributing to global warming
- There's a risk of pollution of groundwater, drinking water and air
- It uses lots water (a limited resource)
- It's known to cause small earthquakes
- It's an issue that people feel strongly about. Public opposition has stopped it from being used yet in the UK
- Investment in fracking may slow down the investment in renewable energy

Example questions:

To what extent do the advantages of extracting fossil fuels outweigh the disadvantages? 9 marks

Topic: Energy	Context: Local renewable energy scheme in a LIC/NEE

Country: **Peru**

- **Chambamontera is an isolated community in the Andes of Peru. It introduced a micro-hydro to exploit water power as an energy source.**

How does it work:

Involved the construction of a micro-hydro scheme. High rainfall and steep slopes and fast flowing rivers made this area ideal for exploiting water power as a renewable energy resource.

Rainfall and rivers were diverted into a channel, then into a storage tank and finally the water flowed downhill in a pipeline through the turbine generator at the bottom of the hill back into the river.

Advantages:

- **Provides renewable energy.**
- **Low maintenance & running costs**
- **Has little environmental impacts.**
- **Using local labour and materials.**
- **Businesses are developing.**
- **Less wood is needed to be burnt.**

Example questions:

Use an example to illustrate the features of a local energy scheme in a Newly Emerging Economy (NEE) – 6 marks

Economic Futures in the UK

Key term	Definition
Primary industry	The collection of raw materials or growing of crops
Secondary industry	The manufacturing of a product from raw materials
Tertiary industry	A service provided usually to sell the product but also education, healthcare and financial services
Quaternary industry	Research and development – robotics, medical research and hi-tech research
Industrialisation	The increase in the amount of manufacturing and decrease in the amount of farming (primary)
De-industrialisation	The decrease in the amount of manufacturing and an increase in the amount of tertiary (services)

Services are more important as the economy becomes post-industrial

Tertiary and quaternary industries are going as secondary manufacturing is declining in the UK. In 2011, they employed 81% of the UK's workforce – this proportion is increasing. Important industries include:

- Services – retail, entertainment, personal services
- Information technology – 60,000 people employed
- Finance – the UK, and especially the City of London, is home to many global financial institutions – HSBC has its global headquarters in the UK
- Research – research and development (R&S) is increasing in the UK, making use of the UK's skilled university graduates.

The UK's economy is changing:

Key causes:

1. De-industrialisation and the decline of the UK's industrial base – fewer jobs are available in manufacturing and heavy industries (such as coal mining and steel production). These industries were once a primary source of employment and income for the UK GDP
2. Globalisation – a lot of manufacturing has moved oversea, where labour costs are lower, though headquarters have often remained in the UK. Trade with other countries is an increasingly important part of UK GDP.
3. Government policies – government decisions on investment in new infrastructure and technology and support for businesses (e.g. tax breaks) affect how well the economy grows. Membership in government groups, e.g. World Trade Organisation, make it easier for companies in the UK to operate across the world.

Toyota: Factors which attracted this company to the UK

- The UK Government made it clear they wanted Toyota to build their new factory in the UK and would give it any help it could
- Government wanted Foreign Direct Investment (FDI)
- The UK is a large market for new cars and is in the centre of Europe
- Workers in the UK work longer hours for less pay than workers in some other EU countries and strikes were less common, i.e. higher productivity
- It was also an advantage that English is spoken in the UK
- Governments of some countries were not as helpful as the UK

Below is a list of reasons why Toyota chose to build a factory at Burnaston, UK

- Burnaston was a large flat site of over 100 hectares
- There is room to expand
- It is a Greenfield site 8km from the centre of Derby
- Burnaston is next to the A38 trunk road and close to the M1
- There is a large pool of unemployed workers wanting jobs
- Hundreds of recent job losses at Roll-Royce and Brell in Derby
- Good access to West Midlands car components companies
- Derbyshire Country Council invested £20 million in infrastructure improvements/Cheap electricity available from local power stations

Problems of industrial development

	Problems	Solutions
Water pollution	Unchecked dumping of sewage Chemicals dumped into the rivers Wildlife in rivers can be killed	Establish new laws on water pollution Regularly check the water quality – give out fines to companies who pollute
Air pollution	Unchecked polluting of the air – chemicals given out in the air Contributes to global warming	Use sustainable energy Reducing traffic congestion
Waste disposal	Lack of rubbish collection No recycling People can be hurt in getting rid of the waste – poisonous chemicals are released and needed	Use appropriate solutions – use donkeys and rubbish carts to collect rubbish Pay people for collecting recyclable material

How is the countryside changing: Why are people moving?

- Urbanisation: an increase in the proportion of people living in urban areas and a decrease in rural areas
- Counter-urbanisation: people moving from an urban area to the countryside

Reasons to leave the countryside	Reasons to move to the countryside
There is not a lot to keep young people occupied A lack of jobs Roads are very busy in the summer due to tourists Public transport is not very good The broadband connection is not very good	To go to a smaller school The slower pace of live Lots of open green space The air is cleaner The houses are larger with garages It is quieter with less cars

Economic Futures in the UK

How can industry be made more sustainable?

Example: **Quorum – Newcastle, UK**

Community links

- Nurturing and promoting ongoing relationships with community groups and schools
- Sustainable Champions
- Regular sustainability steering group meeting
- Tenant ‘Green League’
- Promotional events and activities

Buildings

- Energy efficient and economic building costs
- Environmentally friendly purchasing strategy
- The new buildings are built to B level energy performance certificate
- Large glazed facades allow good daylight level
- Windows are specially treated to reduce solar gain
- Lighting system is designed to incorporate sensor controls
- Air source heat pump for air conditioning system uses a greener technology
- Low capacity flushing toilets fitted with water saving controls

Landscaping

- Full-time landscaping team using environmentally friendly products
- Grounds maintenance plant waste is composted on site
- 500 new trees planted on the site to off-set carbon footprint
- On-site litter picking team and waste management strategy

Impacts of <u>counter urbanisation</u>…

- Cities can shrink in size, and the social and economic of their areas can undergo significant change.
- Country villages are becoming increasingly popular, so they can therefore grow quickly and lose their original character and charm.
- Second homes are often bought in this counter urbanisation process, often in more scenic areas of the countryside such as National Parks. In this case, people buy an additional property for use as a holiday home, but do not move there permanently. This has a negative impact on communities as houses can stand unoccupied for most of the year.
- House prices can be pushed up locally as migrants sell expensive city properties and earn higher city wages. The net result of this is that locals and in particular the young can be forced away as they are priced out of their own communities.
- Supermarkets and other businesses that are attracted to these villages can have a massive impact on local services. Traditional rural services start to close as the new population will be reliant on the services of the urban environment such as the supermarket. The closures of village stores and post offices have caused major problems in many rural areas.
- Public transport goes into decline because the new residents are car owners. This can be a major problem for village residents without their own transport, particularly the elderly.
- Traffic congestion increases as a large percentage of the migrants will be commuting to work traffic congestion increases.

- Counter-urbanisation affects the layout if rural settlements, modern housing is built on the outside of the area and industrial estates are built on large main roads leading into the settlements
- Inner city areas are left with derelict buildings, struggling shops and a cycle of decline.
- Middle class immigrants – social structure changes -local resentment caused
- Improvement in services – e.g. gas mains, cable TV, supports local schools
- Supports some local facilities (e.g. pub, builders etc.) – although others may close
- Primary schools might flourish (or close) – young population - increase nursery provision
- Housing fabric improved, new housing, barn conversions.
- Light industry may develop, B&B, small hotels, bistros

UK: <u>North-South Divide</u>…

The decline of heavy industry has had a greater negative impact on the north of the UK, but the growth of the post-industrial service industry has mostly benefited the south. In general, economic and social indicators tend to be better in the south than the north.

- Wages a generally lower in the north than the south, e.g. the 2014 average weekly wage was 40% lower in Huddersfield than London
- Health is generally worse in the north than the south, e.g. life expectancy for male babies born in Glasgow in 2012 was 72.6 years but in East Dorset it was 82.9 years
- Education – GCSE results are generally better in the south of England than the Midlands or the north

<u>Strategies used to reduce the North-South Divide</u>

Devolving more powers – Scotland, Wales and Northern Ireland have heir devolved governments and some powers are being devolved to local councils in England too. This allows them to use money on schemes they feel will best benefit the local community – e.g. better public transport or regeneration projects to turn disused buildings into modern office spaces to attract business to the area.

The Northern Powerhouse - this is the governments plan to reduce the inequality between the north and south by attracting investment into the north and improving transport links such as HS2 between northern cities.

Creating Enterprise Zones – 55 zones have been created

They offer companies a range of benefits

- Reduced taxes
- Simpler planning rules
- Financial benefits
- Improved infrastructure

These measures can be used to encourage companies to locate in areas of high unemployment, bringing jobs and income which could help to reduce the north-south divide.

The UK has a Good but Improving **Transport Network**

The UK is a developed country with a good transport network. But congested transport networks can slow economic development, so it's important to improve them to ensure continued economic growth:

Roads — capacity on motorways is being increased by upgrading to "smart motorways" with extra lanes, e.g. the M4. A new road is being built to link the port of Heysham in Lancashire to the M6.

Railways — Crossrail (currently under construction) will increase central London's rail capacity by 10% when it opens in 2018. The proposed HS2 line linking London, Birmingham, Leeds and Manchester will increase capacity and allow faster journeys between major English cities if it is built.

Airports — the UK government has agreed that a new runway is needed in the south east as existing airports are full or filling up.

Ports — a new port, London Gateway, is operating at the mouth of the River Thames. It is able to handle the world's largest container ships and hopes to become a hub for global trade.

The **UK** has **Strong Links** to **Other Countries**

The UK has formed strong links with other countries as it has developed.

Trade — the UK trades globally, with links to the USA, Europe and Asia being particularly significant. The UK's overseas exports are worth over £250 billion per year.

Culture — the UK's strong creative industries mean that UK culture is exported worldwide, e.g. the Shaun the Sheep™ TV series made by Aardman Animations in Bristol is shown in 170 countries.

Transport — the Channel Tunnel links the UK to France by rail, providing a route for goods and people to access mainland Europe. Large airports like Heathrow act as a hub and provide links to hundreds of countries around the world.

Electronic Communications — as well was being home to offices for many global IT firms, most of the trans-Atlantic cables (carrying phone lines and internet connections) linking Europe with the USA are routed via the UK.

European Union (EU) — the EU is an economic and political partnership of 28 countries. Membership of the EU gives UK citizens and businesses access to a large market without trade or political barriers. It's an important part of the UK's economy — over £130 billion of the UK's exports were to the EU in 2015.

The Commonwealth — the Commonwealth is an association of 53 independent states, including the UK. It exists to improve the well being of everyone in Commonwealth countries.