

# GCSE Geography

## Paper 2: Challenges in the human environment Named Examples/Case Studies

*You need to know your named examples and be able to provide specific facts and statistics about them.*

Paper 1 sections (Total time for paper - 1 hour 15 minutes):

*Section A: Urban issues and challenges*

*Section B: The changing economic world*



### Section A Urban issues and challenges

**A case study of a major city in an LIC or NEE to illustrate:**

- **the location and importance of the city, regionally, nationally and internationally**
- **causes of growth: natural increase and migration**
- **how urban growth has created opportunities:**
  - **social: access to services - health and education; access to resources - water supply, energy**
  - **economic: how urban industrial areas can be a stimulus for economic development**
- **how urban growth has created challenges:**
  - **managing urban growth - slums, squatter settlements**
  - **providing clean water, sanitation systems and energy**
  - **providing access to services - health and education**
  - **reducing unemployment and crime**
  - **managing environmental issues - waste disposal, air and water pollution, traffic congestion.**

### **Case study: Lagos**

1. The location and importance of the city, regionally, nationally and internationally

- Lagos is located in Nigeria, West Africa

Regional importance	National Importance	International importance
It has the fastest growing population in Lagos as well as the city with the fastest growing economy.	80% of Nigeria's industry is based in and around Lagos. It is the financial and business centre of Nigeria. It has a busy seaport and airport.	Lagos has ambitions to be the first 'World city' in Africa. It is predicted to be the richest city in Africa by 2050.

2. Causes of growth: natural increase and migration

Lagos has a rapid natural increase. This is because Nigeria has a high birth rate and a decreasing death rate. It is also due to push and pull factors which are pushing people away from rural areas and pulling people to the urban centre of Lagos. This is migration.

Push factors (from rural areas)	Pull factors (to urban Lagos)
Farming pays low wages and is hard work	The 'bright lights' effect draws people in.
Few job opportunities exist in rural areas other than farming - this makes young people in particular vulnerable.	Young people want to seek their fortune in the Lagos.
Education and health services are poor	Education and health care services are better in the city.
Climate change is making floods and droughts more common - this makes crop yields unpredictable.	
Land is degraded by the oil industry making farming more difficult	
The north of Nigeria is politically unstable and there has been lots of terrorist activity by Boko Haram.	

3. How urban growth has created social opportunities: access to services - health and education; access to resources - water supply, energy.

Access to services	
Health	Healthcare is closer and more available in Lagos - even if it is not free.
Education	There are more schools and universities giving people more chances in life.
Access to resources	
Water supply	The wealthiest homes have piped water - everyone else has access via taps or buy their water from street vendors.
Energy	Electricity is more widespread however is stretched due to the sheer number of people. Two new power stations are currently being built to give enough energy for the city. Businesses rely on generators in case main power fails.

4. How urban growth has created economic opportunities: how urban industrial areas can be a stimulus for economic development

- • □Lagos has been exporting oil. This has brought wealth and industrialisation on the coast of Lagos. Once factories start being built this creates more wealth and jobs which in turn brings more factories, wealth and jobs.
  - • □Lagos is now using this wealth and investment from other countries to build a new city on the coast called Eko - it is set to be the new financial hub of West Africa.
5. How urban growth has created challenges such as managing urban growth - slums, squatter settlements.

• Rapid urbanisation has led to large slums or squatter settlements being built on the coast of Lagos. These are often built on marshy, poorly drained land where no one else wants build. An example is the slum of Makoko.

What are the problems with squatter settlements?



Problems
75% of families live in just one room. This means that people are living in cramped conditions which can spread disease.
Only 11% of people have access to piped water. 55% get their water from wells - these can easily become polluted. Drinking dirty water can lead to disease and dysentery.
55% of people use pit latrine toilets - this is where sewage seeps directly into the ground. This sewage can easily mix with drinking water.
Houses are poorly built, prone to flooding and have poor access to electricity.

6. How urban growth has created challenges in providing clean water, sanitation systems and energy.

Clean water	Only 10% of people in Lagos have piped water. People end up digging their own bore holes and wells to get water. Sewage can seep into the ground water and this can be very dangerous. In 2012, Lagos formed the Lagos State Water Regulatory Commission to give licences to boreholes to make sure they are not polluted.
Sanitation systems	Lagos is prone to flooding and has poor drainage and sanitation systems (toilets and sewage systems). Lagos State Waste Water Management office are currently planning to build the largest waste water plant in Nigeria, although this is years from completion.
Energy	Egbin Power Plant (which provides Lagos with energy) has not been able to provide enough electricity to Lagos. Many people rely on wood to burn to cook on. Lagos needs to invest more in electricity.

7. How urban growth has created challenges providing access to services like health and education.

Due to huge rural - urban migration it is difficult for Lagos's government to provide enough schools and hospitals. Healthcare is not free either.

8. Reducing unemployment and crime

- Unemployment in Lagos is lower than the rest of Nigeria. Most people are employed but in low skilled, low paid jobs. People work in the informal economy often working washing cars, street selling of waste recycling on landfill sites, sorting waste and finding items that they can sell. Jobs are being created in new factories and in the tertiary industry which is growing.
- Lagos has high crime levels especially in drug trafficking and gangs. Lagos's government is trying to reduce crime but lack of resources and policing make it difficult.

9. Managing environmental issues - waste disposal, air and water pollution, traffic congestion

Waste disposal	Air and water pollution	Traffic congestion
The Olusosun landfill is a 100- acre dump	There is high levels of air pollution caused by traffic	In 2003 the Lagos Metropolitan Area Transport Authority (LAMATA)

<p>in Lagos - it is the largest in Africa and one of the largest in the world.</p>	<p>on very congested roads. It is trying to increase public transport to reduce this.</p>	<p>created a bus rapid transit (BRT) to take people from the suburbs to the CBD. They have built a separate bus lane too which takes 200,000 every day (but still on just 25% of commuters in Lagos)</p>
<p>Lagos is running out of space and so waste is sometimes being incinerated as well creating toxic fumes.</p>	<p>Oil, chemicals and sewage seep into ground water. In 2012, Lagos formed the Lagos State Water Regulatory Commission to give licences to boreholes to make sure they are not polluted.</p>	<p>A new light railway has been built from East to West. Lagos's governments are planning to build 7 more railways.</p>

### An integrated transport system in Lagos?

Lagos wants to create an integrated transport system as they know all good cities need good transport. They are planning to do the following:

- Ferries to transport people over and across the river mouth.
- Removing obstacles in roads like markets and street vendors.
- Better urban planning so that there are businesses and homes through-out the city to

prevent everybody from having to commute.

An example of how urban planning is improving the quality of life for the urban poor.



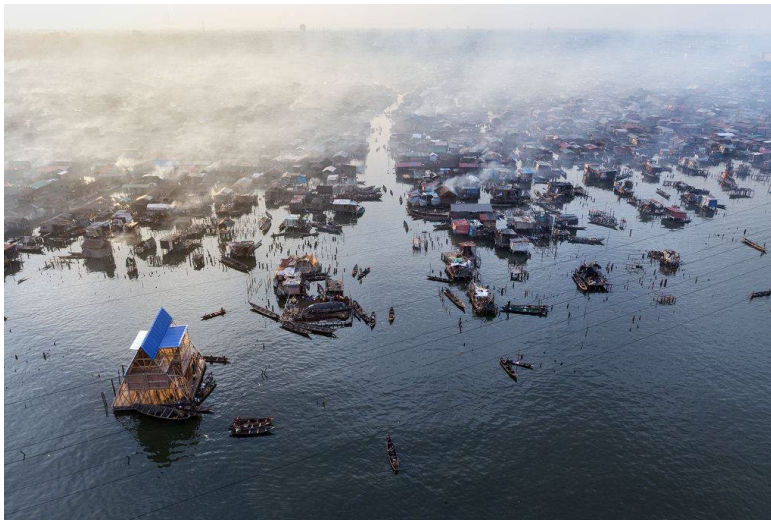
By 2035 Lagos will have a population of 25 million. There is not enough land space for these people to live so this is a solution.

Makoko school to provide electricity for the school.

Sea levels are rising. This is threatening low lying areas of Lagos.	There are water collection systems on the roofs to collect water and make use of Lagos's high annual rainfall.
This would provide schools for children increasing their chances of getting better jobs and improving their lives.	The school is open sided to allow ventilation and natural cooling.

Success?

Although it was a good idea to provide social opportunities like a good education to children who would otherwise have little access to education there was a problem. The Makoko floating school sunk! It was a great idea but they need to improve the design to make sure the Children of Makoko chance to education does not sink with it!



## **Case study: Favela Bairro**

### Problems

- Infant mortality rates are as high as 50/1000.
- Unemployment rates are as high as 20%
- Many houses are illegally connected to electricity pylons.
- Sewers are often open drains.

- The slopes are very steep so there is limited road access.
- There is a high murder rate of 20/1000 people .
- Waste cannot be disposed off and builds up in the street spreading diseases.
- Much employment is poorly paid and is irregular.
- Many people work in the informal sector.
- Drug gangs dominate the favelas.
- Burning rubbish often sets fire to the wooden houses. Smoke harms peoples health.

### Urban planning strategies in Rio

#### **Self Help Schemes**

- Residents of Rocinha transformed the favela into a small city; Buildings have been upgraded to brick and tile; People have set up own shops and small industries - the 'informal sector.'; Authorities have now accepted the existence of favelas and added electricity, paved and lit some streets and added water pipes.

#### **Site and Service Schemes**

- City authorities set aside £200 million to improve 60 of the 600 favelas.
- The plan include - replacing wood buildings and those built on dangerous slopes with larger (5x4m) brick houses, widening streets, laying pavements, laying water pipes and electricity cables, improving sanitation, providing health and sports facilities, using local residents as labour.

#### **Favela Bairro Project**

- Wealthy residents of Rio looked for a safer place to live with more space. Nearest flat land was 20km along coast.

**1970:** 4 lane motorway cut through mountains and on stilts over sea.

**1995:** New town of Barra had population of 130,000.

- It has 5km of shops, schools, hospitals and offices.
- There is an efficient local bus service linking the apartments, shops and leisure amenities.

#### **Pacification**

Authorities are attempting to transform favelas through a city-wide policy called 'pacification'.

**Stage one** - Armed police units, backed by soldiers and marines, go into favelas to drive out criminal gangs. Permanent police presences are established in what had often been no-go areas for security officials.

**Stage two** - With the shanty town secured, staff from Rio's municipal authority can start to provide social services such as schools, healthcare centres, and rubbish collection.

#### **Complexo do Alemao**

- With a population of 100,000 people, stretching for more than two miles, the Complexo do Alemao favela is one of the largest favelas in Brazil.



- Opened in 2011, the Teleferico do Alemão cable car system is the most obvious outward example of how the lives of people in Complexo do Alemão have been transformed. The cable cars enable residents to get from one end of the favela to the other in just sixteen minutes. To walk it would take two hours, and each local person gets a free return ticket every day.
- The system also connects to Rio's railway network, enabling the people of Complexo do Alemão to get quickly into the city centre, opening up the opportunity of better paid work than is locally available.

***A case study of a major city in the UK to illustrate:***

- the location and importance of the city in the UK and the wider world***
- impacts of national and international migration on the growth and character of the city***
- how urban change has created opportunities:***

- *social and economic: cultural mix, recreation and entertainment, employment, integrated transport systems*
- *environmental: urban greening*
- *how urban change has created challenges:*
  - *social and economic: urban deprivation, inequalities in housing, education, health and employment*
  - *environmental: dereliction, building on brownfield and greenfield sites, waste disposal*
  - *the impact of urban sprawl on the rural-urban fringe, and the growth of commuter settlements.*

## Major city in the UK: London

A case study of a major city in the UK to illustrate:

1. The location and importance of the city in the UK and the wider world.

Regional importance	National importance	Global importance
Many people in surrounding counties commute into London and it provides many jobs for people.	London is of huge economic importance for the country as it is the centre of trade and finance. It also holds much importance in terms of education, media, government and culture.	London is a 'World City' which means that it is one of the most important financial centres in the world.

2. Impacts of national and international migration on the growth and character of the city

- Migration has had a huge impact on the character of the city. It is the most ethnically diverse place in the UK.
- Each group of new migrants brought with them their own culture, traditions, religions, music and food. This goes back as far as the Saxons - each group of people leaving their mark on London.

- 3. How urban change has created social and economic opportunities: cultural mix, recreation and entertainment, employment, integrated transport systems.

Cultural mix	Places like Brick Lane have an amazing variety of food, art and music from different places. It is a melting pot for culture making it very culturally rich.
Recreation and entertainment	There are many theatres like the National Theatre, art galleries like the Tate Modern, music festivals and venues such as Love Box and The Proms.
Employment	There is a huge variety of employment from jobs in the financial centre which are very high paid to low paid service jobs like bar staff and cleaners. There is a huge quantity of people needed to work to make London a World City.
Integrated transport system	London has buses, 240 tube stations, the Docklands light railway, Boris Bikes, bus lanes, ferries, London city Airport and Heathrow airport which are all designed to keep London running.

#### 4. Environmental: urban greening

Urban greening is about increasing the amount of green space that cities have. London is already a green city as it has many parks so it is about maintaining what they have and continue to improve it.

- □ Increasing green infrastructure like roof top gardens, and green walls and roofs.
- □ Creating a 'green grid' - basically connecting green spaces together with rows of trees or green infrastructure to make it easier for wildlife to migrate. This is done though maintaining trees, hedgerows and parks.

#### 5. How urban change has created social and economic challenges: urban deprivation, inequalities in housing, education, health and employment.

Urban deprivation	Some areas of London are very deprived. For example in Newham over 50% of people are receiving benefits. Life expectancy is an indicator of deprivation. In London if you travel from West Ham to Knightsbridge on the Jubilee line life expectancy increases from 78
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	years to 90 years - that's 12 years difference just depending where you live!
Inequalities in housing	There is not enough housing in London and many people who have grown up in London will struggle to ever get a house. Many rented houses are overpriced and are in poor condition. This has been made worse in recent years.
Education	The quality of schools vary largely depending on where they are. It is always a big struggle to provide enough good schools and it is very competitive amongst parents.
Health	People can have very different levels of health depending on where they live. This is due to poverty and deprivation.
Employment	Unemployment increases in areas which are more deprived. Often people do not have the skills or education to have employment and if they do it is poorly paid. Many people in Tower Hamlets (a poor area) cannot get jobs in Canary Warf despite the close distance.



Newham

Kensington and Chelsea

Newham	Measure of deprivation	Kensington and Chelsea
76	Life Expectancy	85
9%	Unemployment	4%
62%	Pupils with 5+ good GCSE grades	80%
26%	Households with a joint income of less than £15,000 per year	9%

- How urban change has created environmental challenges: dereliction, building on brownfield and greenfield sites, waste disposal.

Dereliction	Many factories shut down as countries like China started manufacturing. This meant lots of factory buildings became derelict and houses nearby became vacant. This led to increased crime and the buildings became run down and covered in graffiti. This reduces the environmental quality of the area and makes it unpopular with people and business. Many of these areas have now been regenerated.
Waste disposal	London produces a huge amount of waste. 25% still goes to landfill and this is unsustainable. 61% is recycled. The target is that 0% of London's waste should go to Landfill by 2030. This will be achieved by less packaging and incinerating waste to make electricity for example in London EcoPark, Enfield (an incinerator).

Should we build on greenfield or brown field sites to make enough houses for London's population?

Brownfield sites	Greenfield sites
There are lots of sites available from when factories shut down.	Natural habitats will be destroyed.
Reduces urban sprawl	Increases urban sprawl
Public transport is better in cities so the need for cars is reduced.	More public transport will have to be built to allow people to travel into the city.
New development can improve the environment of the area.	Valuable farmland or parkland may be lost which is not good for the environment
Land may need to be decontaminated or buildings demolished which is expensive.	No demolition or decontamination is required
Land in urban areas is more expensive	Land in rural areas is cheaper



7. What is the impact of urban sprawl on the rural-urban fringe, and the growth of commuter settlements?

As London is too expensive for many people to live, people move to commuter settlements like Reading which is just outside the greenbelt.

- Towns like Reading increase in size adding to urban sprawl.
- House prices in these towns also increases which forces people out as they cannot afford to live here.

### Urban Regeneration: The London Olympics

An example of an urban regeneration project to show:

1. Reasons why the area needed regeneration.
  - There was lots of derelict and contaminated land.
  - The River Lee was polluted and needed to be cleaned.
  - Transport was poor in the area, making it disconnected and preventing good jobs.
  - Places like Newham were very run down and there were high levels of deprivation.
2. The main features of the project.
  - The Olympic Delivery Authority (ODA) which was set up by the government bought the land.
  - People who lived there were forced to sell their homes and move - this caused protests.
  - Land had to be decontaminated and large electricity pylons had to be buried under the ground.
  - Bridges were built over the river and the river was cleaned, habitats being created on the banks.
  - New houses were built along with new schools, nurseries and community facilities.
  - The aim was that the redevelopment of the Olympic site would leave a lasting legacy for  
  
London.
  - Once the Olympics was over, much of the green space has been sold to build new housing and pay back the debt created from the Olympic games.

BEFORE



AFTER



**Section B The changing economic world**

## **An example of how the growth of tourism in an LIC or NEE helps to reduce the development gap.**

### **Case study: Jamaica**

<p><u>Economy</u></p> <ul style="list-style-type: none"><li>- 2014 tourism = 24% of GDP</li><li>- 2024 set to rise to 32%</li><li>- Income from tourism is US\$2 billion each year - with extra taxes this helps the government to reduce the development gap</li><li>- 1.1 million cruise passengers spend on average US\$70 per day</li><li>- Other 2.5 million visitors average US\$120 per day</li></ul>
<p><u>Employment</u></p> <ul style="list-style-type: none"><li>- Tourism 200,000 people employed either directly in hotels, transport and attractions or indirectly in shops and manufacturing. These are mainly around tourist towns.</li><li>- Employment from tourism helps to boost the local economy.</li><li>- Employed people learn new skills that can help them in getting better paid jobs in the future.</li></ul>
<p><u>Infrastructure</u></p> <ul style="list-style-type: none"><li>- High levels of investment in the north of the island</li><li>- New port and cruise-liner facilities built at Trelawny with new hotel accommodation</li><li>- However, road and airport improvements have been slower</li></ul>
<p><u>Quality of life</u></p> <ul style="list-style-type: none"><li>- Northern areas such as Montego Bay have wealthy Jamaicans and high-quality housing with a high standard of living. These areas have benefited from tourism.</li><li>- Large numbers of people live nearby in poor housing with limited food supply and lack of access to healthcare, fresh water and education</li></ul>
<p><u>Environment</u></p> <ul style="list-style-type: none"><li>- Montego Bay improved by landscaping and a new water treatment plant at Logwood has reduced pollution from hotels</li><li>- The Negril Marine Nature Park attracts many tourists and brings income</li><li>- Community tourism and sustainable ecotourism is expanding in more isolated regions with people running small-scale guesthouses or acting as guides</li></ul>

## **A case study of one LIC or NEE to illustrate:**



- the location and importance of the country, regionally and globally
- the wider political, social, cultural and environmental context within which the country is placed
- the changing industrial structure. The balance between different sectors of the economy. How manufacturing industry can stimulate economic development
- the role of transnational corporations (TNCs) in relation to industrial development. Advantages and disadvantages of TNC(s) to the host country
- the changing political and trading relationships with the wider world
- international aid: types of aid, impacts of aid on the receiving country
- the environmental impacts of economic development
- the effects of economic development on quality of life for the population.

## Case study: Nigeria

### The location and importance of the country, regionally and globally

- Nigeria is a country in West Africa that is over three times larger than the UK.
- It lies just North of the Equator, with its south coast on the Gulf of Guinea, which is part of the Atlantic Ocean.
- It has a population of 184 million people, which is much larger than any other African country.
- Nigeria has graduated from being an LIC to an NEE.
- It overtook South Africa as the largest economy in Africa in 2014.

### The wider political, social, cultural and environmental context within which the country is placed

- It has more than 500 different ethnic groups, each with its own language. Three ethnic groups dominate - Igbo, Yoruba and the Hausa.
- Moving north from the Equator, the climate becomes drier and this determines the type of vegetation in the area.
- Since independence in 1960, Nigeria has progressed from civil war (67-70), through several military dictatorships when the army ruled the country (until 1998), to a stable democracy today. Political improvements have allowed Nigeria to develop more rapidly as businesses now have confidence at investing in the region.
- However, there is still conflict. In the north of the country, Boko Haram (an extremist organisation) wants to abolish democracy and set up its own government under its version of Islamic law. At least 17000 people have been killed in the conflict since 202 and over 500,000 people have fled the region.

### The changing industrial structure

- Nigeria is changing from a mainly agricultural economy into an industrial economy. Over 50% of the GDP comes from manufacturing and service industries. This reflects the change from a mainly rural to urban population. Some of the fastest growing industries are:
- Telecommunications , Retail and wholesale, The film industry - Nollywood .
- Importance of Oil and Manufacturing
- Oil was discovered in Nigeria in the 1950s and is a vital part of the country's economy.
- Oil and gas account for 14% of Nigeria's GDP and 95% of its export earnings.
- Income from oil has helped Nigeria move from a LIC to an NEE. However, the country's dependence on oil makes it vulnerable to changes in the global oil prices.
- When the prices fell in 2015, it damaged the economy.

### Advantages and disadvantages of TNC(s) to the host country

Benefits	Problems	
<ul style="list-style-type: none"> <li>- Shell companies in Nigeria employ 6,000 direct employees and contractors (90% Nigerian).</li> <li>- As of year-end 2010, Shell companies in Nigeria had trained some 1,900 service providers in general contracting, developed 8 local dredging companies, awarded 10 UK scholarships and trained more than 3,000 people in entrepreneurship, scaffolding, project management, welding, catering, and other vocations.</li> <li>- Shell paid some \$31 billion in taxes to the Nigerian government between 2006 and 2010.</li> <li>- In the past, Shell has also been heavily involved in the provision of infrastructure in the communities. They were building roads, schools, clinics and providing portable water. They have also been a major supporter of education of young children, with over 17,000 children on Shell scholarship at any point in time.</li> </ul>	<ul style="list-style-type: none"> <li>- The Delta region contains important wetland and coastal ecosystem. Most people depend on the natural environment for their livelihood, either through farming or fishing. Oil pollution kills fish in the sea.</li> <li>- Oil spills from leaking pipelines damage farmland so crops no longer grow.</li> <li>- Oil heated by the sun becomes highly flammable and can burn out of control. 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.</li> <li>- Tensions arose between the native Ogoni people of the Niger Delta and Shell. The concerns of the locals were that very little of the money earned from oil on their land was getting to the people who live there, and the environmental damages caused by the recurring sabotage of pipelines operated by Shell. Shell also forced the Ogoni people to live in poverty and poor health while the company made millions.</li> </ul>	
<p><u>The changing political and trading relationships with the wider world</u></p> <ul style="list-style-type: none"> <li>• Britain has had a trading relationship with West Africa for over 300 years. From 1650, the British traded enslaved African people and took them to America and the Caribbean. When slavery was made illegal in 1807, trade with West Africa turned to palm oil, used in Britain to make soap.</li> <li>• In the late 19<sup>th</sup> century, Nigeria became part of the British Empire. The country was ruled by Britain until it gained independence in 1960. By then, a pattern of trade was established where Nigeria exported natural commodities to Britain in exchange for importing manufactured goods.</li> <li>• Nigeria still trades with the UK but more of its trade is now with some of the world's largest economies, which include the USA, China, India and other countries in the European Union.</li> <li>• Since independence, oil has replaced other natural commodities as Nigeria's main export, but the country still imports manufactured goods like machinery, chemicals and transport equipment.</li> <li>• Nigeria's main import partner for manufactured goods is now China. China's influence on Nigeria's economy goes beyond the goods it sells. There is also growing investment in Nigeria.</li> </ul>		

- Nigeria needs huge investment in infrastructure, particularly its transport network and power supply. China is now able to bring that expertise to Nigeria. In 2014, the China Railway Construction Corporation won a US\$12 billion contract to build a new 1400km railway along the coast of Nigeria.
- China's fast growing economy needs more resources than the country can provide for itself. It can find these resources in Nigeria. In 2014, another Chinese corporation agreed to invest \$10billion in exploration and drilling in a new oilfield in Nigeria.

### International aid: types of aid, impacts of aid on the receiving country

#### Why is aid needed?

- 60% of population living in poverty (less than \$1/day)
- Birth rates high
- Infant mortality rates high
- Life expectancy low
- Nigeria has one of the highest death rates from Malaria in the world - the diseases cause long term health problems.

#### How does aid benefit Nigeria?

- In 2014, the World Bank approved \$500million to fund development projects and provide long term loans and businesses. This helps to reduce the over-dependence on oil exports.
- Aid from the USA helps to educate and protect people against the spread of AIDS/HIV.
- The USAID-funded Community Care in Nigeria project provides support packages for orphans.
- The UK Department for International Development has funded a health and HIV programme, providing health education in rural areas.
- The NGO Nets for Life provides education on malaria prevention and distributes anti-mosquito nets to many households.

#### BUT:

- Donors may have political influence over what happens to aid
- Money may be used to promote the commercial self interest of the donor
- Corruption in the government and by individuals means some aid doesn't reach those intended.

### The environmental impacts of economic development

- 70-80% of forests have been destroyed through logging, farming, urbanisation etc.
- Nigeria's energy consumption has increased. Fossil fuels like oil release lots of pollution and greenhouse gasses. Lagos is one of the world's most polluted cities. Demand for oil leads to destruction of the area around the Niger Delta and destroys habitats.
- Waste disposal is a big issue- there are too many people for the system to cope with all of their rubbish!!

- Desertification (the drying out of ground) is now a big problem due to dams being created and stopping/changing the natural flow of water.
- There have been many oil spills in the Niger delta, polluting water systems and harming the environment.

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

- Squatter settlements are common. Living conditions are cramped and access to services and essentials eg: schools, clean water, hospitals is limited.
- New developments in some areas have causes violent conflicts between locals as there is competition for success in these areas.
- There are more jobs and daily wages have increased. This means people have more money to improve their life, for example by securing access to clean water, a higher quality home and medical care.

## **Economic futures in the UK:**

- causes of economic change: de-industrialisation and decline of traditional industrial base, globalisation and government policies**
  - moving towards a post-industrial economy: development of information technology, service industries, finance, research, science and business parks**
  - impacts of industry on the physical environment. An example of how modern industrial development can be more environmentally sustainable**
  - social and economic changes in the rural landscape in one area of population growth and one area of population decline**
  - improvements and new developments in road and rail infrastructure, port and airport capacity**
  - the north-south divide. Strategies used in an attempt to resolve regional differences**
  - the place of the UK in the wider world. Links through trade, culture, transport, and electronic communication.**
- Economic and political links: the European Union (EU) and Commonwealth.**

### Causes of economic change

- De-industrialisation and the decline of the UK's industry - fewer jobs are available in manufacturing.
- Globalisation - a lot of manufacturing has moved overseas, where labour costs are lower, though HQ of manufacturing companies have remained in the UK. Trade with other countries is an important part of UK GDP.
- Government policies - decisions on investment in infrastructure and technology and support for businesses (e.g. tax breaks) affect how well the economy grows. Membership in groups like the World Trade Organisation make it easier for companies to operate across the world.

### Moving towards a post-industrial economy

- Tertiary and quaternary industries are growing. In 2011, they employed 81% of the UK's workforce.
- Services - e.g. retail (employs 4.4 million people), entertainment and personal services (hairdressers).
- IT - Over 60,000 people are employed in IT by companies like Microsoft or IBM.
- Finance - London, especially, is home to many global financial institutions. Some, like HSBC, have their HQ in the UK.
- Research - Research and development is increasing, making use of university graduates. In 2013, nearly £30 billion was spent on R&D in the UK.
- Science and Business Parks:

Quaternary industries are found here.

- 1) On the outskirts of cities near to good transport links e.g. motorways.
- 2) Close to housing to accommodate workforce.
- 3) New universities that research businesses in science parks can have access to, allowing them to develop cutting edge technology.

They have grown because:

- 1) large, growing demand for high-tech products.
- 2) The UK has a large number of strong research universities for businesses on science parks to form links with.
- 3) Clusters of related businesses in one place can boost each other.

- **Cambridge Science Park**

- Background information

- The Cambridge Science Park, founded by Trinity College in 1970 is the oldest Science Park in the United Kingdom.
- It is a concentration of science and technology related businesses, and has strong links with the nearby city of Cambridge.
- Cambridge Science park is home to more than 100 businesses which are involved in lots of areas of expertise such as medical, IT and environmental.

- There is a large range of services on site to help the people who work in the Park. Some of the environmentally friendly services include recycling facilities and landscaping to attract more wildlife to the area

#### Location

- It is close to Cambridge University for educated graduates.
- Can attract a good workforce as it is an attractive place to live with open spaces and excellent shopping.
- Close to major transport links e.g. airports and M25.

#### Impacts

- Hi-technology provides jobs - they employ  $\frac{1}{4}$  of workers in Cambridge.
- Other companies have developed to supply the hi-technology with equipment, services etc. These companies also create employment: multiplier effect.
- The city has become overcrowded making it difficult to drive or park
- House prices are high and still rising

Over 90 Research and Development (R and D) companies within Cambridge Science Park (well over 700 high tech companies within the Cambridge region).

- Epson
- Toshiba Research Europe
- Kodak European Research
- Microsoft

Development of **synergy** (the intense localised interaction between different companies on the same sites which creates benefits for all participants).

### Impacts of industry on the physical environment. An example of how modern industrial development can be more environmentally sustainable: Torr Quarry

#### Impacts of industry

- Manufacturing plants can look very dull and can have negative visual effect on the landscape
- Industrial processes can cause air and water pollution, as well as degrading the soil
- Waste products are often taken to landfill and when in the ground can pollute the air, water and soil
- Transport of raw materials is often by road increasing air pollution and damage to the environment when roads need to be widened or new ones built
- Destroy natural habitats
- Scar the landscape

#### How to make industrial development more sustainable?

- Technology can be used to reduce harmful emissions from power stations and heavy industry
- Desulphurisation can remove harmful gases such as sulphur dioxide from power station chimneys
- Heavy fines imposed when industrial pollution incidents occur

#### Example: Torr Quarry, Somerset

- Quarry is being restored to create wildlife lakes for recreation and water supply
- Characteristic limestone features will be created to make the landscape look natural
- 200 acres landscaped to blend in with the surrounding environment, including planting grass and trees



- Rail transport minimises the impact of local roads and villages

### Improvements and new developments in road and rail infrastructure, port and airport capacity

- Airports are important to the economy of the modern UK.
- Airport simply over 300,000 people and 3.6% of GDP.
- Over 2 million tonnes of freight pass through the UK's airports each yr.
- More than 750,000 international flights depart from the UK annually to 400 airports in 114 countries around the world!
- There are also over 420,000 domestic flights to over 60 airports within the UK.
- The UK port industry is the largest in Europe, due to the long coastline and trading history.
- Some ports specialise in passenger ferries others in cargo transporters.
- Most are all purpose with a range of goods and services.
- Dover is the UK's main port for freight (lorries, cars etc).
- Felixstowe is the largest container port.

#### **e.g Heathrow Expansion**

- It is already by far the largest airport in the UK. By 2030, it could expand further. A new runway will be built at an estimated cost of £18.6 billion. Heathrow currently operates at almost full capacity, with 480000 flights a year.
- It will help London to compete with rivals like New York and Paris.
- It is already the largest emitter of CO<sub>2</sub> in the UK. This would increase with expansion.
- One village will be demolished and 2 others would be threatened.
- The airport employs 76000 people and supports a similar number of jobs in London - this would increase.
- Expansion would boost the UK's economy by £200 billion.
- Noise pollution will get worse for 1 million people who live below the flight path.
- Some people think it is further evidence of development being prominent in the south and suggest the runway should be built at Manchester to speed up development in the North.

### Social and economic changes in the rural landscape in one area of population growth and one area of population

#### decline

#### An area of population increase

- South Cambridgeshire is the mostly rural area surrounding the city of Cambridge. The population of 150,000 is increasing due to migration into the area.
- The proportion of people aged 65 or over is expected to reach 29% of population by 2031 which means an increased demand on health and housing and the total population is estimated to reach 182,000 by 2031, an increase of 32,000 people in 15 years.

### Impacts

- Commuters who still work in Cambridge using services there rather than local ones, which has a negative effect on the local rural economy.
- 80% car ownership on narrow rural roads is leading to congestion and pollution,
- Gentrification means young people are being priced out of the housing market.
- Reduction in the primary industry as farmers sell their land to housing developers who are offering attractive prices.
- Lack of affordable housing.

### An area of population decline

- The Outer Hebrides has a population of 27,400 people, about 5 times less than South Cambridgeshire. It is made up of a chain of 65 different small Islands in close proximity, with most living on the Isle of Lewis.
- There has been an overall decline of 50% of it's population since 1901 due to outward migration. With limited opportunities, younger people are choosing to live elsewhere.

### Impacts

- School closures are likely due to the falling number of school aged children
- Fewer people of working age resulting in less taxes being paid
- Number of fishing boats has declined from 900 in 1948 to just a few now, due to reduced fish stocks and loss of jobs to overseas areas.
- Ageing population leading to issues with health care and housing provision

### The north-south divide. Strategies used in an attempt to resolve regional differences

#### Issues

- The decline of heavy industry has been worse for the North of the UK but the growth of a post-industrial economy has benefitted the south.
- Wages are generally lower in the north. In 2014, average weekly wage was 40% lower in Huddersfield than in London.
- Health is generally worse in the north. Life expectancy is much higher in the south.
- Education - GCSE results are generally better in the south.

#### Solutions

- 1. Devolving more powers - Scotland, Wales and Northern Ireland have their own governments and this allows them to use money on schemes they feel will benefit the community e.g. regeneration projects.
- 2. Creating Enterprise Zones - These offer a range of benefits for locating in enterprise zones: reduced taxes, simpler planning rules, financial benefits, improved infrastructure.
- 3. The Northern Powerhouse is the government's plan to reduce the inequality by attracting investment to the north and improving transport links between northern cities e.g. via HS2.
- Roads - capacity on motorways is being increased by upgrading to smart motorways with extra lanes.
- Rail - HS2 will link London, Birmingham, Leeds and Manchester. It will allow faster journeys between major English cities.

- Airports - a new runway is needed at Heathrow.
- Ports - London Gateway is able to handle to world's largest container ships.

The place of the UK in the wider world. Links through trade, culture, transport, and electronic communication. Economic and political links: the European Union (EU) and Commonwealth

- Trade - the UK trades globally, with links to the USA, Europe and Asia. Overseas exports are worth over £250 billion per year.
- Culture - the UK's strong creative industries mean that the UK culture is exported worldwide e.g. Shaun the Sheep.
- Transport - the Channel Tunnel links the UK to France by rail.
- IT - most of the trans-Atlantic cables (for phone and internet connections) linking Europe with the USA are routed via the UK.
- EU - This gives EU citizens access to a large market without trade barriers. Over £130 billion trade exports were to the EU in 2015.
- Commonwealth - this makes up 53 independent states and exists to improve the wellbeing of everyone in it.