Section A – The challenge of natural hazards

EXAMPLE <u>Effects and Responses to a Tectonic Hazard</u> – Nepal 2015 **LIC**

Date: 25th April 2015 **Plate margin:** collision → ←

Magnitude: 7.6

Primary Effects:

- 8841 people killed and 6800 injured
- 1 million people made homeless
- 26 hospitals destroyed

Secondary Effects:

- Triggered an avalanche on Mount Everest that swept through Everest base camp
- 19 people were killed by avalanche – 7 were tourists

Immediate Responses

- International aid was provided by India and China who in total committed over $1 billion to help support Nepal
- The UK offered help and support, including over 100 search and rescue responders, medical expects and rescue experts

Failings

- Nepal's mountainous terrain and inadequate roads made it difficult for aid to reach remote villages. 315,000 people were cut off by road and 75,000 we additionally unreachable by air. Facebook launched a safety feature so that people could indicate that they were 'safe'.

Long-term Responses

- A new government taskforce was created to help deal with future earthquakes
- Areas were zoned to assess damage
- People are now being educated across Nepal to do earthquake drills

EXAMPLE <u>Effects and Responses to a Tectonic Hazard</u> – L'Aquila, Italy **HIC**

Date: 6th April 2009

Magnitude: 6.3 

Primary Effects: 

- 3000 deaths, mostly from collapsed buildings
- 1500 injured

Secondary Effects:

- Aftershocks and fires caused more damage
- Landslide causes by broken pipe in town of Paganica

Immediate responses: 

- camps set up for homeless, providing food, water and medical care
- emergency services and the army were sent to rescue survivors

Failings

- The Disasters Emergency Committee (DEC), a UK group, did not provide aid because it considered Italy a more developed country which had the resources to provide help, and had the help of the EU.

Long-term Responses 

- Most of the city is rebuilt, however some criticism over delays
- New settlements to accommodate 20,000 who lived in city centre

EXAMPLE <u>Effects and Responses of a Tropical Storm:</u> Typhoon Haiyan

When? 8th November 2013 

What? Category 5 typhoon

Where? Originated in the northwest Pacific Ocean and the most powerful typhoon to affect the Philippines. Wind speed of 195 miles per hour.

Primary effects:

- 90% of Tacloban was destroyed
- 6190 people died
- 4.1 million people made homeless
- Overall cost of the damage was around $12 billion

The strong winds battered people's homes and even the evacuation centre buildings. Those made homeless were mainly in the Western and Eastern Visayas. Although the harvest season was over, rice and seed stocks were squandered in the storm surges. This led to a loss of $53 million US dollars.

Secondary effects:

- Survivors fought for food and supplies.
- Eight people died in a stampede for food supplies.
- Seawater, along with chemicals from industry and sewerage systems, contaminated surface and groundwater.

Immediate response:

- 800,000 people were evacuated following a televised warning by the president.
- The government provided essential equipment and medical supplies.
- Once the main airport was reopened three days later, emergency aid arrived. Power was restored in some regions after a week.
- Within 2 weeks, one million food packs and 250,000 litres of water were distributed.
- Over $1.5 billion of foreign aid was pledged. Thirty-three countries and international organisations promised help.

Long-term responses: 

- Build Back Better is the government's response to the typhoon. Launched in 2014, it intended to upgrade damaged buildings to protect them from future disasters.
- They have also set up a no-build zone along the coast in Eastern Visayas, a new storm surge warning system has been developed, and mangroves have been replanted to absorb future storm surges.

EXAMPLE <u>Extreme weather event in the UK: Effects and management strategy to reduce risk</u>: The Somerset Levels Floods, 2014

WHERE? Southwest England

Causes of Floods

- Wettest January since records began – low pressure driven across the Atlantic Ocean brought a period of wet weather lasting several weeks
- 350mm of rain fell in January and February (about 100m above the average)

IMPACTS

Social Impacts:	**Economic Impacts:**	**Environmental Impacts:**
• Over 600 houses flooded and 16 farms evacuated • Residents evacuated to temporary accommodation	• Somerset County Council estimated the cost of flood damage to be more than £10 million • Over 1000 livestock evacuated	• Floodwaters were heavily contaminated with sewage and other pollutants including oil and chemicals • A huge amount of debris had to be clearer

Immediate Responses:

- Homeowners coped as best as they could. Villagers cut off by the floods used boats to go shopping or attend school. Local community groups and volunteers in Burrow bridge gave invaluable support
- Many pumps were used to get water off the Levels and back into the rivers. These pumps were pumping 10 tonnes of water per second.

Long-term Responses:

- The Somerset Contingencies Partnership improved their website and set up a social media site to give people easy access to information on how to reduce their flood risk and prepare.
- By 2015, some of the temporary pumping stations such as those at Northmoor and the Bridgewater Taunton Canal were to be made permanent and reusable.

Section B – The living world

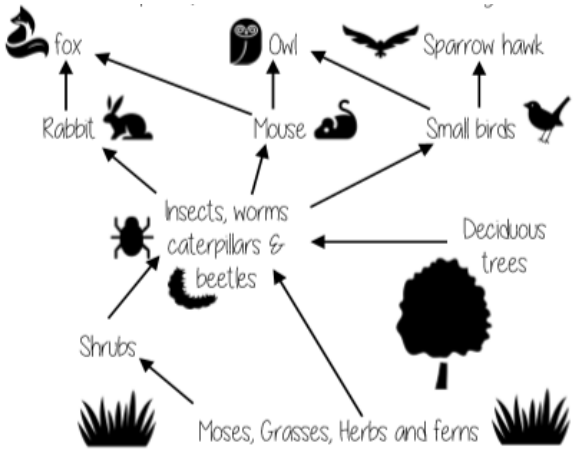
EXAMPLE <u>Small scale ecosystem to show interrelationships:</u> Epping Forest

Location: An ancient deciduous woodland that runs north-east of London, covering 2,500 hectares.

Ecosystem:

A complex food web, composed of thousands of species, needed careful management as a result

- Wide variety of native tree species (including beech and elm)
- 117 species of lichen and moss
- 38 species of birds
- 700 species of fungi, important decomposers
- Over 100 lakes and ponds providing important habitats for numerous species of plants and animals.



Sustainable management:

- In 1878 the Epping Forest act o Palianent was passed to state that it should remain as an unbuilt open space for the enjoyment of people

Tourism:

- Car parks, toilets, refreshment facilities, maintaining footpaths

Other:

- Allowing trees to die and collapse naturally
- Encouraging grazing
- Dead wood is left when it falls as it provides a valuable habitat

Pollarding: (a good example of sustainable management ensuring as supply of wood for future generations)

Involves cutting trees at about shoulder height above the level of browsing for animals such as deer. They reshoot producing wood for future cutting. This is why there are more ancient trees at Epping Forest.

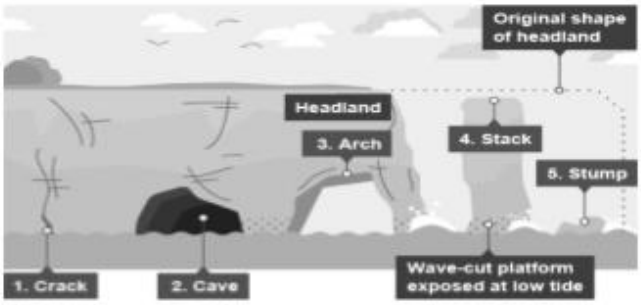
Helps trees live for longer because if left unprotected its crown would become too

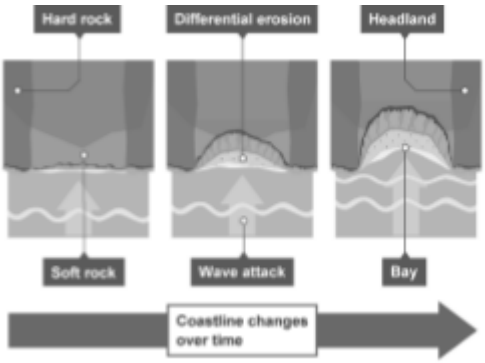
Section C – Physical landscapes of the UK

EXAMPLE <u>UK Coastline to identify major landforms of erosion and deposition:</u>
The Dorset Coast

Location: Southwest England, an indented coastline called a discordant coastline

1. Durdle Door – ARCH. Erosion by waves opened a crack in the headland, which became a cave and then developed into an arch
2. Lulworth Cove – BAY. Formed after gap of limestone eroded. Band of clay behind limestone then eroded to form bay.
3. Old Harry Rocks – chalk headland of the Foreland has been dramatically eroded at the end into a stack (Old Harry) and a stump (Old Harry's Wife)

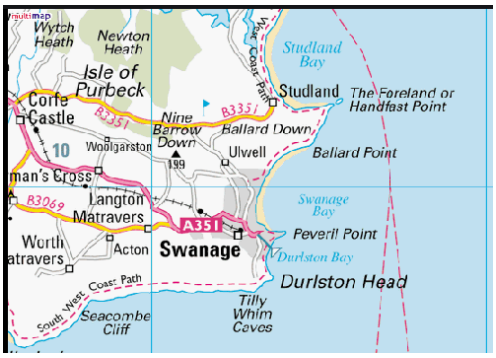




Depositional Landforms

Chesil Beach – stretches 18km, made of pebbles and shingle.

At Studland there is a beach, saltmarshes and sand dunes.



EXAMPLE <u>Coastal Management Scheme in the UK, management and conflict:</u> Lyme Regis

Location: Small coastal town in South of England.

Issue:

- Much of the town is built on unstable cliffs
- Coastline is eroding more rapidly than any in Europe due to powerful waves from the south west
- Built on a layer of limestone however on top are layers of slippery mud, clays and sands which slide over the limestone to cause landslides.

Why does the coastline need to be managed?

- Local economy depends on tourism
- Tourism provides for 37,500 people in Dorset
- The area generates £800 million per year
- Lyme Regis holds events such as April's fossil festival
- **Management**: 

The Lyme Regis Environmental Improvement Scheme was set up in the early 1990s to provide long-term coastal protection and reduce threats of landslides.

Phase one	**Phase two**	**Phase three**	**Phase four**
New sea wall and promenade constructed to the east of the River Lim. In the winter of 2003 a £14 million emergency was completed to stabilise the cliffs. Hundreds of large nails were used to hold rocks together.	Creation of a wide sand and shingle beach to absorb wave energy and increase use of the shore. Shingle was dredged from the English Channel and sand was imported from France.	Initial plant to prevent landslips and coastal erosion to the west of the Cobb were shelved. It was decided to leave the stretch of the coast alone as the costs outweighed the benefits.	The final phase focused on the coast east of the town. It cost £20 million and involved constructing a new 390m sea wall in front of the existing sea wall.

Was it successful?

Advantages 	**Disadvantages** 
☺ new beaches have increased visitor numbers and sea front businesses are thriving **☺ the new defences have stood up to recent stormy winters** **☺ the harbour is now better protected benefitting boat owners and fishermen**	**☹ increased visitor numbers have led to conflicts with locals about traffic congestion and litter** **☹ some people think the new defences have spoilt the natural landscape** **☹ the new sea wall may interfere with coastal processes and affect neighbouring stretches of coastline**

EXAMPLE <u>UK River valley to identify major landforms of erosion and deposition:</u> River Clyde

Location: Scotland

Source: South Uplands region of Scotland

Mouth: West coast of Scotland

Upper Course:

Interlocking spurs at Crawford

Waterfall – Falls of Clyde after four waterfalls near Lanark

Middle Course:

Meanders between Motherwell and Glasgow

Lower Course:

The estuary is 3km wide. There are areas next to the river channel show the mudflats which are exposed at low tide.

EXAMPLE <u>Flood management scheme in the UK:</u> Banbury

Location: Cotswold Hills about 50km north if Oxford 

Problem? Devastating history of floods – 1998 and 2007

Strategies:

1. Road Raising: 860 metres of the A£61 was raised
2. Pump station built at Moorfield Brook to transfer excess rainwater downstream
3. Earth Embankments and floodwalls: 2m high, 400m long embankment to protect industrial estate.
4. A Biodiversity Action Plan (BAP): new habitats to provide greater interception and store flood water

Success?

Social: 

- ✓ Quality of life improved for people with new green areas and footpaths
- ✓ Reduced levels of anxiety
- ✓ A361 remains open reducing disruption

Economic: 

- × Cost about £18.4 million
- ✓ Protection of houses and businesses aims to benefit by over £100 million

Environmental: 

- × 100,000 tonnes of earth needed for embankment
- ✓ New BAP created new habitats

CASE STUDY <u>Tropical Rainforest to show causes and impacts of deforestation:</u> Malaysia

Location: Malaysia is a country in South East Asia. 67% of land covered by rainforest.

The rate of deforestation is increasing faster than in any tropical country in the world.

Causes of deforestation 

- Logging: became the largest exported of tropical wood in the 1980s. Clear felling was common leading to total destruction of forest habitats. (*recently replaced by selective logging – only cutting down fully-grown trees)*
- Mineral extraction: mining (mainly tin and smelting) is common in Peninsular Malaysia – rainforest is cleared for mining and road construction
- Population pressure: in the past, poor urban residents encouraged by government to move into countryside from cities (transmigration) – led to about 15000 hectares of rainforest being felled for settlements between 1956 and 1980s.
- Commercial farming: largest exported of palm oil. During 1970s large areas of land converted to palm oil plantations.
- Subsistence farming: practiced by tribal people – methods include 'slash and burn' using fire to clear the land, burning valuable nutrients which help plants to grow.

Impact of deforestation 

- Soil erosion: removal of soil by wind and rain. Deforestation means soil can easily erode as trees and plants bind the soil together.
- Loss of biodiversity: deforestation destroys the ecosystem and many habitats, reducing biodiversity.
- Contribution to climate change: reduces moisture given off by trees during processes if transpiration – leading to a drier climate.
  The process of evaporation uses up heat and cools the air; cutting down trees increases temperatures.
- Economic Development – losses and gains

Economic gains	Economic losses
• Development of land for farming and mining increases jobs • Companies will pay tax which can be used to improve public services such as education • Improved transport infrastructure which opens up areas for tourism • Products such as palm oil provide raw materials for processing industries	• Pollution of water sources and an increasingly dry climate may result in water shortages • Fires can cause harmful pollution • Rising temperatures could devastate some forms of farming such as growing tea • Plants that could bring huge medical benefits and high profits could become extinct

CASE STUDY <u>Hot desert opportunities and challenges:</u> The Thar Desert

Location:

- It stretches across north-west India and Pakistan
- Covers an area of about 200,000 square km
- Mostly in the Indian state of Rajastha

Climate and vegetation:

- Rainfall in the Thar Desert is low - typically between 120 and 240mm per year
- Summer temperatures in July can reach 53°.
- The soils are generally sandy and not very fertile
- Clumps of thorn forest vegetation.

Opportunities:

- Scientists at the Central Arid Zone Research Institute have developed a hardy breed of plum tree called the Ber tree. It produces large fruits and can survive in low rainfall conditions. The fruits can be sold and there is the potential to make a decent profit.
- The main form of irrigation in the desert is the Indira Gandhi Canal, constructed in 1958 and has a total length of 650km. Two of the main areas to benefit centred on the city of Jodhpur and Jaisalmer, where over 3,500km squared of land is under irrigation.
- The desert region has valuable reserves of gypsum (used in making plaster for the construction industry and in making cement), feldspar (used to make ceramics) and kaolin (used as a whitener in paper).
- A popular tourist destination. Desert safaris on camels, based at Jaisalmer, have become particularly popular. Local people benefit by acting as guides or rearing and looking after camels.

Challenges:

- Thar desert is the most densely populated desert in the world, with a population density of 83 people per km squared, and the population is increasing. This is putting extra pressure on the fragile desert ecosystem
- Water management - excessive irrigation in some places has led to waterlogging of the ground. Where this has happened, salts poisonous to plants have been deposited on the ground surface.
- Soil erosion - overcultivation and overgrazing have damaged the vegetation in places, leading to soil erosion by wind and rain. Once eroded away, the soil takes thousands of years to re-form
- Although tourists bring benefits such as employment and extra incomes, the environment that they enjoy is fragile and will suffer if tourism becomes overdeveloped.
-

Sustainable Management

In 1977 the government-funded Desert Development Programme was started. Its main aims are to restore the ecological balance of the region by conserving, developing and harnessing land, water, livestock and human resources. In Rajasthan it has been particularly concerned with developing forestry and addressing the issue of sand dune stabilisation.

The sand dunes in the Thar Desert are very mobile. In some areas they form a threat to farmland, roads and waterways. Various approaches have been adopted to stabilise the sand dunes, including planting blocks of trees and establishing shelterbelts of fences and trees

Section B – The changing economic world

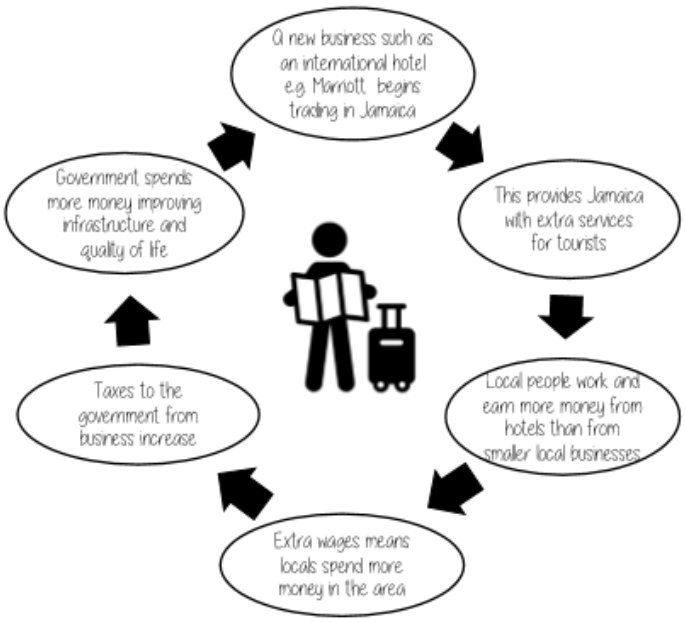
EXAMPLE Growth of tourism in a NEE which helps reduce the development gap - Jamaica

Location: Caribbean sea, third largest Caribbean island.

Main tourist attractions:

- Beach resorts of Negril
- Blue mountains National park
- Deep sea fishing at Port Ontonio

Multiplier Effect



Positive of tourism	Negatives of tourism
☺ Income from tourism is $2 billion each year ☺ In 2014, tourism contributed to 24% of Jamaica's GDP ☺ provides 200,000 jobs ☺ tourism has led to high levels of investment on the north coast	☹ improvements in roads and airports have been slower and some parts of the island remain isolated ☹ many jobs are seasonal so people can become unemployed ☹ damage to local environment – footpath erosion, excessive waste and harmful emissions

Ecotourism and community tourism

- Tourists stay with locals in their homes, directly benefitting locals
- There are also ecotourist lodges along the coastline featuring zero waster and solar panels.

EXAMPLE <u>Modern industrial development can be more environmentally sustainable:</u>
Torr Quarry, Somerset

Significance

- National source of construction materials – mainly rock chippings
- ¾ of its products are transported by rail

Environmental sustainability:

- Quarry is to be restored to crease wildlife and recreational lakes
- 200 acres of the site has been landscaped to blend in with the surrounding countryside
- Further deepening quarry to minimise environmental impact
- Regular monitoring of noise, vibrations, dust and water quality
- Rail transport minuses the impact on local roads and villages

Section C – The challenges of resource management

EXAMPLE Large scale agricultural advantages and disadvantages: Indus-basin irrigation Scheme, Pakistan

Location: runs from the Tibetan Plateau, through Pakistan to the Arabian Sea

What is it?

- Largest continuous irrigation scheme in the world
- Three large dams and over one hundred smaller dams
- Over 1.6 million km of ditches and streams provide irrigation for Pakistan's agricultural land

Advantages:

- Improves food security for Pakistan, making 40% more land available for cultivation
- Improves diets by creating bigger range of food products
- Irrigation has increased crop yields
- HEP is generated by large dams

Disadvantages:

- Some farmers take an unfair share of water
- Poor irrigation means water is wasted
- Population growth will increase the demand for water
- High costs to maintain reservoir capacity

EXAMPLE A local scheme in a LIC to increase sustainable supply of Food: Makueni, Kenya

- ❖ Programme provided to help two small villages and Kanyenoni Primary School

Programme included:

- Improve supply by building sand dams for each village
- Training programme to support local farmers
- Growing trees to reduce soil erosion

Sand dams store water in the ground, filtering and cleaning the rainwater as it soaks into the soil. They are cost-effective and sustainable.

😊 Programme was successful!

- Increased food security
- Reduction in water borne diseases
- Less time wasted fetching water

Section A – Urban Issues and Challenges

CASE STUDY <u>Major city in an NEE to show location, growth, opportunities and challenges of urban growth and economic development and managing environmental issues:</u> Rio de Janeiro

Location: South-east Brazil

Growth: economic activities attract migrants from many different places (e.g. Amazon Basin, Argentina and Bolivia)

Global importance:

- Christ the Redeemer – world heritage site
- 5 million visitors for carnival
- International events – Olympics 2016, World Cup 2014

Zones

The North Zone	The West Zone	The Centro Zone	The South Zone
Mostly poor, international airport, main industrial area, 1000 favelas	New middles class neighbourhood, shopping, site for Olympic stadium	Headquarters of huge Brazilian companies, CBD and main shopping area, historic and cultural buildings	Rich, hills and mountains, largest favela (Rocinha) looks down upon one of the richest areas (Ipanema beach)

Opportunities:

- ✓ Economic: 2nd largest centre for research and development
- ✓ Social: 2nd most visited city in the southern hemisphere for events such as carnival
- ✓ Social & Economic: World cup 2014 and Olympic games 2016

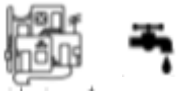
Challenges:

- × Economic: Mainly informal jobs offered
- × Social & Environmental: Over 20% of the city live in favelas
- × Social: High levels of crime in the favelas

Managing environmental issues in Rio:

Environmental Issues	Solution
Air pollution & traffic congestion (*air pollution causes around 5000 deaths per year in Rio)*	• Expansion of metro system • New toll roads
Water pollution (*rivers are polluted by open sewers)*	• 12 new sewage works built since 2004 • 5km sewage pipes installed
Waste pollution (*waste collection in favelas in difficult due to steep roads)*	• Power plant set up which consumes 30 tonnes of rubbish a day and enough electricity for 1000 homes

Urban planning is improving quality of life for the urban poor - Rio de Janeiro



Favela Bairro project

What? A site and service scheme that improves life in the favelas

Why? Aims to overcome problems such as poor housing, crime and unemployment

When? Set up in the 1990s – property value increased by 80%

Successes:

☺ provided materials and skills to improve housing and installed basic infrastructure such as roads, electricity, water and sanitation

☺paved roads

☺ New health centres and schools have been built

☺ residents have access to credit to enable them to buy materials to improve their homes

Problems:

☹ Expensive and large-scale project. The infrastructure needs maintenance and people need to be trained in construction skills

☹ lacks a sense of community and no shops nearby

☹ More training is need to improve literacy and employment

CASE STUDY <u>Major city in the UK, location, growth and character, opportunities and challenges of urban change:</u> Bristol

Location: south-west England 

National importance:

- Two universities 
- Two cathedrals
- Good road and rail links to London

International importance:

- Largest concentration of silicon chip manufacture outside of California
- Around 700,000 cars from Japan, Germany and Korea are imported to Bristol's docks each year

Migration impact:

Positive	**Negative**
☺ Young migrants balancing aging population  ☺ Enriched culture within the city ☺ contribute to local and national economy	☹ Not enough housing – increasing prices ☹ the need to provide education for children whose language is not English ☹ challenge of integration within community 

Social Opportunities:

- ✓ Youthful population means there is a range of bars and nightclubs

Sport: 

- ✓ Bristol has two professional soccer teams – their developed stadiums provide a range of leisure and conference facilities

Shopping:

- ✓ The city centre has become outdated and people had begun shopping out of town and retail park at Cribbs Causeway

Economic Opportunities: 

- ✓ There are 50 micro-electronic and silicon design businesses in Bristol – attracting high-tech businesses to Bristol a government grant of £100 million
- ✓ Aardman Animations – studio well known for its filming using stop-motion animation techniques e.g. Wallace and Gromit

Environmental Opportunities: 

- European green capital 2015 – 100 electric car charging points and urban greening
- Frome gateway – walking/cycling scheme into the city centre
- By 2026 30,000 new houses needed and planned for on brownfield sites – such as Harbourside
- Urban greening – 1/3 of Bristol's is open space and more than 90% of people love within 350km of parkland and waterways.

Environmental Challenges: 

× Dereliction: Stokes Croft – issues with antisocial behaviour.
  - Lottery grants have helped to improve the area
  - Artists wanted to improve the areas through public action and community art

× Urban sprawl
  Bristol is developing brownfield sites such as Harbourside for housing to reduce the need for housing.
  Harry Stoke, a new development of 1200 homes on greenfield land

× Waste disposal – The city produces half a million tonnes of waste per year. The local government are reducing the amount of waste that has to be sent to landfill and reducing the amount of waste generated per household by 15%.
  Temple

Inequality in Bristol

Filwood – a deprived urban area

Housing • Many homes are poorly insulated	Health • Life expectancy is 78, lower than UK average • Lowest participation in active sports
Education • In 2013, only 36% of students got top GCSE grades	Employment/Economic • 1/3 of people aged 16-24 are unemployed

Stoke Bishop – an affluent suburb

Housing • 81% of housing is owner occupied	Health • Life expectancy is 83, above UK average
Education • 94% of 16 year olds got the highest grades at GCSE	Employment/Economic • Only 3% of people are unemployed

Temple-Quarter regeneration 

WHY? Very rundown and gave a bad impression when arriving from Temple Meads rail station. Former industrial area.

4 separate areas of regeneration:

Avon riverside Green spaces created.	**Silverthorne Lane** The remain of Bristol's iron works	**Temple Quay** Rope works, timber yards	**Temple Mead's city gateway** Railway station cut off from rest of area by a dual carriageway

How has the area been regenerated?

1. Improved access from in and around Bristol by improving Temple Mead station and redevelopment of the station to be a transport hub for the city
2. Enterprise Zone Status – low taxes and low rents for businesses
3. New bridge across the River Avon – gives access to new Bristol Arena
4. Electrification of London to Bristol railway line
5. Glass Wharf new office development
6. Engine shed – a renovated historic building for high tech and low carbon industries

Section B – the changing economic world

CASE STUDY <u>Nigeria</u> – NEE

Location: West Africa

Key facts:

- Supplies 2.7% of the worlds oil – economic growth is based on oil Africa's largest economy
- Since 1990 has a stable government
- Well known for Nollywood

TNCS: Shell Oil

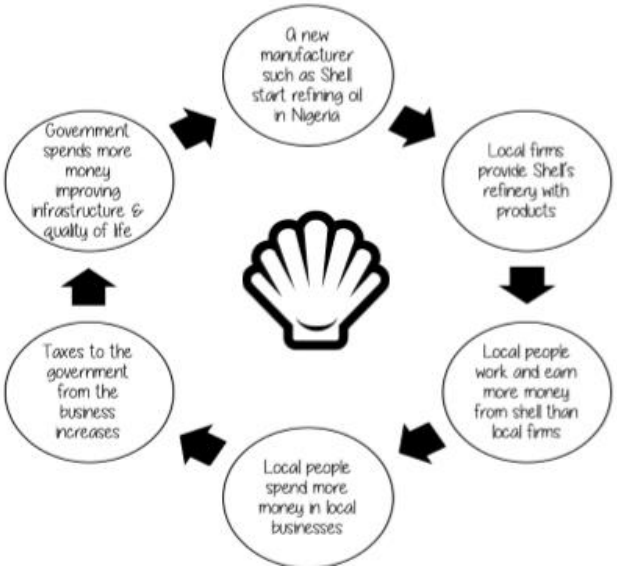
Advantages:

☺ Shell provides direct employment for 65000 Nigerian workers and a further 250000 jobs in related industries

☺ Shell has invested huge amounts of money and expertise into extracting oil in the Niger Delta

☺Shell has supported the growth of Nigeria's energy sector through investment

☺ In 2018, approximately $5.9 million was invested in educational scholarships in Nigeria



Disadvantages:

☹ 9 million oil barrels in the last 50 years causing water and soil pollution

☹ 75% of rural areas have no access to clean water

☹ frequent oil flares send toxic fumes into the air

☹Poverty is increased due to pollution

Nigeria's growing manufacturing sector and economic development

- Regular paid work means secure income
- Stimulate growth for other companies
- Attracts foreign investment
- Oil production has led to the growth of chemical industries including soaps and plastics

multiplier effect (see above)

Political links: OPEC, ECOWAS, UNITED NATIONS

Trading links:

- Crude oil = highest export, particularly to the USA. Fallen since USA development of Shale oil.
- Agriculture = Australia (30%) and Indonesia (15%) are the biggest customers for Nigerian cotton

Political Context: - Nigeria was ruled by the UK as a colony - Political instability affected development and lead to widespread corruption	**Social Context:** - Multi-ethnic, multi-faith country - Source of conflict including civil war between 1967 and 1970 - Recent economic inequality between Islamic North and Christian south created new religious and ethnic tensions
Culture Context: - Nigerian music and Nollywood - Football team won African Cup of Nations three times	**Environmental Context:** - North - semi-desert - Central – tropical grassland - South – high temperatures and high annual rainfall

Aid

How does Aid benefit Nigeria?	**What prevents aid from being used effectively?**
☺ helps prevent spread of HIV/AIDs ☺ in 2014, World Bank approved US$500 million to fund development projects ☺ Nets for life (an NGO) provides education on malaria prevention and distributes anti-mosquito nets ☺ The Community Care in Nigeria project provides support for orphans	☹ corruption is a major loss of aid ☹ donors may have political influence over what happens to aid ☹ Nigeria may become more dependent

The effect of economic growth on…

1. **The Environment**

Industrial growth: × pollutants go directly into water channels (e.g. in Lagos) × industry emits poisonous gases	Urban growth: × issues of waste disposal × traffic congestion
Commercial farming and deforestation: × water pollution due to chemicals and soil erosion	Mining and oil extraction × tin mining leads to soil erosion × oil spills can cause fires

2. **Quality of life**

Positive	**Negative**
☺ Improved access to healthcare ☺ Higher disposable income (e.g. schooling) ☺ Better access to safe water and sanitation ☺ 2011 had the highest HDI improvements in the world	☹ Many people are still poor as 60% live in poverty ☹ Limited access to services such as water, sanitation and electricity ☹ Gap between the rich and poor has widened

Have all Nigerians benefitted from economic development?

Most indicators suggest economic development has improved the quality of people's lives. (E.g. HDI steadily increasing since 2005)

Has it all been good news?

☹ many Nigerians are still poor

☹ wider gap between rich and poor

☹ oil wealth has not been used to diversity the economy

☹ Nigeria's over-dependence on oil could become a problem in the future

Will quality of life continue to improve?

Political – need for a continuing stable government

Environmental – threats of disease, desertification and pollution by oil spills

Social – historical distrust between tribal groups