4 lessons per two week cycle

Unit title	Paper 1 – Hazards	Paper 2 – Resource management	Paper 1 - Rivers	Paper 1 – Coasts and coastal fieldwork	Paper 2 - Changing Economic World	
Approximate number of lessons	22 lessons	10 lessons	12 lessons	9 + 6 fieldwork lessons	14 lessons	
Curriculum content	The students will study tectonic hazards, weather hazards and climate change.	Students will study the global distribution of food, water and energy and will look at how the UK deals with the provision of these resources. Students will then study the topic of "Food" in detail, looking at the causes and impacts of food insecurity and different methods of increasing food supply.	Students will study river landscapes including fluvial processes, river landforms and flooding.	Students will study coastal landscapes including processes, landforms and management. Students will also undertake their fieldtrip to Cromer where they will collect geographical data, analyse the data and present their findings and explain their conclusions.	<ul> <li>Students will study the following units during their Year 10 geography:</li> <li>Why can our world be described as unequal?</li> <li>Which strategies exist for closing the development gap?</li> <li>What is life like in Nigeria?</li> </ul>	
Links to prior learning	Students have studied tectonic hazards in Year 8 and have studied climate change and its global impacts in year 9.	Students have studied global connections in Year 8, which includes lessons on the origin of the UK's food and Fair-Trade initiatives.	Students have studied rivers and flooding in Year 7.	Students have studied erosion landforms in Year 7.	Students have studied Africa and Asia in Years 7 and 8	
Assessment Overview	Pre-assessment question: To what extent do the effects of a tectonic hazard vary between areas of contrasting wealth? Use one or more named examples in your answer. [9 marks]. Assessment: Two timed assessments with GCSE higher and lower tariff	Assessment: A timed assessment including GCSE higher and lower tariff questions, with prior knowledge included.	Assessment: A timed assessment including GCSE lower and higher tariff questions, with prior knowledge included.	Pre-assessment question: To what extent did the data collected allow us to draw reliable and valid conclusions? Assessment: A timed assessment including GCSE lower and higher tariff questions and practising geographical skills.	<b>Pre-assessment question:</b> Using an example you have studied, suggest how tourism can help reduce the development gap. <b>Assessment:</b> GCSE-style questions consolidating the major case study of Nigeria.	

	questions, comprising a tectonic hazards assessment and a weather hazards assessment. Assessments will also practise students' skills, such as use of figures, maps, and graphs.				
Cultural capital	<ul> <li>Visit The Natural History Museum</li> <li>Read "Can We Protect People From Natural Disasters" by Catherine Chambers</li> <li>Read "Disaster by Choice: How our actions turn natural hazards into catastrophes" by Ilan Kelman</li> <li>Tectonic hazards Read "The Tectonic Plates are Moving!" by Roy Livermore</li> <li>Watch "Into the Inferno" on Netflix</li> <li>Watch "A Perfect Planet, Series 1, Episode 1 – Volcano"</li> <li>Watch "The Impossible"</li> </ul>	Read "When the Rivers Run Dry, The Global Water Crisis and How to Solve it" by Fred Pearce Research geographical issues in the news e.g. search "water shortage" on the BBC News website Read "Factfulness" by Hans Rosling Watch – Cowspiracy on Netflix Explore 2020 Hunger Map Explore The Global Food security index	Watch "Sacred Rivers" with Simon Reeve Go for a walk along the River Lark (or any other local river) sketch or take photographs of what you can see on the way. Develop your cartographic skills and use an OS map to follow a river to the sea.	Watch "Blue Planet" and "Blue Planet II" Visit the Suffolk or North Norfolk coast and look out for erosion and deposition landforms, and coastal management.	<ul> <li>Explore The Global Food security index</li> <li>Select a country, change the graph axis to compare GDP.</li> <li>What can you learn about the UK and Nigeria?</li> <li>Explore The Global</li> <li>Economy Select countries and indicators to create your own graphs.</li> <li>What can you learn about the UK and Nigeria?</li> <li>Read "Global Economy as You've Never Seen it, The 99 Ingenious Infographics That Put It All Together" by Tomas Ramge.</li> <li>Read The Economy of the United Kingdom</li> </ul>

<u>Weather hazards</u> Read "Hurricanes vs. Tornadoes vs Typoons: Wind Systems of the World"		
by Baby Professor Climate Change		
Watch "Climate Change – the facts" on iPlayer		
Watch "Climate Change: Ade on the front line" on iPlayer		
Watch "Before the Flood"		
<b>Read</b> "Collapse: How Societies Choose to Fail or Survive" by Jared Diamond		
<b>Read</b> "Factfulness" by Hans Rosling		
<b>Read</b> "The God Species: How Humans Really Can Save the Planet…" by Mark Lynas		
<b>Read</b> "No one is too small to make a difference" by Greta Thunberg		
<b>Read</b> "There is no planet B: A handbook for the make or		

	break years" by Mike				
	Bernard-Lee				
Link to detailed	Knowledge organiser	Knowledge organiser	Knowledge organiser	Knowledge organiser	Knowledge organiser
content	1. Hazards	2. Resource	3. Rivers and coasts	3. Rivers and coasts	4. The changing economic
(Knowledge		management			world
Organiser/Unit					
Overview/Sche					
me of Learning)					

Knowledg	owledge organiser: GCSE – The Challenge of			Convection Currents				Causes of Earthquakes			
natural ha	azards		Th	e crust is	s divided into tectonic plates which are moving due to co the mantle.	onvection currents in	Earthquakes are cause <u>pressure</u> will eventua	ed when two plates become <u>lock</u> lly be released, triggering the pla	<u>ed</u> causing <u>friction</u> to build up. From this <u>stress</u> , the tes to move into a new position. This movement		
Type of hazard	·	Example	1	Radio heat.	oactive decay of some of the elements in the core and ma	antle generate a lot of	causes energy in the f crust vibrates triggering	form of <u>seismic waves</u> , to travel f ng an earthquake.	rom the <u>focus</u> towards the <u>epicentre</u> . As a result, the		
Atmospheric ha	zard	Rain, lightning, snow, hurricane.		Whe	n lower parts of the mantle molten rock (Magma) heat u	n they become <b>less</b>	The point directly above the focus, where the seismic waves reach first, is called the EPICENTRE.				
Geological hazar	rd	Volcano, avalanche, earthquake.	2	dens	e and slowly rise.						
When is a natur	al event a hazard	?	3	As th	ney move towards the top they cool down, become more	dense and slowly	SEISMIC WAVES (energy	SEISMIC WAVES (energy waves) travel out from the focus			
A natural hazard	A natural hazard occurs when a natural event overlaps with human activities.			sink.							
No hazard	Natural event, e.g. earthquake, flood     People and human activities     Distribution of earthquakes       azard or disaster     Natural hazard     People and human activities     Earthquakes and volcanoes usually occur on plate margins. They occur in a linear pattern.		4	These	e circular movements of semi-molten rock are convectio	on currents	The point at which press	ure is released is called the FOCUS.			
event, e earthqua			y 5	Conv them	vection currents create <b>drag</b> on the base of the tectonic p n to move.	lates and this causes		LIC : Nepal – 25	S <sup>th</sup> April, 2015		
liood			_		Types of Plate Margins		<b>Causes</b> 7.9 on the Richter scale.	Epicentre was 80km NW of Kathmand	lu. It is on a destructive plate margin. The Indo-Australian		
lazard or disaster			ian Plate		Destructive Plate Margin		and Eurasian plate are co	olliding.			
Natural People and human activities Possible disaster		Wh cau ford mai	en the d ses it to ces its ward	denser plate subducts beneath the other, friction melt and become molten magma. The magma rays up to the surface to form a volcano. This lso responsible for devastating earthquakes.		Effects         Resp           Primary – 9000 people died,, 20, 000 injured. 3 million left         Imm           homeless, electricity and water supplies, sanitation and         supp           communication affected. International airport became         Helix           congested as aid arrived.         Long           Secondary – landslides and avalanches blocked roads,         Thou		Response and Management <u>Immediate</u> – Search and rescue teams, medical and water supplies arrived quickly from UK, India and China. Helicopters rescued people stranded on Mount Everest. <u>Long-term</u> – roads were repaired and landslides cleared. Thousands of homeless people to be re-housed. 7000+ schools to be re-housed. 7000+			
Hazard risk is the chance of probability of being affected by a natural event.				Constructive Plate Margin	Constant Lines			trekking routes.			
Factor	How it affects	hazard risk	Her rea	Here two plates are <b>moving apart</b> causing new magma to reach the surface through the gap. Volcanoes formed along this crack cause a submarine mountain range such as those in			Causes 8.8 on the Richter scale. It is on a destructive plate margin. The Nazca Plate is moving beneath the South American plate.				
Urbanisation	Some of the w	orld's largest cities (Tokyo, LA) are at risk of	the	the Mid Atlantic Ridge.			Effects Response and Management				
	earthquakes. E from natural e	Densely populated urban areas are at great risk vents such as earthquakes and tropical cyclone	s.	Conservative Plate Margin			<u>Primary</u> – 500 killed, 12, 000 injured. Port and airport badly damaged. Much of Chile lost power, water supplies and exercise difference in the supplies of the supplice of the supplies of t				
Poverty	In poorer parts areas at risk, e	s of the world poverty may force people to live .g. unstable slopes prone to flooding/landslide	in A co s. eac at c	A conservative plate boundary occurs where plates <b>slide past</b> each other in opposite directions, or in the same direction but at different speeds. This is responsible for earthquakes such as			and communication. Lost estimated at US\$30 billion. <u>Secondary</u> – 1500km of roads damaged, mainly by landslides. Coastal towns devasted by tsunami waves. Fire at a chemical plant. <u>Long-term</u> – a month after the earthquake, Chile's government launched a housing plan to help nearly 000 households affected. The president announced				
Climate change	There may be number of floo	more intense storms and hurricanes, increased ods/droughts and famines.	the	ones ha	appening along the San Andreas Fault, USA.						
Farming	Floodplains are	e fertile for farming.			Volcanic Hazards			Comparing Nepal and Chile			
		Ash	loud	thrown into the atmosphere.	- A Constant	15%	<u>GDP</u> (a measure of wealth) –	A States			
The structure of the Earth       Varies in thickness (5-10km) beneath the ocean. Made up of several large plates.		Gas		Sulphur dioxide, water vapour and carbon dioxide	acid	eruption wind	$-109^{\text{th}}$ out of 193. Chile is	A AMARANA			
				come out of the volcano. A volcanic mudflow which usually runs down a	/ash faji (tephra)	pyroclastic flow	country.				
The Mantle	Widest layer (2900km thick). The heat and pressure means the rock is in a liquid state that is in a state of convection		Laha	Lahar valley side on the volcano.		pyroclastic flow	landslide	HDI (a measure of the level of development) – Chile –	Chilo Nepal		
The Inner and	Hottest section	n (5000 degrees). Mostly made of iron and nicl	el flow	ciastic	(1000°C). They travel at 450mph.			41 <sup>st</sup> out of 187. Nepal – 145 <sup>th</sup> our of 187. Chile			
and is 4x denser than the crust. Inner section is solid whereas outer layer is liquid.		Volci	Volcanic         A thick (viscous) lava fragment that is ejected from the volcano.			earthquakes	therefore has a higher level of development.				

Knowledge organiser: GCSE – The Challenge of natural hazards			Tropical storms	How to reduce the effects of tropical storms					
	Why people choose to live in hazardous	areas	Occur in low latitudes		Prediction	Planning	Protection		
Earthquakes and volcanic en Better building design – can People living in poverty have Some people may not be aw Fertile soils – the sols around deposits and hot water.	uptions don't happen very often – they're withstand earthquakes – people feel less e other things to think about – food water, are of the risks. d volcanoes are rich and good for farming.	not a big threat. at risk. security etc. Other benefits include mineral	north and south of the equator (in the tropics). Ocean temperature needs to be above 27° C.		Monitoring wind patterns allows path to be predicted. Use of satellites to monitor path to allow evacuation	Avoid building in high risk areas Emergency drills Evacuation routes	Reinforced buildings and stilts to make safe Flood defences e.g. levees and sea walls Replanting Mangroves		
<u>Iceland</u> - Lies on the Mid-Atla There are many benefits – or	antic Ridge, a constructive margin. There a ver a million tourists visit Iceland every yea	are several active volcanoes. ar. Nearly 90% of all buildings	tropical storms 	CYCLONES	Rain – can cause flooding dam	Extreme weather in the UK			
buildings. 25% of the countries energy is generated by geothermal energy.			Sequence of a tropical storm		Snow & Ice – causes injuries a	nd disruption to schools and bus	iness. Destroys farm crops.		
How to reduce the risk from tectonic hazards					Drought – limited water suppl	y can damage crops.			
	Volcanoes	Earthquakes	Air is neated above warm tropical oceans. Convection     Air rises under low pressure conditions. Currents	eye cool dense air	Wind – damage to property and damage to trees potentially leading to injury. Thunderstorms – lightening can cause fires or even death.				
Monitoring Using scientific equipment to detect	As magma rises, volcanoes give warning signs. Remote sensing – detect heat and changes to volcanoes shape,	Earthquakes generally occur without warning.	<ol> <li>Strong winds form as rising air draws in more air and moisture causing torrential rain.</li> <li>Air spins due to Coriolis effect around a calm eye of the storm.</li> <li>Cold air sinks in the eye so it is clear and dry.</li> </ol>		Heat waves – causes breathing difficulties and can disrupt travel. UK weather is getting more extreme due to climate change. Temperatures are more extrem and rain is more frequent and intense leading to more flooding events. Since 1980 average temperature has increased 1 degree and winter rainfall has increased.				
warning signs of events.	Seismicity – seismographs record earthquakes.	Gas Remote Sensing	6. Heat is given off as it cools powering the storm.			Somerset levels floods, 2014			
	Ground deformation – changes to the shape of the volcano are	An	7. On meeting land, it loses source of heat hurricane wind and moisture so loses power.	ls warm moist air		Location			
	Gas – instruments detect gases released as magma rises.	Deformation Survey Ground Vibration	Typhoon Haiyan	South-west England, low lying wetlands bordered by the Bristol Channel and Quantock Hills to the west and the Mendip Hills to the north. The area is drained by many rivers, mainly the Tone and Parrett.					
Duadiation	Dradiation is based on scientific	It is impossible to make	Location/events		Causes				
Using historical evidence and monitoring to make predictions about where and when a bazard may	monitoring.	accurate predictions about earthquakes due to the lack of clear warning signs. Scientists can however study historical events to identify	November 2013, category 5, winds 275km/hr, waves 15m hgh.	A Contraction of the second seco	It was the wettest January sind February. High tides and storm surges Rivers had not been dredged f	e records began in 1910. 350mr or at least 20 years. They were c	n of rain fell in January and logged with sediment.		
happen		areas at risk.	Effects			Effects			
Protection Designing buildings that will withstand tectonic hazards	There is little that can be done to protect people and property. Embankments or explosives can divert lava flows away from property.	Protection is the main way to reduce the risk of earthquakes. Buildings can have walls reinforced with steels and concrete, shock absorbers, open areas nearby for	Primary effects – 6300 killed, 600, 000 displaced, 90% of city of Tacloban destroyed, airport damaged, damage to buildings and power lines and destroyed crops. 400mm of rain caused flooding. Secondary effects – 14 million affected, landslides and blocked roads, ferry serviceds and flights disrupted, shortages of water, food and shelter, outbreak of diseases, jobs lost, looting and violence in the city of Tacloban.		Social – 600 houses flooded, 16 farms evacuated, residents evacuated, villages cut-off, power supplies cut off. Economic – cost of flooding = £10 million, 13, 000 HA of agricultural land under water for 3-4 weeks, 1000 livestock evacuated, local roads cut off. Environmental – floodwaters contaminated with sewage and other pollutants, debris had to				
		evacuation and automatic shutters on the windows.	Responses		be cleared, stagnant water na	a to be deoxygenated before bei	ng pumpeu back into rivers.		
<b>Planning</b> Identifying and avoiding places most at risk	Hazard maps have been produced for many of the world's most dangerous volcanoes, showing the likely areas to be affected. They can be used in evaluation plans.	Maps can be produced to show the effects of an earthquake or identify areas most at risk. High-value land can then be protected in those vulnerable areas.	Immediate responses – international government and aid agencies qucikly with food, water and temporary shelters. 1200 evacuation up to help the homeless, UK government sent shelter kits, Philippi delivered basic food aid. Long-term responses – rebuilding of roads, bridges and airport fac work" scheme – people paid to help clear debris and rebuild the co homes re-built away from areas at risk of flooding.	s responded centres were set nes Red Cross :ilities, "cash-for- ity, thousands of	Responses Immediate responses – villages used boats to get around. Local community groups and volunteers gave support. Longer-tern responses - £20 million Flood Action Plan launched by Somerset County Council. In March 2014, 8km of rivers were dredged to increase capacity, road levels were raised, vulnerable communities now have flood defences, river banks strengthened and raised.				

Knowledge organiser: GCSE – The C	Challenge of natural hazards	Effects of climate change				
<u> </u>	Evidence for climate chang	•	Social	Environmental		
The last 2.6 million years is called the Quaternary period. Arctic sea ice is less extensive than in the past, low lying is and China is under threat.	Temperatures have fluctuated a great deal. As a lands such as the Maldives and Tuvalu are under	result of climate change, many of the world's glaciers and ice caps are shrinking, threat from sea-level rise and agricultural land in Bangladesh, Vietnam, India	Increased disease, e.g. skin cancer and heat stroke. Winter deaths decrease with milder winters. Crop yields affected by up to 12% in South	Increased drought in Mediterranean region. Lower rainfall causes food shortages for orangutans in Borneo and Indonesia. Sea level rise leads to flooding and coastal		
	Ice and sediment cores	America but will increase in Northern Europe but will need more irrigation.	erosion. Ice melts threaten habitats of polar bears.			
Ice sheets are made up of layers of snow, one per year. Ga Remains of organisms found in cores from the ocean floor	ases trapped in layers of ice can be analysed. Ice can by traced back 5 million years.	cores from Antarctica show changes over the last 400 000 years.	Less ice in Arctic Ocean increases shipping and extraction of oil and gas reserves. Droughts reduce food and water supply in	Warmer rivers affect marine wildlife. Forests in North America may experience more pests, disease and forest fires.		
	Pollen analysis		sub-Saharan Africa. Water scarcity in South and South East UK.	Coral bleaching and decline in biodiversity.		
Pollen is preserved in sediment. Different species need dif	ferent climatic conditions.		Increased flood risk. 70% of Asia is at risk of increased flooding			
	Tree rings		Declining fish in some areas affect diet and			
A tree grows one new ring each year. Rings are thicker in v	varm, wet conditions - This gives us reliable evid	ence for the last 10 000 years.	Increased extreme weather			
	Temperature records	Skiing industry in Alps threatened.				
Historical records date back to the 1850s. Historical record	Is also tell us about harvest and weather reports.		Managing climate change			
Causes of climate	change		Mitigation	Adaptation		
Physical causes - Orbital changes – The sun's energy on the Earth's surface changes as the Earth's orbit is elliptical its axis is tilted on an angle. Milankovitch cycles – see image. - Solar Output – sunspots increase to a maximum every 11 years. - Volcanic activity – volcanic ash reflects sunlight away reducing global temperatures temporarily. E.G – Mount Tambora – 1815 – Indonesia – ash and sulphuric acid cased average global temperatures to fall by 0.4°C – 0.7°c and 1816 became known as "The year without a summer". Harvests failed, food shortages, food prices rose, riots. 200, 000 died in Europe due to famine.	Human causes Fossil fuels – release carbon dioxide with accounts for 50% of greenhouse gases. Agriculture – accounts for around 20% of greenhouse gases due to methane production from cows etc. Larger populations and growing demand for met and rice increase contribution. Deforestation – logging and clearing land for agriculture increases carbon dioxide in the atmosphere and reduces ability to planet to absorb carbon through photosynthesis.	$\begin{array}{c} \\ \hline \\ \\ \hline \\ \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $	Alternative energy production will reduce CO2 production such as hydro-electricity, nuclear power, solar, wind and tidal. The UK aims to produce 15% of its energy from renewable sources by 2020. Planting Trees – helps to remove carbon dioxide. Carbon Capture – takes carbon dioxide from emission sources is stored underground. International Agreements e.g. the Paris Climate Agreement.	Changes in agricultural systems need to react to changing rainfall and temperature patterns and threat of disease and pests. Irrigation in the Gambia – drought resistant strains of crops, education, new cropping patterns introduced. Managing water supplies – eg. by installing water efficient devices and increasing supply through desalination plants. Himalayas – millions of people depend on rivers fed by snow melt. Glaciers are retreating which threats water security in the region. Artificial glacier projects are used where water is collected in winter. It freezes and the "melt" is used to provide water for the local villages.		
Star radiation grown:     Star     The Greenhouse Effective Star     Star <td>+4 +2 -2 Today's average temperature -4 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5</td> <td>Duaternary period on years - 0 (present day) 0 1.5 1.0 0.5 0 go 5.5 million years</td> <td>Coel or gas-fred power sation with Cor, capture plant Coel or gas-fred power by ppoline by ppoline by ppoline Coel miner Coel miner</td> <td>Reducing risk from rising sea levels would involve constructing defences such as the Thames Flood Barrier or restoring mangrove forests, or raising buildings on stilts. Managing rising sea levels in the Maldives – the highest point on the islands is just 2.4m. A 3m sea wall is being constructed around the capital city Malé. Houses are being built on stilts. Mangrove forests are being restored. Their roots trap sediment and offer protection from storm waves.</td>	+4 +2 -2 Today's average temperature -4 -5 -5 -5 -5 -5 -5 -5 -5 -5 -5	Duaternary period on years - 0 (present day) 0 1.5 1.0 0.5 0 go 5.5 million years	Coel or gas-fred power sation with Cor, capture plant Coel or gas-fred power by ppoline by ppoline by ppoline Coel miner Coel miner	Reducing risk from rising sea levels would involve constructing defences such as the Thames Flood Barrier or restoring mangrove forests, or raising buildings on stilts. Managing rising sea levels in the Maldives – the highest point on the islands is just 2.4m. A 3m sea wall is being constructed around the capital city Malé. Houses are being built on stilts. Mangrove forests are being restored. Their roots trap sediment and offer protection from storm waves.		

Resource Challenges	Food ii	n the UK	Water in the UK			
Resources are things that humans require for life or to make our lives	How is demand changing?	Why does the UK import so much	Growing Demand	Deficit and Surplus		
resources, and as a result they are in high demand. Significance of Resources	Due to the population increase, demand for food is also	UK produced food is expensive     UK climate     Demend for produce all upor	The average water used per household has risen by 70%. This growing demand is predicted to	The north and west have a <b>water</b> <b>surplus</b> (more water than is required).		
Resources such as food, energy and water are what is needed for basic human development.	<ul> <li>The UK is not self-sufficient – 40% of food consumed is</li> </ul>	<ul> <li>Demand for produce all year round</li> <li>Demand for greater choice and</li> </ul>	<ul> <li>This is due to:</li> <li>A growing UK population.</li> </ul>	The south and east have a <b>water</b> <b>deficit</b> (more water needed than is actually available)		
FOOD	imported (and this is increasing)	exotic food all year ground.	<ul> <li>Water-intensive appliances.</li> <li>Showers and baths taken.</li> <li>Industrial and laisure use</li> </ul>	More than half of England is experiencing water stress (where		
one billion people in the world are considered malnourished. Over A further two billion people suffer from <b>undernutrition</b> (malnutrition) – a	<ul> <li>Fransporting food by air is expensive.</li> <li>Food miles = the distance food</li> </ul>		Watering greenhouses.	demand exceeds supply).		
poorly balanced diet, lacking in minerals and vitamins.	travels		Water Transfer	Water stress in the UK		
education.			Water transfer involves moving water through pipes from areas of			
Key % of population undernourished >35 25-34	Agribusiness Farming is being treated like a large industrial business. This is	Sustainable Foods Organic foods that have little impact on the environment and are	surplus (Wales) to areas of deficit (London). Opposition includes:			
15-24 5-14 <5 No data	increasing food production. Lynford House Farm In East Anglia – 570 ha	healthier have been rising. Local food sourcing is also rising in popularity.	<ul> <li>Effects on land and wildlife.</li> <li>High maintenance costs.</li> <li>The amount of energy required to move water over</li> </ul>	Average scholar increase 2008 Egues Normal range Alcone service Substantially above average		
ENERGY	<ul> <li>High inputs of chemicals (pesticides and fertilisers)&amp; machinery.</li> </ul>	<ul> <li>Riverford Organic Farms</li> <li>Devon, Yorkshire, Peterborough</li> </ul>	long distances.			
A good supply of energy is needed for a basic standard of living. People	<ul> <li>The land is flat and fertile.</li> <li>The main crops are wheat, sugar</li> </ul>	<ul> <li>and Hampshire.</li> <li>Reduced food miles, supports</li> </ul>	Pollution and Quality	Management		
industry. Energy is required for economic development. In the past, countries depended on themselves for energy but now energy	<ul> <li>Only a small number of workers.</li> </ul>	local farmers, provides local employment.	Causes of poor quality of water include:	UK has <b>strict laws</b> that limits the amount of discharge from factories and farms.		
becomes more developed. This is especially true for NEE's.	The Challeng	e of Resource	<ul><li>Leaching from old mines</li><li>Discharge from industrial sites</li></ul>	<ul><li>The Environment Agency -</li><li>Monitor the quality of water</li></ul>		
WATER People need a supply of <b>clean and safe water</b> for drinking, cooking and	Manag	gement	Runoff from chemical fertilisers used on farmland     Water used for cooling	<ul> <li>Filter water to remove sediment</li> <li>Add chlorine to purify</li> </ul>		
washing. Water is also needed for food, clothes and other products. Water is also vital for crops and food supply and producing energy. As the	Energy	in the UK	powerstations then released back into rivers.	<ul> <li>Restrict recreational use</li> <li>Impose laws on the uses of</li> </ul>		
population grows, more people are faced with a water shortage. The imbalance in water supply is due to variations in climate and rainfall.	Growing Demand	Energy Mix	1000	water		
Rainwater needs to be captured and stored and this can be expensive. Many of the world's poorest countries have water shortages. The UN estimates that my 2050 there will be 50 countries facing water scarcity.	The UK <b>consumes less energy</b> than compared to the 1970s despite a smaller population. This is due to the <b>decline of industry</b> and more <b>energy efficient appliances</b> .	The majority of UK's energy mix comes from <b>fossil fuels</b> . By 2020, the UK aims for 15% of its energy to come from <b>renewable sources</b> . These renewable sources do not contribute to <b>climate change</b> .				
Key Physical water scarcity	Changes in	Energy Mix				
(lack of water, e.g. desert) (countries that cannot afford veryloit water scarcity (countries that cannot afford veryloit water supplies) Little or no water scarcity No data	<ul> <li>75% of the UK's oil and gas has be</li> <li>Coal consumption has declined.</li> <li>UK has become too dependent or</li> <li>By 2020 the UK is likely to be imp</li> <li>The UK's energy security is likely</li> </ul>	een used up. n imported energy. orting 75% of it's energy. to be affected as it relies on imported		Key       Coal       Gas       Oil       Nuclear       Other		

energy.

#### Energy in the UK (continued)

#### What is fracking?

**Issues of fracking?** 

- Natural gas is trapped underground. High-pressure liquids (water, sand and chemicals) are introduced to fracture the rock and release the gas.
- ٠ Possibility of earthquakes • Pollution of underground water sources High costs

#### 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.

#### The UK is developing the use of wind and nuclear.

#### Nuclear

- They are **expensive** to build.
- Boost economy and provides jobs.
- Issues around the processing and storage of toxic waste.
- Warm waste water can harm local ecosystems.
- **Radioactive leaks**

#### Wind farms

- **Costly** to construct
- Local economy may suffer due to reduced visitors
- Some may attract tourists
- Lower energy bills
- Visual impact on environment
- No harmful gases
- Reduce the carbon footprint
- Noise

#### Impacts of food insecurity

Famine – Famine causes malnutrition, starvation and death. Ethiopia, in the 1980's, 400, 000 people died oft starvation, due to political conflict and drought. Undernutrition – More than 800million people suffered from under nutrition between 2012 and 2014, it is a major problem in Asia and sub-Saharan Africa. Soil erosion - Soil erosion can occur due to overgrazing, deforestation for farming and growing crops which makes the land unfertile.

Rising prices - Food prices are rising across the world due to increased prices for fertilisers, animal feed, storage, processing and transportation. This affects people in LIC's more.

Social unrest - There has been social unrest in North Africa and the Middle East. These incidents are sometimes called food riots.

# The Challenge of Resource Management

### FOOD

#### Food security

Food Security is when people at all times need to have physical & economic access to food to meet their dietary needs for an active & healthy life. This is the opposite to Food Insecurity which is when a country can't supply enough food to feed its population



- Poverty prevents people affording food and buying equipment.
- Conflict disrupts farming and prevents supplies.
- Food waste due to poor transport and storage.
- Climate Change is affecting rainfall patterns making food production difficult.



Pest, diseases and parasites can destroy vast amounts of crops that

The guality of soil is important to

are necessary to populations. Extreme weather events can damage crops (i.e. floods).



Whilst Asia and North America have high production outputs (due to intensive farming methods ad high investment), Africa and Central America have low production outputs (due to rainfall, low investment and lack of education).

#### **Increasing Food Supply**

Hydroponics - A method of growing plants without soil. Instead they use nutrient solution.

Aeroponics - Soil not used. Plants are sprayed with fine water mist containing nutrients. New Green Revolution - Aims to improve yields in a more sustainable way. They aim to use irrigation, soil conservation and harvesting water. Involves using both GM varieties and traditional and organic farming.

Biotechnology - Genetically modified (GM) crops changes the DNA of foods to enhance productivity and properties.

Appropriate technology - using skills or materials that are cheap and easily avalaible for people in the poorest parts of the world.

Irrigation - Artificially watering the land so crops can grow. Useful in dry areas to make crops more productive.

**Daily Calorie Intake** 

This map shows how many calories per person that are consumed on average for each country.

This can indicate the global distribution of available food and food inequality.

• The UK and Canada have the highest - >3400 calories

• Most countries consume closer the the recommended daily 2000-2400 calories. Food consumption is increasing for several reasons -

- Increased levels of development
- Growing populations
- Improved storage and transport •

#### Indus Basin Irrigation System – A large-scale agricultural development

Largest irrigation scheme in the world. Involves 3 large and hundreds of small dams. Thousands of channels provides water to supports Pakistan's rich farmlands. In total, over 1.6 million km of ditches and streams provide irrigation for Pakistan's agricultural land.

#### Advantages

- Improves food security by adding 40% more land for farming.
- Increased yield & range of foods.
- 14 million ha of land is now irrigated.
- HEP is generated by the main dams.

#### Disadvantages

- Few take an unfair share of water
- Water is wasted and demand is rising due to population growth.
- High cost to maintain reservoirs.
- Some areas are waterlogged.

#### Sustainable Food Supply

This ensures that fertile soil, water and environmental resources are available for future generations.

Organic Farming - The banned use of chemicals and ensuring animals are raised naturally.

Permaculture - Follows the pattern of natural ecosystems. Includes harvesting rainwater and composting. Urban Farming - Planting crops in urban areas. i.e. roundabouts. Seasonal food consumption - only

consuming what is in season. Reduces food miles.

#### Mukueni, Kenya

Makueni Country in Kenya aims to increase their food production sustainably.

The Makueni Food and Water Security Programme. The programme provided help to two small villages and a primary

- safe water supply by building a sand dam for each village.
- Rainwater harvesting tank on the school roof.
- •

- School now has safe and clean water.
- Less time wasted collecting water.

### Where? Eastern Kenya, small isolated communities, rainfall just 500mm pa. What food is grown? Maize, millet, beans sweet potatoes.

- school. • Improving access to a clean and
- Training programme.
- Growing trees reduce soil erosion.
- The project has been successful.

#### Crop yields increased.

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Water-borne diseases reduced.

Relief of the UK		Areas		Types of Erosion	Types of Transportation		Mass Movement		
Relief of the UK can be divided into uplands and	1 Alexand	+600m: Peaks and ridges cold, misty and	The brea sn	k down and transport of rocks – nooth, round and sorted.	A natural pro is o	cess by which eroded material carried/transported.	A la mo gra	arge movement of soil and rock debris that wes down slopes in response to the pull of wity in a vertical direction.	
lowlands. Each have their own		now common.	Attrition	Rocks that bash together to become smooth/smaller.	Solution	Minerals dissolve in water and are carried along.	1	Rain saturates the permeable rock above the impermeable rock making it heavy.	
Key	5405 Th	.e. Scotland Areas -	Solution	A chemical reaction that dissolves rocks.	Suspension	Sediment is carried along in the flow of the water.	2	Waves or a river will erode the base of the slope making it unstable.	
Lowlands	AND THE WE	200m: Flat or rolling hills.	Abrasion	Rocks hurled at the base of a cliff to break pieces apart.	Saltation	Pebbles that bounce along the sea/river bed.	3	Eventually the weight of the permeable rock above the impermeable rock weakens and	
Uplands		Warmer weather. .e. Fens	Hydraulic Action	Water enters cracks in the cliff, air compresses, causing the crack to expand.	Traction	Boulders that roll along a river/sea bed by the force of the flowing water.	4	collapses. The debris at the base of the cliff is then removed and transported by waves or river.	
	Types of Weathering			What is Deposition?			Original		
Weathering is the breakdown of rocks where they are.		2.	When the sea rock particle	a or river loses energy, it drops the sand, s and pebbles it has been carrying. This is called deposition.	Suspension Solution		Original position Slumped mass		
Chemical	Breakdown of rock by changing its composition, e.g. acidic rainw	chemical ater	١	What is longshore drift?	River Bed				
Mechanical	Breakdown of rock without changing composition, e.g. freeze-thaw wea	its chemical athering	The movement of material along the beach. When the waves approach at an angle, sediment will be moved along in a zig-zag pattern.		swash backwash backwash		Coastal landforms at Swanage Where? Dorset, south coast of England. It has many erosional and depositional landforms. It is also known as the Jurassic Coast.		
Biological weatherin	This occurs due to the actions of pl animals. E.g plant roots break rocks burrow into weak rocks.	ants and , animals	Physical Landscapes						
			in the UK		prevailing wind			Poole Hatbour Internet Studiand Beach	
	How do waves form?		Mechanical Weathering Example: Freeze-thaw weathering			thering	- 2	Old Harry stack, Celfe and arches Swanage Bay	
Waves are created by wind blowing over the surface of the sea. As the wind blows over the sea, friction is created - producing a swell in the water.		Stage One Water seeps into cracks a fractures in	One seeps acks and res in the Stage Two When the water freezes, it expands about 0% This workdoor		Stage Three With repeated freeze-thaw cycles. the rock		The Swanage coast. Dorset		
1	Wayes start out at sea	rock.		apart the rock.	b	reaks off.	The form	south coast has one rock type – limestone – this ns a concordant coastline.	
2 As waves appr	Waves start out at sea.     As waves approaches the chore friction slows the base		vaves	Тур	es of Waves		To t dep	the south of Swanage is Poole Harbour. A lot of sosition has taken place in this bay. There are two	
3 This ca	This causes the orbit to become elliptical.		how	Constructive Waves		Destructive Waves	At S	s at the mouth of the harbour. Studland there are lagoons, saltmarshes and sand	
4 Until	the top of the wave breaks over.	far the has tra	wave welled	This wave has a <b>swash that is stronge</b> han the backwash. This therefore build	r This v	wave has a <b>backwash that is</b> than the swash. This therefore	uun		
C C C C Shore		<ul> <li>Streng the win</li> <li>How loc</li> </ul>	gth of up the coast. They form gentle beaches long the		erodes the coast. They form more steep beaches				
Motion of Individual Water Molecules	Direction of Waves	wind h been b for.	las blowing	Winter Under Martinet Besch built op he Grouph op in swe	nal sh	and a state of the			

Coastal Defe	nces - Hard Engineering Defences			Case Study: Lyme Regis	
Groynes	Wood barriers prevent longshore drift, so the beach can build up.	£150,000 each, at 200m intervals	<ul> <li>Beach still accessible.</li> <li>No deposition further down coast = erodes faster.</li> </ul>	Location and Background Located on the south coast of England, on the Jurassic coast. It is a popular tourist destination.	
Sea Walls	Concrete walls break up the energy of the wave . Has a lip to stop waves going over.	£5000-100000 per metre	<ul> <li>✓ Long life span</li> <li>✓ Protects from flooding</li> <li>× Curved shape encourages erosion of beach deposits.</li> </ul>	What are the issues? Much of the town has been built on unstable cliffs. The coastline is eroding rapidly. Many properties have been destroyed. The sea wall has	
Gabions or Pin Pan	Cages of rocks/boulders absorb the waves energy, protecting the cliff behind.	Up to £50,000 per 100m. V Cheap Local material can be used to look less strange. V Will need replacing.		been breached many times.	
				Management Phase 1 – 1990-1995 – New sea wall and promenade 2003-2004 a f1 4	
Coastal Defe	nces - Soft Engineering Defences			million emergency project was completed to stabilise the cliffs. Hund	
Beach Nourishm ent	Beaches built up with sand, so waves have to travel further before eroding cliffs.	up to £5000,000 per 100m	<ul> <li>✓ Cheap</li> <li>✓ Beach for tourists.</li> <li>✓ Storms = need replacing.</li> <li>✓ Offshore dredging damages seabed.</li> </ul>	Phase 2 – 2005-2007 – improvements to the sea front, costing £22 million. New sea walls, creation of wide sand and shingle (from the English channel) beach to absorb wave energy, extension of rock armour at The Cobb.	
Dune regenerati on	Grasses planted tostabilise dunes and help them develop. Fences used to keep people off sand dunes.	£200-1000 per 100m	<ul> <li>Cheap</li> <li>Maintains a natural coastline, popular with people and wildlife.</li> <li>Time consuming to plant grasses and fence areas off.</li> <li>Can be damaged by storms.</li> </ul>	<ul> <li>Phase 3 – The plan aws to help prevent landslips and erosion to the west of The Cobb. It was decided to leave this area alone as the costs outweighed the benefits.</li> <li>Phase 4 – 2013-2015 – final phase focused on the coast east of the town. Cost £20 million. Construction of a 390m sea wall infront of the existing</li> </ul>	
Managed Retreat	Low value areas of the coast are left to flood & erode. Medmerry Managed retreat, West Sussex – the flat, low lying coast is mainly used	eft to flood & erode. <b>st Sussex</b> – the flat. low lying coast is mainly used √ Reduce flood risk √ Creates wildlife habitats.		wall, nailing, piling and drainage to provide cliff stabilisation to protect 480 homes.	
	for farming and caravan parks. It was protected by a sea wall, but this now need repairing. Due to the low value of the land, it was decided to allow the sea to breach the wall.		<ul> <li>Most sustainable option</li> <li>Compensation for land.</li> </ul>	How successful? Positives – increased visitors due to beaches, defences have stood up to stormy winters, boat owners and fishermen benefit from harbour being	
				better protected.	

#### Formation of Coastal Spits and Bars- Deposition

#### Example: Spurn Head, Holderness Coast.

- Swash moves up the beach at the angle of the prevailing wind. 1)
- 2) Backwash moves down the beach at 90° to coastline, due to gravity.
- 3) Zigzag movement (Longshore Drift) transports material along beach.
- 4) Deposition causes beach to extend, until reaching a river estuary.
- 5) Change in prevailing wind direction forms a hook.
- 6) Sheltered area behind spit encourages deposition, salt marsh forms.
- A bar forms when a spit grows right across a bay. 7)

#### Formation of cliffs and wave-cut platforms.





- 1) When a wave breaks against a cliff, erosion will wear away at the bottom on a cliff, forming a wave-cut notch.
- Over a long period of time, the notch will get deeper and deeper, undercutting the cliff. 2)
- 3) Eventually, the cliff above collapses.
- 4) Over time the cliff will retreat
- 5) In it's place will be a gentle sloping rocky platform called a wave-cut platform.

## **Physical Landscapes in the UK**



Negatives - increased visitors lead to conflict with locals, natural

landscape spoilt, sea defences interfere with other stretches of coastline.

Drainage basin I	Key Terms	Physical and Human	Causes of Flooding.	Lower Course of a River			
Drainage basin	An area of land drained by a river and its tributaries.	Physical: Prolong & heavy rainfall Long periods of rain causes soil to	Physical: Geology Impermeable rocks causes surface	Near the river's mouth, the river widens further and becomes flatter. Material transported is deposited.			
Source	The start of the river	become saturated leading runoff.	runoff to increase river discharge.	Formation of Floodplains and levees Natural levees			
Tributary	A small stream that joins a larger river	<i>Physical:</i> Relief Steen-sided valleys channels water	Human: Land Use	When a river floods, fine silt/alluvium is deposited on the valley floor. Closer to the river's banks, the			
Confluence	Where a tributary joins a larger river	to flow quickly into rivers causing	impermeable. This prevents	heavier materials build up to form natural levees.			
Mouth	Where the river meets the sea	greater discharge.	Inflitration & causes surface runoff.	<ul> <li>Nutrient rich soil makes it ideal for farming.</li> <li>Flat land for building houses.</li> </ul>			
Watershed	The edge of a river basin.	Upper Course of a River		River Management Schemes			
A V-shaped valley: steep-sided, V-shaped River: narrow, shallow, turbulent Valley: wider, flat floor River; wider and deeper		Near the source, the river flows over s This gives the river a lot of energy, so form narro Features of the upper course - Interloc The river cuts down into the valley	teep gradient from the hill/mountains. it will erode the riverbed vertically to ow valleys. king spurs	Soft Engineering         Hard Engineering           Afforestation – plant trees to soak up rainwater, reduces flood risk.         Straightening Channel – increases velocity to remove flood water.           Demountable Flood Barriers put in place when warning raised.         Artificial Levees – heightens river so flood water is contained.           Managed Flooding – naturally let areas flood,         Deepening or widening river to increase capacity for			
		If there are areas of hard rock which harder to erode, the river will benc	ch are	protect settlements. a flood.			
0	- 100000000	around it. This creates <b>interlocking</b>	spurs of l	Hydrographs and River Discharge			
Valley: very wide and flat		zip.		River discharge is the volume of water that flows in a river. Hydrographs who discharge at a certain point in a river changes over time in relation to rainfall			
		1) River flow	rs over alternative types of rocks.	1. Peak discharge is the discharge in a period of time.			
		Softer reck 2) River eroo	des soft rock faster creating a step.	2. Lag time is the delay between peak rainfall and peak discharge.			
R	iver: wide, deep, with large sediment load	3) Further h	ydraulic action and abrasion form a beneath	3. Rising limb is the increase in river discharge.			
Water Cycle Key	/ Terms			4. Falling limb is the decrease in river discharge to normal level.			
Precipitation	Moisture falling from clouds as rain, snow or hail.	A) Hard rock	ses providing more material for	Managing floods at Banbury.			
Interception	Vegetation prevent water reaching the ground.	erosion.		Location and Background			
Surface Runoff	Water flowing over surface of the land into rivers	5) Waterfall	retreats leaving steep sided gorge.	Located in the Cotswold Hills, 50km north of Oxford. Much of the town is on a floodplain of the River Cherwell.			
Infiltration	Water absorbed into the soil from the ground.	Middle Course of a River		How has Banbury been affected by flooding?			
Transpiration	Water lost through leaves of plants.	Here the gradient get gentler, so the slowly. The river will begin to e	ne water has less energy and moves i prode laterally making the river wide	nore 1988 – the towns rainway station and local roads weere closed. Led to £12.5 million damage.150 homes and business affected.			
Case Study: The Ri	iver Tees	Formation of Ox-how Lakes		What has been done to reduce the risk of flooding?			
Location and Back Located in the Nor	ground th of England and flows 137km from the Pennines	Step 1	Step 2	In 2012 the flood defence scheme was completed. • A 2.9km embankment built next to M40 to create a flood storage area.			
to the North Sea a Geomorphic Proce Upper – Features i	t Red Car. esses and landforms nclude V-Shaped valley, rapids and waterfalls. High	Erosion of outer bank forms river cliff. Deposition inner bank forms slip off slope.	Further hydrau action and abra of outer banks, gets smaller.	<ul> <li>A361 was raised – improvements to drainage.</li> <li>New pumping station</li> <li>Sion</li> <li>Creation of a new Biodiversity Action Plan – with ponds, trees and hedgerows to absorb and store water.</li> </ul>			
Force waterfall dro	ops 21m and is made from harder Whinstone and occurrent of the second of	Step 3	Step 4	<ul> <li>Costs and benefits</li> <li>The raised A361 can now be open during times of flooding.</li> <li>Quality of life for people improved – reduced stress and anxiety for people</li> <li>100 million tonnes of earth required to build the embankment. This created a small reservoir.</li> <li>441 houses and 73 commercial properties protected. Benefits at over £100 million.</li> <li>Cost £18.5 million</li> </ul>			
Middle – Features near Yarm enclose Lower – Greater la levees. Mudflats at	include meanders and ox-bow lakes. The meander s the town. Iteral erosion creates features such as floodplains & t the river's estuary.	Erosion breaks through neck, so river takes the fastest route,	Evaporation an deposition cuts main channel le				

levees. Mudflats at the river's estuary.

the state

redirecting flow

пg an oxbow lake.

• Part of the floodplain will be deliberated flooded if river levels are too high.

What is development?		Variations in the level of development			Key	, inim	Human factors affecting uneven development				
Development is a	n improvement in living standards through better use of resources.	LICs	Poorest countries in the	e world. GNI ost citizens	Advanced countries Emerging developing countries Low-income developing countries		Aid can	Aid	•	Trade	(G)
Economic	This is progress in economic growth through levels of industrialisation and use of technology.	NEEs	have a low standard of These countries are get	living. ting richer			countri project infrastr	es develop <b>key</b> s for ucture faster.	more than they import have a <b>trade surplus</b> . This can improve the		
Social	This is an improvement in people's standard of living. For example, clean water and electricity.		as their economy is progressing from the primary industry to the secondary industry. Greater exports leads to better wages.				<ul> <li>Aid can such as hospita</li> <li>Too mu</li> </ul>	schools, schools, ils and roads. ich <b>reliance on</b>	•	national econom Having good trac relationships. Trading goods ai	y. <b>Je</b> nd
Environmental	This involves advances in the management and protection of the environment.	HICs	<ul> <li>These countries are wealthy with a high GNI per capita and standards</li> </ul>				<b>aid</b> mig trade li establis	ht stop other nks becoming shed.		services is more profitable than ra materials.	aw
	Measuring development		of living. These countrie	es can	A	A. S.	Edu		Health		
These are used to co development.	mpare and understand a country's level of	Causes of uneven development					Educati	ion creates a	•	Lack of clean water and	
l	Economic indictors examples	Development is globally uneven with most HICs located in Europe, North America					skilled meanir	ig more goods	poor healthcare means a large number of people		
Employment type	The proportion of the population working in primary, secondary, tertiary and quaternary industries.	and Ocean Afric	nia. Most NEEs are in Asia ca. Remember, developme	and ser produc • Educat more n	vices are ed. <b>ed people earn</b> <b>10ney,</b> meaning	•	suffer from <b>disea</b> People who are i cannot work so t little contribution	i <b>ses</b> . Il here is n to the			
Gross Domestic Product per capita	This is the total value of goods and services produced in a country per person, per year.	The	o Changing	Econ	omic \	they also pay more taxes. This money can help develop the country in the future		•	economy. More money on healthcare means less spent on development		
Gross National Income per capita	An average of gross national income per person, per year in US dollars.		Physical factors affe	Pe	plitics		History				
	Social indicators examples	Natural Resources			Natural Hazards		Corrup     nations	tion in local and	•	<b>Colonialism</b> has f	helped
Infant mortality	The number of children who die before reaching 1 per 1000 babies born.	Fuel     Mine     Avail	sources such as oil.  rals and metals for fuel. ability for timber.	• R • B a	Risk of tectonic hazards. Benefits from volcanic material		The sta     govern	l governments. bility of the ment can effect		Europe develop, but slowed down development in many	
Literacy rate	The percentage of population over the age of 15 who can read and write.	• Acce	ss to <b>safe water</b> .	• F	requent hazards e <b>development</b> .	undermines	<ul> <li>trade.</li> <li>Ability</li> </ul>	of the country to	•	Countries that w through industria	ent alisation
Life expectancy	The average lifespan of someone born in that country.	• Relia	Climate	• 1	Location/Terr	rain	invest i infrasti	nto services and ructure.		a while ago, have develop further.	3 now
	Mixed indicators	farm	ing.	tr	rade difficulties.	·		Consequences of U	neven De	velopment	
Human Developmen Index (HDI)	t A number that uses life expectancy, education level and income per person.	Extre and a Clima	<ul> <li>Extreme climates limit industry and affects health.</li> <li>Climate can attract tourists.</li> <li>Mountainous terrain makes farming difficult.</li> <li>Scenery attracts tourists.</li> </ul>				Levels of development are different in different countries. This uneven development has consequences for countries, especially in wealth, health and migration.				
	The Demog	raphic Transi	tion Model				Wealth	People in more de	eveloped	countries have h	igher
The demograph transition model (D shows population ch	ic TM) hange	STA	GE 1 STAGE 2 <i>DR</i> BR Low Declining	STAGE 3 Rapidly	STAGE 4	STAGE 5 Slowly	Health	Better healthcare developed countr	means the loss live loss live loss live loss live loss live loss loss loss loss loss loss loss los	hat people in mor onger than those	re in less

shows population change over time. It studies how birth rate and death rate affect the total population of a country.



If nearby countries have higher levels of development or are secure, people will move to seek better opportunities and standard of living.

developed countries.

Low BR

Negative

Migration

#### **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.

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.

Aid

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.

#### Location and Background

Jamaica is a LIC island nation part of the Caribbean. Location makes Jamaica an attractive place for visitors to explore the tropical blue seas, skies and palm filled sandy beaches

#### **Tourist economy**

-In 2015, 2.12 million visited. -Tourism contributes 27% of GDP and will increase to 38% by 2025. -130,000 jobs rely on tourism. -Global recession 2008 caused a decline in tourism. Now tourism is beginning to recover.

#### 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.

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.

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

CS: Reducing the Development Gap In Jamaica



#### Multiplier effect

-Jobs from tourism have meant more money has been spent in shops and other businesses. -Government has invested in infrastructure to support tourism. -New sewage treatment plants have reduced pollution.

#### **Development Problems**

- Tourists do not always spend much money outside their resorts.
- Infrastructure improvements have not spread to the whole island.
- Many people in Jamaica still live in **poor quality housing** and **lack** basic services such as healthcare.

### **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.

#### 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.

#### The role of TNCs

TNCs such as Shell have played an important role in its economy. 2 + Investment has increased employment and income. Profits move to HICs.

- Many oil spills have damaged

fragile environments.

#### **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<sup>2</sup> emissions.

#### **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.



### Nigeria is a multi-cultural. multifaith society. Although mostly a strength, diversity has caused regional conflicts from groups such as the Boko Haram terrorists. Industrial Structures

Social

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.

#### **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.

#### 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.

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.

### **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.

#### **Developments of Science Parks**

Science Parks are groups of scientific and technical knowledge based businesses on a single site.

- Access to transport routes.
- Highly educated workers.
- Staff benefit from attractive working conditions.
- Attracts clusters of related high-tech businesses.

Social

Rising house prices have caused

Villages are **unpopulated** during

the day causing loss of identity.

Resentment towards poor migrant

Improvements to Transport

A £15 billion 'Road Improvement

tensions in villages.

communities.

United **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.

#### CS: UK Car Industry

Every year the UK makes 1.5 million cars. These factories are owned by large TNCs. i.e. Nissan.

- 7% of energy used there • factories is from wind energy.
- New cars are more energy efficient and lighter.
- Nissan produces electric and hybrid cars.

#### **Change to a Rural Landscape**

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## 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.

#### **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.