GEOGRAPHY CASE STUDIES

- You have each been allocated **one or more** case studies. Check for your name in the final column.
- Each case study must be a suitable example to illustrate **all** of the subject content listed in the column 'detail required'.
- Avoid putting any general theory or ideas into the orange column: **only** include facts/figures relating to the theory.
- Remember these are for 7 markers: you could have a 7 marker on any individual bullet point in the 'detail required' column. Example:

1.1 Describe and evaluate population policies *THIS IS AN EXAMPLE OF THE LEVEL OF DETAIL REQUIRED*	▫ Anti-natalist – describe, pros, cons ▫ Pro-natalist - describe, pros, cons	Anti-natalist: China (one child policy 1979) ▫ "Granny police" monitored – eg 15 full time "cluster leaders" monitored reproductive habits in **Huangjiapu, Yicheng County** (village population of 500); family planning at work; 20/22 F/M minimum age for marriage ▫ Penalties: fine – 4x family income; cattle taken ▫ Incentives: 5-10% salary rise if only one child ▫ In 1983 alone, China sterilized **over 20 million people** ▫ **EG Shandong, a coastal province between Beijing and Shanghai:** a reputation for being particularly harsh, including detention of those having illegal children ▫ 400m births prevented ▫ Sex imbalance: 100:135 F-M on **Hainan Island** (100:114 nationally), Shengnan, meaning "leftover men". ▫ BR 34 to 12. By 2050, it's predicted that a quarter of China's population will be 65 or older; workforce predicted to decrease by almost 10 million a year after 2025 ▫ Relaxed 2015 (2 children), 2021 (3 children) Pro-natalist: Singapore (first intro 87, then 03, 08, 13) ▫ "have three or more children if you can afford it" ▫ Maternity leave increased to 12 weeks, for first 4 children ▫ Baby bonus (cash) – of $8000 (2021) $10000 for 3rd child ▫ Government sponsored dating – **SDN.sg** office near **Canning Park** ▫ Government subsidised child care (**Ministry of Manpower**) ▫ Carers' leave for fathers	China France or Russia or Singapore

		▫ Valentine cards encouraging people to "make love, not money". ▫ TFR 1.2 2011 ▫ Fewer marriages in Singapore – 5.8% lower in 2019 v 2018	

THEME 1 POPULATION & SETTLEMENT

Specification point	Detail required	Place specific information – facts/figures relating to a particular place	Suggested/possible case study
1.1 A country which is over-populated	• Causes • Consequences	• The majority of girls ger married between 14-18 years, meaning they can have more children • Many people are subsistence farmers because they like food • climatic conditions • poverty • unemployment, • early marriage (meaning that girls often don't go to school to learn) • polygamy (mean can marry more than one woman) • superstition, • lack of family planning knowledge (condoms and other contraception methods not available) • shortage of food • not enough fresh water for drinking water • overcrowding, jam, • pressures on the transport and traffic systems • high crime rates	Bangladesh
1.1 A country which is under-populated	• Causes • Consequences	•	Canada
1.1 A country with a high rate of natural population growth	▫ Causes (with ref to BR/DR)	**General information** ▫ Population in 2021 = 25.5 million ▫ Median age = 15.2 ▫ Fertility rate = 6.9 ▫ Growth rate = 3.85% **Causes** • Highest fertility rate in the world • Little use of contraception and family planning • 98% are Muslim where procreation is encouraged • Children are an asset on farms and small businesses • Women don't have access to education • Low marriage age of 15 for girls	Niger

		• High population of people of childbearing age **Impacts** → 80% live in poverty → Low literacy rate → Children only attend school for five years → Poor healthcare → 38% of children under 5 are under weight	
1.1 A country with a low rate of population growth (or population decline)	▫ Causes (with ref to BR/DR)	**General Information** ▫ population in 2021 = 6 million ▫ median age = 42 ▫ growth rate = 0.8% ▫ fertility rate = 1.2 **Causes** • foreign workers have left during covid so there are no longer children being born • anti-natal policies after WW2 were too successful **Impacts** • increasing dependency ration • more public spending on health care • fewer people paying tax • encouraged immigration	Singapore
1.1 Describe and evaluate population policies	▫ Anti-natalist – describe, pros, cons ▫ Pro-natalist - describe, pros, cons	**Anti-natalist: China (one child policy 1979)** ▫ "Granny police" monitored – eg 15 full time "cluster leaders" monitored reproductive habits in **Huangjiapu, Yicheng County** (village population of 500); family planning at work; 20/22 F/M minimum age for marriage ▫ Penalties: fine – 4x family income; cattle taken ▫ Incentives: 5-10% salary rise if only one child	China Singapore

		▫ In 1983 alone, China sterilized **over 20 million people** ▫ **EG Shandong, a coastal province between Beijing and Shanghai:** a reputation for being particularly harsh, including detention of those having illegal children ▫ 400m births prevented ▫ Sex imbalance: 100:135 F-M on **Hainan Island** (100:114 nationally), Shengnan, meaning "leftover men". ▫ BR 34 to 12. By 2050, it's predicted that a quarter of China's population will be 65 or older; workforce predicted to decrease by almost 10 million a year after 2025 ▫ Relaxed 2015 (2 children), 2021 (3 children) **Pro-natalist: Singapore (first intro 87, then 03, 08, 13)** ▫ "have three or more children if you can afford it" ▫ Maternity leave increased to 12 weeks, for first 4 children ▫ Baby bonus (cash) – of $8000 (2021) $10000 for 3rd child ▫ Government sponsored dating – **SDN.sg** office near **Canning Park** ▫ Government subsidised childcare (**Ministry of Manpower**) ▫ Carers' leave for fathers ▫ Valentine cards encouraging people to "make love, not money". ▫ TFR **1.2** 2011 ▫ Fewer marriages in Singapore – 5.8% lower in 2019 v 2018	
1.2 An international migration	▫ Reasons (push/pull) ▫ Positive impacts* ▫ Negative impacts* (* on host country, source country, migrants themselves)	11.4 million Mexicans living in California. 8 million Mexicans living in Texas Most migrants are young males who are looking for work and plan to send money home to Mexico for their families. 6% of Mexican people have poor water quality Average salary in USA - $27,000 Average salary in Mexico - $10,000 The length of the border between the USA and Mexico is 2,000km The crime index rating in the USA is 47.81 The crime index rating in Mexico is 54.19 $6 billion sent back to Mexico every year	Mexico to USA Poland to UK or Syria to Lebanon

		10,000 Mexicans attempt to cross the border every week	
1.3 A country with a high dependent population	▫ Causes ▫ Consequences	A country with a high dependent population: Singapore Causes: 1. . Population policies that were too successful in encouraging people to have fewer children 2. Low total fertility rates – 1.14 births per woman in 2019, significantly below the replacement level of 2.1, indicative of decline 3. High quality healthcare at 26 doctors per 10,000 inhabitants with Singaporeans enjoying universal healthcare meaning the public health system is funded by the government and mandatory health insurance. 4. Life expectance was lower in the 1960s, albeit still relatively high relative to other countries globally. It was 65.6 years in 1960. It has since risen to 83.5 years of age, owing to advances in healthcare and better access to health food. 5. People are making healthier lifestyle choices. In Singapore, the contingent of the population that smoke has dropped from 18.3% in 1992 to 10.6% in 2019. Impacts: 1. A smaller contingent of economically active people dissuades businesses from investing in Singapore, slowing the rate of economic growth. 2. Singapore has opened its borders to encourage immigration in the home economically active migrants will arrive and pay tax, and also increase the fertility rate. 3. The rise of the more affluent and educated senior consumer presents new business opportunities. Firms can capitalise on the shift to eldercare, which may spur new industries in Singapore as well.	UK (elderly) Niger (youthful)

		4. Senior citizens can continue to play a positive role in the economy. Many remain healthy and have much to contribute in terms of their experience and knowledge. Solutions: 1. The country has increased the retirement age to 65, increasing to 70 on 1 January 2022 and has encouraged businesses to reemploy workers beyond the age of 62. Reemployment will ensure that expertise remains in the workforce whilst also ensuring everyone is a contributing member of society. 2. The government has also embarked on a campaign to illustrate how care for the elderly is a combined effort. Parents can take their children to court if they are able to support them but are not doing so. Parents must be incapable of supporting themselves and over 60 years of age to venture down this path but it remains a form of government support nonetheless. Schemes such as Medisave are also still prominent and encourages individuals to put aside part of their income into their Medisave Accounts to meet their future personal or immediate family's hospitalization, day surgery and certain outpatient expenses.	
1.4 A densely populated country or area	▫ Physical, economic, social and political causes	The Ganges has the second highest water discharge in the world, and its basin is the most heavily populated in the world with over 1000 people per km^2 Physical - Huge floodplain rich in alluvium - Produced very fertile soils - 580 000km^2 of the basin is arable, makes it good for farming - The Ganges and its tributaries are a great source of water for irrigation	Ganges River Basin

		Economic - Contains 29.5% of the cultivable land in India, planting crops generates a lot of income - Rice, sugar cane, lentils, potatoes, and wheat can all be grown – provides jobs + money for millions of people Impacts of the dense population - Water quality deteriorated rapidly - Pollution caused by human + industrial waste - Water pollution has serious impacts for food security, water security and biodiversity - Over abstraction of water causes drought in some places - Conflict between countries over who should access the most water	
1.4 A sparsely populated country or area	▫ Physical, economic, social and political causes	**<u>UNDERPOPULATION-CANADA</u>** <u>General info:</u> ➢ Population of 34.5 million with a landmass of 9,984,670 square kilometres. <u>Causes</u> ➢ It has a fertility rate below replacement level, with only 1.59 children per female. ➢ In 1970, life expectancy was 70 for men and 77 for women, but by 2012 this had increased to 78 for men and 84 for women. ➢ Very high prevalence of contraceptives of 74% o This contributes to the low birth rate of only 10 births per 1000 people. ➢ High spending on healthcare, 11.2% of the country's GNI is spent on it and there are now 2 doctors per 1000, for comparison Niger has 2 doctors per 100,000 people.	Canada Or Western China (Tibet, Inner Mongolia, Qinghai, Xinjiang)

		➢ Almost 70% of the country are employed in the tertiary sector which tend to be less physically taxing and much safer working environments.
		<u>Outcomes</u>
		• They have a high GNI per capita of $43,400.
		• They have many resources for a low population, which has allowed them to export more than most countries.
		  ○ They are ranked third in the world for proved crude oil deposits.
		  ○ Ranked fourth in the world for natural gas supplies.
		→ As they are supplying energy to a lower population, they have been able to make advancements in their renewable energy with hydroelectric power a main energy source. This is suitable to Canada as they have a mountainous topography and a large network of rivers and lakes.	

1.5 Settlement and service provision in an area	▫ Patterns of settlement (dispersed, nucleated, linear) ▫ Factors influencing sites, growth and functions of settlements (physical factors – relief, soil, water supply, and other factors – accessibility, resources etc.) ▫ Reasons for the hierarchy of settlements and services ▫ High-, middle- and low-order settlements and services ▫ Sphere of influence and threshold population	• Patterns of settlement (dispersed, nucleated, linear) Linear- a settlement that grows along a line. This can be due to a river or a gorge. Nucleated-A settlement that grows from a central point Dispersed- A settlement spread out with gaps between buildings. • Factors influencing sites, growth and functions of settlements (physical factors – relief, soil, water supply, and other factors – accessibility, resources etc.) Trading centres- settlements may be created where there are intersections in either man made or physical routes. For example, where two or more main roads meet or at the confluence of two or more rivers.	Southwest London

		Defensive sites- settlements may be created in areas which have physical advantages such as being on raised ground, in the loop of a meander or with mountainous terrain behind it. Each of these feature would have been beneficial in the past as they would have offered some protection from invaders. Wet point sites-these areas have a good supply of water. Water is essential for humans as it is needed for washing, cooking and drinking therefore it is common for settlements to be located near a source of water. However, during an earthquake it is possible for liquefaction to occur if a settlement is located on top of ground that contains lots of water, such as the clay found beneath London. Dry point sites- These areas offer a much lower risk of flooding and also liquefaction in the event of an earthquake as the ground is much drier and contains less water. Aspect- Settlements are commonly found on the sunny side of a mountain or valley. This is because sunlight is needed for crop growth and warmth. Natural resources- people may choose to create settlements due to the abundance of natural resources in the area. For example, farmers will choose to set up in the nutrient rich floodplains surrounding a river due to the minerals and nutrients contained in the soil there that boosts plant growth. • Reasons for the hierarchy of settlements and services	

		Settlements are arranged in a hierarchy pyramid. The lower down on the pyramid, the smaller the population and lower number of services there tends to be. However, settlements that are lower down are much more common than those higher up. There are far more towns or villages than there are cities or conurbations. Moreover, as you move up the pyramid, the population of settlements and number of services increases. The sphere of influence and distance between settlements also greatly increases. • High-, middle- and low-order settlements and services Low order settlements -isolated dwellings, hamlets Middle order settlements – Village and small towns High order settlements – Large towns, cities and conurbations. • Sphere of influence and threshold population The sphere of influence refers to the area served by a settlement. Larger settlements tend to have much larger spheres of influence. This is because they provide many high order goods that people are willing to travel further for. High order services require a much higher threshold population. For example, a car dealership has a much higher threshold population than that of a pharmacy. This is because people will not always be buying from a car dealership so if it was located in a small town, it would not make much money because people would only buy a car every 8 to 10 years so their annual turnover or income will be far less than if they are in a much larger city where there are more people to support them therefore making it profitable. • Reasons for the hierarchy of settlements and services	

		Settlements are arranged in a hierarchy pyramid. The lower down on the pyramid, the smaller the population and lower number of services there tends to be. However, settlements that are lower down are much more common than those higher up. There are far more towns or villages than there are cities or conurbations. Moreover, as you move up the pyramid, the population of settlements and number of services increases. The sphere of influence and distance between settlements also greatly increases. • High-, middle- and low-order settlements and services Low order settlements -isolated dwellings, hamlets Middle order settlements – Village and small towns High order settlements – Large towns, cities and conurbations. • Sphere of influence and threshold population The sphere of influence refers to the area served by a settlement. Larger settlements tend to have much larger spheres of influence. This is because they provide many high order goods that people are willing to travel further for. High order services require a much higher threshold population. For example, a car dealership has a much higher threshold population than that of a pharmacy. This is because people will not always be buying from a car dealership so if it was located in a small town, it would not make much money because people would only buy a car every 8 to 10 years so their annual turnover or income will be far less than if they are in a much larger city where there are more people to support them therefore making it profitable.	

1.6 Urban areas – land use in countries at different levels of economic development	▫ Land use – characteristics & reasons	**Models exist to show typical land use in cities e.g., Burgess Model** 1.Outer suburbs –High-class Residential 2.Inner suburbs – Medium-class Housing 3.Inner City – Low-class residential 4.Inner City – Factory/Industry 5.Central Business District **Industrial** Land used for industrial activity e.g., manufacturing Usually built away from residential areas Industrial land use decreasing in HICs **Commercial** Key features of commercial land use: ▫ High rise buildings ▫ Few full-time residents ▫ Very expensive land ▫ Houses a lot of businesses ▫ Good transport and accessibility ▫ Usually in centre of city London has multiple CBDs**,** with the main example being Canary Wharf Facts about Canary Wharf: ▫ Around 400,000 people work there ▫ 120,000 daily visits ▫ £200 million spent on building station ▫ Home to over 24,000 businesses in 2019 **Residential** This includes all areas where people live Urbanisation is where more and more people are moving to urban areas from rural environments Growing populations require more residential areas	London

		Tends to be more spread out and open, and containing green spaces Density depends on price of land and age of neighbourhood Generally, the largest land use in most cities, usually more than 40% **Land use differs depending on country** Poorer countries may contain large number of slums, more industrial land use, worse transport and infrastructure and a smaller central business district.	
1.6 Urban areas – problems Different types of pollution (air, noise, water, visual), inequality, housing issues, traffic congestion	▫ Causes ▫ Solutions	▫ Problems: • Urban sprawl, which is leading to greater car dependence and higher costs of public transport. • Inequality; the inner city boroughs face more deprivation. • Housing; is too expensive and sparse (between 2005-2016 average rental costs rose by 38%) • Roads are overly congested (London only has 9% of UKs cars but 40% of country's congestion) ▫ Solutions: • Electric bus scheme reduces carbon emissions (aims to have Europe's largest electric bus fleet with over 200 electric buses) • Ultra Low emission Zone helps reduce traffic. • BedZED housing provides cheaper zero carbon houses. • Green Belt legislation stops urban sprawl. • Santander bikes reduce need for cars.	London
1.6 Urban areas – problems Impacts of rapid growth	▫ Causes ▫ Solutions	Causes of rapid urbanisation: Bright lights syndrome: People in rural areas migrate to find jobs • London is one of the most visited cities in the world • London has one of the highest tourist spend in the world with $15.73 billion in 2019	London

Effects of urban sprawl Conflicts over land use change		Londoners earn £736 a week on average, £152 more than the UK average (2019) London generates 23.6% of the UK's GDP Impacts: House prices and rents are higher in London than any other part of the country. More people in London rent than own their house and those that rent pay more than half their weekly pay in rent. The average London house price went above £667,000 in 2020 compared to a national average of £232,000. At the same time as those who live in poor quality, small rented accommodation, there are people living in some of the most expensive properties on the planet. The edges of cities are known as the rural urban fringe. There has been increasing building in these areas because of housing pressure, despite Greenbelt legislation (laws) that are supposed to prevent building there. The growth outwards of our cities into these regions is known as URBAN SPRAWL and can have many impacts on these areas; • Extra cost to the tax payer – the public help to pay for infrastructure such as roads and water works to allow building developments to go ahead. • Increased Traffic – extra people in these areas means that cars are used more often, which means that there is more traffic on the roads, and there is also more air pollution and more accidents • Health Issues – people in these areas often have to commute to work which means that they often travel by car. This can have negative impacts on people's health such as high blood pressure. • Environmental Issues -sprawling cities consume land, and this displaces animals from their habitat Solutions Better public transport to connect people to the city, allowing people in rural areas to commute and encourage people to use it instead of cars to reduce congestion	

		Introduce affordable government subsidised housing and create more jobs	
1.7 A rapidly growing urban area in a developing country and migration to it	▫ Reasons for growth (push/pull) – physical, economic, social ▫ Impacts of growth on rural area and urban area (social and environmental) ▫ Squatter settlement characteristics ▫ Solutions to reduce negative impacts	• Located in India's wealthiest State, Maharashtra. Most popular city, main commercial centre. Graded as an Alpha City. Has both major Indian Stock Exchanges, and the Indian film industry. • 20.9mn people 2022 (https://bit.ly/3sWsBLp). 370 km^2, and 603km^2 including suburbs. More than 30k people per km^2. Pop expected to double by 2040. • Expanded onto the mainland and envelopes former towns like Navi Mumbai, Thane, Bhiwandi, Kaylan. • Lots of illegal sweatshops, and in Dhobi Ghat, linen is washed by hand, and children can work there from a very young age. Entire families live amongst the soiled linen and harsh cleaning chemicals. • 4 main tiers of housing – all reflect socio-economic divides. Informal Settlements: • Slum areas, such as in Dharavi, start out as informal housing occupied by squatters who gradually assumed occupancy by offering low rents to landlords. Causes: • Rural-Urban Migration accounts for half of pop growth. Mainly because of lack of employment in rural areas. Average worker earns much more than in surrounding rural areas. The economy is booming, but the government doesn't see much of it due to it mainly being from the informal economy. Problems:	Mumbai

		• Piped water is widespread in Mumbai Communities, but rare in homes. Lots use communal taps, but water cannot be accessed when power stops due to the pumps. In some slums, water is only available for 30m/day. • Rapid urbanisation has also caused uncontrolled water pollution. Factories dump untreated industrial waste, and the nearby airport (to the Mithi river) spills untreated oil into the river. • India's power cuts are legendary, and the infrastructure is nowhere near sufficient to provide for the growing needs. In 2012, there was a power cut affecting 620mn ppl. As of such, Mumbai and other cities started to build their own generation systems. Mumbai also has awful congestion, and there aren't enough buses/trains, and the public transport that is there is dangerously over-crowded. 10 people die every day on Mumbai's railways, and most deaths result from people sitting on train roofs being electrocuted by overhead cables.	

THEME 2 EARTHQUAKES & VOLCANOES

Specification point	Detail required	Place specific information – facts/figures relating to a particular place	Suggested/possible case study
2.1 An earthquake	▫ Features (epicentre, focus, magnitude ▫ Plate boundary ▫ Causes ▫ Impacts (soc/ec/env) ▫ Strategies to reduce negative impacts	▫ Lies on a conservative plate boundary between the north American and Caribbean tectonic plates. ▫ Measured 9 on the Richter scale and the ground shaking in Port-au-Prince measured IX on the Mercalli earthquake scale. ▫ Epicentre was just 15 miles from Port-au-Prince. ▫ Haiti is the poorest country in the western hemisphere with a GDP per capita of $411. ▫ Thousands lived in shanty towns and poorly built houses that easily collapsed. Well built buildings also collapsed such as the NATO headquarters and the presidential palace. ▫ First news broadcasts estimated that there had been 10,000 deaths but this total soon rose to a final toll of 200,000. ▫ In the weeks after, survivors faced a lack of shelter, food and clean water. ▫ Haiti's development has been hindered greatly by the disaster. Even before the earthquake over half the population lived on just $1 a day, 42% of people had no access to clean water and 22% of children were malnourished. The quake only made these figures worse.	Haiti 2010
2.1 A volcano	▫ Type: shield or strato ▫ Features (crater, magma chamber, vent) ▫ Plate boundary ▫ Impacts (soc/ec/env) ▫ Hazards ▫ Opportunities ▫ Strategies to reduce negative impacts	▫ A strato volcano which erupted 20t march 2010 when the North American and Eurasion plates moved apart at the mid-atlantic ridge. ▫ Mix of water of the melted ice and the lava increased the explosivity and ash was ejected high into the sky ▫ Ash contaminated local water sources ▫ Airlines lost £1.7bn and over 800,000 flights were cancelled in 8 days ▫ Tourist industry rose 600% to 3bn dollars annually with 700,000 visits a year ▫ Prevented emission of 2.8 million tonnes of CO2 ▫ Icelandic Red cross set up 24 hour emergency hotline	E15

		▫ 700 evacuated from the disaster zone months after ▫ 500 cattle farmers and their families evacuated	
○ A river	▫ Opportunities of living on the flood plain or delta or near the river ▫ Causes of hazards including flooding and river erosion) ▫ Management of hazards	▫ The severe flood in the Indus river basin cause 1980 deaths and ▫ affected 18 million individuals across Pakistan. ▫ Damaging many poorly built homes, ▫ the flood displaced 1.6million families. ▫ Caused by monsoons and the melting of snow in the Himalayas which borders Pakistan ▫ Form 1950-2010 there have been 21 major floods killing a total of 8,887 people and affecting 109,822 casuing a total economic loss of 19 billion — Mekong delta, Vietnam **Info** • More than 60 million people depend on the Mekong River and delta for their livelihood. • The river is so large that it has 2 tides every day. • Due to a constant volume of fresh sediment being deposited in the riverbed and on the delta, the soil formed there is very fertile and sustains the growth of 6 million tonnes of rice per year. • The shallow water of the delta also provides ideal spots for growing sugar cane and coconuts as well as housing many fish farms – making the Mekong River the largest seafood breeding and catching hub in the country. **Hazards** • Deltas, being so low down and in generally marshy areas are prone to flash floods and neighbouring sewage	River Indus - Pakistan

		systems can be easily overrun. This results in there being a large flooding risk in most delta areas. • These floods can erode large chunks of the coast, leading to precarious zones of half-weathered cliffs. • However floods can also positively impact the environment by ensuring nutritious sediment is spread to help topsoil become more fertile. **Management** • In MEDCs, dams may be constructed to help filter the flow of water through a river. • However sediment can get trapped behind the dam and building them to begin with is expensive. Therefore in an area such as the Mekong River, to ensure agricultural land isn't lost, soft engineering strategies are used. • Planting trees along the river bank helps to take up rainwater and the overall decreases discharge of the river. Some zones are left to become flooded in order to divert the path of the river away from more crucial settlements.	
2.3 An area of coastline	▫ Opportunities ▫ Causes of hazards including coastal erosion and tropical storms) ▫ Management of hazards	**<u>Lyme Regis</u>** <u>Opportunities</u> ▫ Tourism – local economy relies on tourism – tourism across Dorset employs 37,500 people ▫ Fossil Exploration – lies at the heart of the Jurassic coast; Ichthyosaur was discovered here in 1819 by Mary Anning ▫ Biodiversity – The Seaton Wetlands are located just outside Lyme Regis. These are home to many bird species such as the Little Egret and Peregrine Falcon. The wetlands are also very ecologically valuable as they help to filter water and store Carbon	Great Barrier Reef or Isle of Purbeck (Swanage) Or Lyme Regis

		Hazards • Rapid Erosion and landslides • clifftop road from Charmouth to Lyme Regis. • Landslides / landslips - Lyme Regis is built on a layer of limestone, which is solid However, on top of the limestone there are slippery muds, clays and sands, which slide over the limestone to cause landslides. ➢ The sea erodes the cliffs at the bottom of the land, which causes it to become unstable and slip further. • The cliffs to the East of Lyme Regis are especially prone to landslides after rainfall because the muds and clays become saturated with water. This is the area popular with fossil hunters. • The beach is being eroded away • The drainage system is inadequate to cope • House, buildings and roads become damaged • Black Ven is the largest and most active coastal landslide complex in Europe • 9 /60 Monmouth beach chalets have been demolished since January 2013 • In May 2008, about 400m (1300ft) of cliff slipped between Lyme Regis and Charmouth, exposing an old landfill site. Management • The management plan has been divided into 4 zones and phases - East Cliff – 390m of coastline secured for next 50yrs - Monmouth Brach	

		- The Cobb - The Harbour to Cobb Gate – Rip Rap in 2005-2007 • More than £35million has been spent since 1994 in order to secure coastline and save infrastructure (480 homes) *Strategies* • New sea wall and promenade with rock armour east of the mouth of the river Lim – this finished in 1995 • Work between 2005 and 2007 costing £17million – This included protection to the sea front and the land immediately behind. – Replacement of old wooden groynes with big stone/concrete ones. – Beach replenishment with sand and shingle to absorb wave energy and protect the sea wall and sea front from erosion. – Rip Rap / Rock armour added to the end of the Cobb Harbour – Drainage improvements – Weighing down the front of the cliff with soil nailing and steel piles. • April 2013 – 17th June 2015 costing £19.5million • 390m stretch of sea wall at the East Cliff • Stabilisation of East Cliff • Deemed the largest and most complex coastal protection schemes in England for years by the Environment Agency. *Benefits* ○ Long-term protection against destructive coastal erosion and landslips ○ More sand and shingle on the beach. This is better for tourism	

		○ A new promenade along the seafront. Becomes possible to walk across the whole beach even at high tide. ○ Better access to public gardens ○ Improvements to roads *Problems* ○ Expensive for a small community ○ Protection sill only last 50yrs ○ Might have to spend the same or more again in the future ○ There will be an expectation to continue to defend the region, even when the money could be better spent ○ Sale of houses and businesses on the sea front will be difficult as the 50yr mark gets closer	
2.5 An area of tropical rainforest	▫ Characteristics of climate – inc. temperature/rainfall ▫ Factors influencing climate (latitude, pressure systems, winds, distance from the sea, altitude and ocean currents) ▫ Ecosystems: relationship of natural vegetation, soil, wildlife and climate ▫ Causes of deforestation	**Why are rainforests fragile environments?** Once deforestation occurs it is a struggle for the rainforest to grow back because there will be a lack of falling leaf litter and the soil layer cannot be rebuilt, leaving it subject to both wind and water erosion. This therefore cause an infertility in the soil and an inability for the rainforest to grow back. **Why is palm oil sought after?** Palm oil is used in the processes and making of margarine, ice cream, chips, biscuits, non-dairy creamers, chocolates, fragrances, antifreeze, cosmetics, tobacco, and it is used as a substitute to diesel.	Peruvian Amazon

	▫ Effects of deforestation (on natural environment – local and global – and people)	**Why is the palm oil industry so important for Malaysia?** • Palm oil demand is expected to double by 2030 and triple by 2050, allowing for huge economic growth of Malaysia, bringing citizens out of poverty • If Malaysia were to favour conservation over economic growth, larger companies would just move to other countries where the regulations are fewer and less strict – meaning the regulations implanted would have achieved very little **What is the Malaysian government's view for the future?** The Malaysian government is aiming to become the world's next "Asian Tiger" – a country with fast economic growth, where they are investing in technology over preservation. **Why and at what rate is deforestation occurring in Malaysia?** Deforestation in Malaysia is increasing greatly with around 140,200 hectares of forest lost each year. This is due to the need for palm oil production plants. If the trees of the forest are chopped down and palm oils are planted quick enough, the soil can retain enough nutrients for the palm oils to survive and grow. **What are the environmental impacts of the palm oil production in Malaysia?** • There have been a reduced number of animals and animal species, resulting in a lower biodiversity • The Javan rhinoceros is now extinct, and the Sumatran rhinoceros is becoming extinct • The tiger population has fallen from 3500 to only 500 • The orang-utan population has decreased from 20,000 to 11,000 • As 80% of flower plants in Malaysia can only be found within Malaysia, deforestation and loss of biodiversity pose huge threats to possible extinction and the environment	

		• As animals and plants depend on the structure of food chains, numbers dropping has meant that food chains have become even more unstable and fragile **Why are small conservation areas not sustainable?** These are not sustainable, because there is a low-density of species in Malaysia which means that larger forests are needed to sufficiently protect are large number of plants and animals. **Solutions and dilemmas faced for the Malaysian government?** • The government has placed conservation as a priority, and is in the process of signing up to the EU Forest Law Enforcement, which will help increase timber regulations • Half of the forest area within Malaysia is now completely protected from deforestation • Greenpeace has a stronger presence with aiding indigenous forest dwellers develop rights to their land • Palm oil companies are looking at developing genetically modified strains of palms which will maximise the efficiency of growth and allow for greater crops yields from the same areas • However, the Malaysian government must strike a balance between conservation of the environment and allowing for the Malaysian citizens to increase wealth and grow economically from the palm oil	
2.6 An area of hot desert	▫ Characteristics of climate – inc. temperature/rainfall ▫ Factors influencing climate (latitude, pressure systems, winds, distance from the sea, altitude and ocean currents) ▫ Ecosystems: relationship of natural vegetation, soil, wildlife and climate	• The Namib is a costal desert in southern Africa. • It stretches for more than 2000km along the Atlantic coasts of Angola, Namibia and South Africa with an area of almost 81000km^2. **Characteristics of climate – inc. temperature/rainfall** • Often receives less than 10mm of rain annually. • Temperatures reach highs in 30^{o}C and sometimes even in the 40^{o}C.	Namib

		• At nights temperatures can drop to 0°C and below. **Factors influencing climate (latitude, pressure systems, winds, distance from the sea, altitude and ocean currents)** • Winds coming from the Indian ocean to the east lost part of their humidity when they pass over the Drakensberg Mountains, and they are essentially dry when they reach the desert. • Winds coming from the Atlantic Ocean are prevented from travelling inland by winds moving towards the coast from the area of high pressure over the desert. Morning fogs coming from the ocean and pushing inwards into the desert are a regular feature along the coast, and much of the life cycle of animals and plants in the Namib relies on these fogs as the main source of water. **Ecosystems: relationship of natural vegetation, soil, wildlife and climate** • Several plants and animal species found are highly adapted to the arid climate of the area. • The Namib desert beetle has an outer hard skin that allows humidity from the morning fogs to condense into droplets, which roll down the beetle's back into its mouth. • Another beetle builds "water-capturing" webs, while black-blacked jackals lick humidity from stones. • The gemsbok, a large antelope; can raise the temperature of its body to 40°C in the hottest hours of the day. **Economic benefits** • The Namib deserts is an important location for mining of tungsten, salt and diamonds.	

		• The Namib- Naukluft National Park which covers 50000km^2, extends over a large part of the desert. It includes several well-known visitor attractions. • It is the largest game reserve in Africa and one of the largest in the world. • It provides employments for guides and rangers , and tourist accommodation. **<u>Threats to the natural environment</u>** • The impact of off-road driving, which can cause long-lasting damage to the delicate desert vegetation. Lichens are particularly sensitive as they grow extremely slowly and cannot recover quickly. Most of the damage is done by vehicles from mining companies on prospecting expeditions. • The drop in the water table caused primarily by extraction of groundwater. This is needed for the domestic consumption of urban areas of Walvis Bay and Swakopmund and the enormous demands made by a uranium mine near Swakopmund. At present people are prospecting for more underground water sources. However, if water is found, roads, pipelines, and power lines would have to be constructed through the most pristine dune desert in the world. ▫ Pastoralists graze large herds of goats and small groups of donkeys. The livestock have overgrazed some areas and are competing for food with wild animals such as gemsboks.	

THEME 3 ECONOMIC DEVELOPMENT

Specification point	Detail required	Place specific information – facts/figures relating to a particular place	Suggested/possible case study
3.1 A transnational corporation and its global links	▫ Contribution to globalisation ▫ Impacts at a local, national and global scale	Contribution to globalisation • Nike is synonymous with globalization. Over the past two decades, Nike has been one of the pioneers in outsourcing production to the developing world. Today, Nike's contracted factories employ 1.02 million workers in 42 countries to produce all its products, with 29% of product made in China and 44% in Vietnam It is a transnational corporation • Nike is based in Oregon, USA, and owns over 700 worldwide shops, 700 factories, offices across 45 countries, and employs nearly 1 million people in 50 countries. Impacts at a local scale • Nike is based in Oregon and the main headquarters is based here. The main headquarters provides many jobs involved in research and development of the products that Nike present in the shops. In the USA there are also many shops providing many job opportunities in the form of the tertiary industry as retailers. Impacts at a global scale • Nike has been working in China for over 30 years, and sub-contract production to 146 factories overseas. These factories provide valuable jobs to workers in LEDCs such as China, however the wider implications of Nike offshoring manufacturing may hinder development in China. • Nike helps development in China through providing jobs that result in better standard of living than local jobs. Nike	Nike

		has had successes in China, allowing them to continue manufacturing there, and increasing investments in the country. This allows the Chinese government to then increase funding into infrastructure, also helping to increase standard of living. Other companies have also been encouraged to set up factories in China after seeing the success of Nike there, improving China's economy and infrastructure. Nike claim that they have also improved worker conditions, pay, and rights within China, meaning that workers should be better of working in a factory for Nike than compared to other companies or local jobs. • However, Nike has also hindered development in China through both economic and social factors. Wages in China are still much lower comparable with similar jobs in MEDCs, but the government cannot raise minimum wage for fear that Nike will move manufacturing to a country with lower minimum wage levels. This means that whilst the country's economy benefits from Nike working there, individual workers may not necessarily benefit from this. Many jobs provided by Nike are also low skilled, meaning that the economy of China is stuck in the secondary sector, and workers cannot advance into tertiary sector jobs. China does not also benefit from all of Nike's profits, as much of the profit generated is fed back into company headquarters in the US. Finally, despite Nike's claims that they have improved working conditions, they are still much worse in China than MEDCs, leading to complaints of abuse of workers and unregulated long hours.	

3.2 A farm or agricultural system	▫ Type of farming: commercial and subsistence; arable, pastoral and mixed; intensive and extensive ▫ Main features of system (inputs – natural – relief, climate, soil and human – economic/social, processes – scale of production and method of organisation, outputs inc products) ▫ Reasons for this system	Australia – Commercial Sheep Farming • Sheep are raised as lambs for meay or grown to their full size for wool and mutton. • Commercial sheep farming is found in areas with low rainfaill, high temperatures and poor quality grazing. Due to these factors, most of the sheep farming occurs on large, marginal farms, where the only suitable agricultural produce would be sheep, as the conditions would make other produce unprofitable. • Sheep farming is characterized as having a very low input of capital per hectare, as the land is of such poor quality that it cannot be used for arable farming. Farms may need up to 25 hectares of grazing land per animal as the quality is so low. • It takes very few people to look after the sheep as they can be left out in the fields all year. • Industry outputs: 620,000 tonnes of meat, 570,000 tonnes of wool per year. Of this, approximately 68% of the wool and 37% of the meat is exported. Challenges to this system: • **Periodic droughts** Are becoming more common. • **Weed Infestations** are covering large areas of grazing lands that sheep cannot eat • **Destruction of natural habitats (soil erosion) –** the Overgrazing of sheep has destroyed the natural vegetation cover that protected the soil before. The soil is then easily exposed and eroded by water and wind. • **Shortage of sheep shearers –** a Very hard, tough manual job that has lost workers to easier jobs in Australia's expanding agricultural industry.	Eswatini

3.2 A country or region suffering from food shortages	▫ Causes: natural (drought, floods, tropical storms, pest) and ec/pol (low capital investment, poor distribution/transport, war) ▫ Effects ▫ Solutions (inc food aid)	**Causes** • The main cause of famine is desertification, which is the degradation of land in hotter and drier areas, or expansion of deserts. • One of the main causes of famine and desertification is efficiency of crop growth. Due to climate and tools, farming is less efficient, so more land is used, and some land is overused. • Some of the people in this region are nomadic, so when they find good grazing land, they settle there for a while and tend to over-graze. Cattle also eat down to the stem, killing vegetation. • Poorer irrigation techniques can also mean the crop is getting under/oversaturated which will affect crop growth and desertification, • Drought also means that crops die along with livestock, meaning that there is significantly less food for the people. • In some of the areas of the Sahel, there are exceptionally large populations of people and a rapid growing population, which means there is not enough food for them. • Some of the countries also face insect and locust problems. **Effects** • In 2016, 37 million people were food insecure in the Sahel, with 6.3 million of them facing severe food insecurity. • In 2018, more than 1.3 million children needed treatment of severe malnutrition. • Many places lose a sizeable portion of their income. • Soil erosion makes the land less fertile for a long time. • Social conflict and unrest are also caused by famine, leading to riots and protests. It can also cause major political instability.	Sahel

		• Food prices also increase very dramatically with food shortage, leaving even more people hungry. • In extreme cases, people can die, for example, in 2010, there were 9 confirmed deaths from famine. • In 2014 the UN stated that 20million people in the Sahel region of Africa faced hunger and required $2 billion in food aid due to desertification. **Solutions** • Britain will send lifesaving aid to over 500,000 people • It will help 80,000 children suffering from malnutrition. • Help 80,000 refugees • Help 250,000 people with emergency supplies. • UNICEF sending RUTF • Green wall of trees, 7100km long, 15km wide belt of trees to help stop the spread of desert. There are also schemes of restoration and education in some of those countries suffering from famine.	
3.3 An industrial zone or factory	▫ Type of industry: manufacturing, processing, assembly and high technology industry ▫ Main features of system (inputs, processes – scale of production and method of organisation, outputs inc products and waste) ▫ Reasons for this system ▫ Factors influencing the distribution and location (land, labour, raw materials and fuel and power, transport, markets and political factors)	-	Steel UK and Cambridge Science parks

3.4 An area where tourism is important	▫ Reasons for growth (human & physical) ▫ Benefits and disadvantages of tourism ▫ Managing tourism (to be more sustainable)	**Growth** There are many reasons for growth in Malaysia, particularly Sarawak. These reasons include palm oil, wood and biodiversity. The country's resources have been well sought after and their production has been significantly increased since 1970 and Since 2000, an average 140,200ha of forest has been lost per year. The tourism industry, however, grows because of the biodiversity, Sarawak makes up 26% of Borneo. The island is home to 222 species of mammals (44 of which are unique to Borneo-endemic) 420 species of birds (37 endemic) 100 amphibians and 394 fish (19 are endemic). It also has 15,000 types of plants, with 6,000 of those only found in Borneo. Many people want to visit the region to see the various flora and fauna that they could not find elsewhere, others have also been inspired by various forms of media **Advantages** The locals who have sites for tourism get more money from tourists. Others benefit as they can sell more crops and food to businesses and tourists. Some others also benefit through jobs associated with travel or other parts of tourism. It also produces more money for Malaysia and the region. Government is also more incentivised to protect the environment to increase tourism, for example, 283,000 hectares were donated so that they would be protected **Disadvantages** the increase in tourism has also increased the demand for housing roads and food has increased deforestation. The increased flights and travel have also increased pollution significantly, and the littering caused by tourists damages the environment further. Boats passing by can also harm animals and such. Furthermore, the deforestation itself from this leads to extinction and more carbon emissions globally.	Malaysia

		Ecotourism Ecotourism led to some reforms. Regeneration work for forests had also been done so that any forests destroyed would be rebuilt. The ecotourism meant improvement in the lives of locals. There were small groups of tourists to prevent mass tourism, local guides were hired to increase their income, local materials were used for construction, to increase profit, environmentally friendly buildings were built. Also, the trips were more natural, to avoid disturbing the nature and there was limited transport to reduce emissions significantly. ▫	
3.5 Energy supply in a country or area	▫ Energy mix – relative importance of non-renewable fossil fuels (coal, oil, natural gas), renewable energy supplies (geothermal, wind, HEP), nuclear power and fuelwood ▫ Evaluate the benefits and disadvantages of energy mix	▫ From 1970 to 2016, industry went down 60%, transport went up 50%, and for electricity production, gas dropped from 2/3 to 30%, coal rose from 5% to 30% and oil dropped significantly to less than 2% ▫ The last oil-fire powered station closed in 2015 ▫ Plans for 15 new nuclear energy reactors and for it to produce 25% of energy by 202, with most reactors located in somerset ▫ Wind energy plans to produce 10% of electricity by 2020 with 900 wind farms with over 5000 turbines. ▫ Wind energy accounts for over 50% of renewable energy source ▫ Plans for 15% of UK's energy mix to be produced by renewable sources ▫ Less than 0.01% of the UK's energy is generated through tidal energy however being an island, there is potential for 20% of the UK's electricity to be produced using waves and tides UK	China Or the UK

		The UK government wants to reduce its carbon dioxide emissions. It also wants to increase the amount of energy which comes from renewable sources. By 2020 European Union targets state that 20% of energy must come from renewable sources. Each member state of the EU may have a different target, as 20% is an average figure for the EU. The UK has a target of 15% of its energy consumption being sourced from renewable energy. (In 2009 only 3% of energy came from renewable sources in the UK). The UK is legally committed to tackling climate change, and to reduce emissions by 80% by 2050. There are two ways the energy use can change in the UK: • Reducing the demand for energy • Increasing the supply of renewable energy **Reducing energy demand:** The demand for energy in the UK varies. This is because of: • Economic factors: For example during the recession energy demand did not increase as predicted • Seasonal factors: For example the demand for domestic energy over winter is greater than over the summer. • Temporal factors: For example at night there is surplus energy on the national grid because demand is lower Regulations have forced vehicles to become more energy-efficient and give off less atmospheric pollution. The government has also continued to increase fuel and road taxes. Even so, the use of transport is rising so fast that the amount of CO2 given off by transport vehicles continues to rise. There are also incentives to save energy – for example grants are available to help make a home more energy efficient. **Renewable power:** **Wind:**	

		Wind UK power companies are now investing hundreds of millions of pounds in renewable power. The greatest amount of renewable energy in the UK comes from wind generation. In 2010 the world's largest offshore wind farm was opened in Thanet, on the Thames estuary. Many wind farms have been set up, particularly in Scotland and Wales. However some plans for large wind farms have been blocked by planners. **Biomass:** Production of energy from biomass is expanding. In 2011 a new biomass energy centre was opened in Chilton, Durham. The supply of energy for biomass is more predictable than other forms of renewable energy. However people are concerned about how sustainable the sourcing of biomass is. **Wave and tidal:** Energy from wave and tidal power could be developed more. **Non-renewables:** **Coal:** Coal usage in the UK has decreased from 38% in 1970, to 30% in 2014. Coal use in electricity generation in the UK has also decreased following the closure of the majority of UK coal mines. Now, the UK mainly import rather than extract coal. **Oil:** Oil usage has also decreased significantly from 48% in 1970 to 2% in 2014, mainly due to a decrease in oil usage for electricity generation, due the discovery of an abundance on natural gas in the North Sea. Oil usage in vehicles in the UK is also declining due to an increase in usage of hybrid and electric-powered cars. **Gas:** Gas usage has increased significantly from 8% in 1970 to 41% in 2000, likely due to the discovery of natural gas in the North Sea in	

		the late 1900s, leading to more homes using the then cheaper natural gas as power. However, this is likely to sharply decrease in the next few years, as supplies of natural gas are now diminishing	
3.6 Water supply in a country or area	▫ Methods of water supply (including reservoirs/dams, wells and bore holes, desalination) ▫ Proportions used for agriculture, domestic, industry ▫ Reasons for water shortages ▫ Impacts of lack of clean water (soc/ec) ▫ Management of water supplies to reduce shortages	▫ 80% of China's water supply lies in southern China. But this water cannot be used by the population of 12 Chinese provinces representing 41% of its total population, 38% of Chinese agriculture, 46% of its industry, and 50% of its power generation. ▫ ▫ Excessive pollution in major cities waterways means that access to fresh water is limited and many suffer from water borne diseases such as cholera. ▫ 28,000 rivers in China having dried up over the past 25 years. ▫ consumption forecast to rise to 670 billion cubic meters a year by the early 2020s. ▫ Coal mining is a water-intensive as well as polluting process, and 85% of coal reserves in China are located in provinces where water is scarce and must be shared with a large agriculture industry. Reportedly 20% of all water use in China is for mining, processing, or consumption of coal, and almost 70% is for agricultural purposes. ▫ Rapid growth in water demand, combined with a reliance on groundwater drawn from aquifers, has resulted in a new problem — subsidence. This poses a threat to over 50 cities in China and is being closely monitored by the government. ▫ The South North Water Transfer Project (SNWTP) is a mega-scale engineering project designed to divert 44.8 billion cubic meters of water from the south to the north. The SNWTP has the potential to bridge the water gap between the south and the north. However, the SNWTP already services three dry provinces, and would not provide enough water to meet the	China

needs of the 12 provinces currently experiencing water scarcity.

- Desalination would provide additional water but is not considered a viable option due to its energy-intensity, and in China, generating the energy needed requires around half the amount of water that would be produced. Raising the price of water is another possibility, particularly in dry regions, but also has the potential to put enormous pressure on water-intensive industries. Moreover, this could result in such companies moving to less regulated regions if increased water prices are implemented only on a local level.

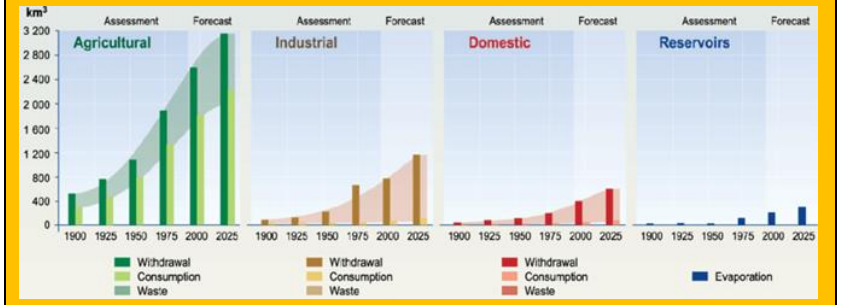
Dams and reservoirs:

A dam is a concrete barrier that holds back water, and is used to save, manage, and prevent the flow of excess water into specific regions. They can also be used in electricity generation hydro-electrically or used as a bridge across valleys.

A reservoir is an artificial lake used for water storage

Wells and Boreholes:

A well or borehole is a means of tapping into various aquifers (water bearing rocks), which provides access to ground water. The most significant difference between a well and a borehole is that wells are relatively large in diameter but often hand built, whilst boreholes are relatively small in diameter and are drilled by machine.



Desalination:

		Desalination plants are mostly found in the Middle East, where most other forms of water supply are scarce. Desalination plants work by distilling water by boiling it, using the waste energy from oil wells, which prevents it from being an expensive process. This is also why desalination plants are only found in the Middle East, as few other countries have this availability of waste energy. • Population growth, which puts pressure on water systems • Pollution, where water sources are becoming impure or polluted due to sewage leakage or fertilisers leeching into lakes and rivers • Increasing demand as development and population increase globally/ • Urbanisation • Overuse and waste • Deforestation, as trees transpire which allows water to be available on the surface, however when trees are chopped down water is moved underground where it is hard to access • Climate change, as there are a greater frequency of unpredictable and extreme weather patterns, leading to intense flooding and droughts. As freshwater glaciers and ice shelves melt, freshwater mixes with sea water and becomes inaccessible for use without desalination • A lack of sewage treatment means that waste is pumped into water sources • Political mismanagement, where water a large percentage of the available water source is controlled by a small percentage of people, with water being inappropriately used	

		Solutions/Careful management: • Investment into desalination plants, so that the abundant seawater can be purified into potable water • Government should enforce stricter environmental regulations on sewage treatment, and enforce better policies on disposal and reuse of waste water • Conservation measures should be incentivised or subsidised, such as through the subsidisation of more efficient toilets, washing machines or dishwashers, or by charging a fine if a household continuously exceeds a certain volume of water usage. • Indigenous plants should be grown, so that plants typically grown in different climates do not use up excessive amounts of resources • Drip irrigation should be subsidised in farming opposed to use of sprinkler systems • Wells should be built to access groundwater • Farmers should be educated on more efficient farming and irrigation techniques • Invest in education of citizens on usage and purification of grey water **The impact of lack of access to clean water on local people and the potential for economic development:** • People may be forced to relocate due to famine/drought • Increase in diseases and decrease in general hygiene • Increased food prices • Increase in unemployment • Increased poverty and malnutrition	

		• Civil unrest as there is conflict between villages or civilisations for water and food • Increase in corruption as people use any measures possible to obtain food and water • Political unrest/instability • Water scarcity will result in mass unemployment Development of new and existing infrastructure will be hindered	
3.7 An area where economic development is taking place and causing the environment to be at risk	▫ Economic activity(ies) ▫ Threats to the natural environment and people, locally and globally (including soil erosion, desertification, enhanced global warming and pollution [water, air, noise, visual]) ▫ Solutions including sustainable development and resource conservation	▫	China eg Hubei province (3 Gorges Dam)