

Case study revision guide



Exam 1	Exam 2	Exam 3
Natural World	People and Society	Geographical exploration
70 marks	70 marks	60 marks
1 hour 15 minutes	1 hour 15 minutes	1 hour 30 minutes
35%	35%	30%



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UK drought, 2012

General information

- Much of England and Wales were hit by the drought in 2012
- It was particularly hot and dry in Southern England, leading to water shortages and low levels of water in reservoirs.
- Some areas received less than 75% of their usual amount.

Causes

Wind patterns brought dry winds from Europe in the east, rather than wet winds from the West. As temperatures were warmer more water evaporated from reservoirs and soils dried out quickly. This dry soil baked and became solid, making it harder for water to seep in. Water is also wasted in the UK and we use 1.7 billion liters every single day.



Consequences and problems

- It was difficult to grow crops and produce food – farmers lost out economically.
- Dry areas of England caught on fire causing wild fires in Wales and Surrey.
- Around 20 million people were part of the ban on hosepipes.



From yesterday's Mail

Responses

- Water companies were allowed to use water from rivers and pipe it into homes.
- Hosepipe bans – people weren't allowed to use their hosepipes to stop water being wasted.
- There was a national campaign for all people to use less water in their homes, for example turning taps off.

Cyclone Nargis, 2008

Causes

- Temperature of the water in the Bay of Bengal was 27 degrees.
- Sea was at least 60 meters deep.
- Wind speeds hit 120 miles per hour
- Storm surge was 6 meters high.
- 600mm of rain fell. This was the beginning of Monsoon season.
- Category 4 cyclone



Effects

- 140,000 people died
- 95% of buildings on the delta were destroyed.
- 2 million people homeless
- Cost of rice increased by 50% because there was a lack of food.
- Lack of clean water led to the spreading of cholera as people drank dirty water.
- The warm weather and floods meant mosquitos came to the area, this meant malaria spread.



Responses

- The United Kingdom gave £17 million of aid.
- The United Kingdom sent over an international disaster management team to manage all the money, food, medicine, tents and water that was sent over. They then sent out the aid to different areas of Myanmar.
- India sent over 50 doctors and set up 2 mini hospitals



Japan Earthquake, 2011

Causes:

- 9.0 magnitude on the Richter scale
- Aftershocks for days after, magnitude of 6.
- Destructive plate boundary. Pacific plate subducted underneath the Eurasian plate.
- Happened underneath the ocean, also caused a Tsunami.
- Epicentre was 70km from east coast of Japan.
- Focus was only 32km underground.



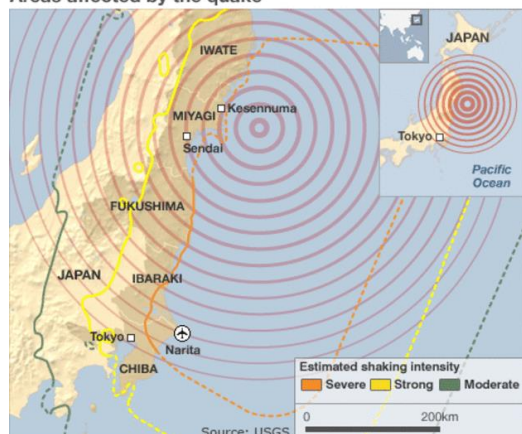
Effects:

- 130,000 buildings collapsed.
- 15,000 people died
- 4 million houses left without electricity and water
- 10% of fishing ports were destroyed.
- £200 billion worth of damage
- Fukushima power plant was destroyed.
- Radiation leaked from the power plant.
- Hundreds died from the radiation.

Responses:

- £1 billion was donated.
- £1 million pounds worth of warm clothing donated.
- Britain sent over 70 search and rescue workers.
- The Japan Self Defence Force were sent out. This is a mixture of people from the fire and ambulance service who are specially trained in providing support to people in earthquakes.

Areas affected by the quake



The Jurassic Coastline, UK

How was the landscape formed?

The landscape has formed over the last 250 million years.

Triassic period (250 million years ago): the climate was desert like and formed thick layers of sedimentary rock.

Jurassic period (200 million years ago): sea levels rose and flooded the desert. Thick layers of sandstone were deposited.

Cretaceous period (140 million years ago): the sea level dropped and made new rocks, then the sea covered the land again and deposited more sandstone.

Quaternary period (2 million years ago): erosion created hills and cliffs, the ice age ended 10,000 years ago and sea levels to create our coastline.

Basic details:

Coast of Dorset and Devon in the South of England. 155km of cliffs and beaches and is a UNESCO world heritage site. It's called the Jurassic Coast because of the age of the sedimentary rocks (they are 250 million years old).



The impact of climate change on the Jurassic Coastline

- Warmer temperatures will lead to bigger storms with more powerful, larger waves
- Sea levels will rise due to global warming. This will make flooding more likely to happen.
- More intense rainfall will lead to more weathering and erosion.

What were the impacts of the storm in 2014?

- Sandstone cliffs collapsed in West Bay
- The village Portland Bill was flooded
- Lyme Regis was well protected by its defences

How is the coastline managed and protected?

At the popular tourist destination Lyme Regis sea walls and rock armour are both used. However, along the entire coastline they also use groynes and beach nourishment to protect the coast.

River Thames

UK's longest river at 346km. The source is in the Cotswold Hills which is made up of Jurassic Limestone, then it flows through the Berkshire downs (permeable chalk) before flowing over impermeable London clay and into the North Sea. The Thames flows from West to East.

Landforms along the Thames

At source, it is 100m above sea level. There are many meanders along the Thames made through erosion and deposition.



The Thames Barrier – an example of river management

It was built in 1984 in East London near the North Sea (mouth) because of previous flooding. When high tides are predicted the barriers rise and limit the damage by any potential flood.



Flooding in 2014

Saw the worst flood in 2014 with 5,000 homes and businesses flooded.

Estimated clean cost was £500 million.

Causes...

- Impermeable rock
- Ground was frozen
- Deforestation in the river basin
- Urbanisation – building using impermeable surfaces such as concrete and tarmac
- River straightening in the upper course caused more water to be down in the lower course.

The impact of the Jubilee River

The flooding was made worse by this man made river costing £110 million. It carries water away from the Thames but flooded nearby areas such as Wraysbury. This is how humans made the flood worse.

Barking Riverside

Ideally, we wouldn't build on floodplains because of the risk but there is a housing shortage in the SE of England, because of this a housing estate is being built at Barking Riverside. The houses aren't protected by the Thames Barrier. They have installed... An afforestation programme to absorb and stop infiltration

Houses built on raised land

Cuts have been made into the land to allow water spread naturally

The Rainforest, Costa Rica

Why did the rainforest need protecting?

In the 1960s, 70s and 80s Costa Rica experienced rapid deforestation, mainly because of cattle farming. The government decided to act, they made deforestation illegal and began to pay local people to protect parts of the rainforest they owned, 25% of the country's land is now protected.

Ecotourism

Is a type of tourism that creates jobs for locals whilst protecting the environment. If tourism damages the environment then it can't be classed as eco tourism. One of the largest projects of eco tourism in Costa Rica is the Samasati hotel, where:

- Buildings fit between trees in the rainforest and no old trees were cut down
- The wood cabins were made from local wood
- No heavy machinery was used in making the hotel
- Only local people are employed in the hotel

How is the rainforest sustainably managed?

- **Agroforestry:** this is where trees and crops grow side by side. The roots of the trees stop soil erosion and crops benefit from the nutrients they can get from the tree.
- **Selective logging:** only older trees are cut down, young trees are allowed to grow to keep the canopy later tall.
- **Afforestation:** trees are planted to replace any that are cut down.
- **Monitoring:** the government use satellites to take regular photos of the rainforest, this way they can see if any areas are being cut down.

The 'Wildlife Corridor'

The Costa Rican government are currently trying to create a wildlife corridor all the way through central America. The aim is to connect all the different rainforests in the area so animals can migrate freely between the countries.



Your local case study

Sustainably managing Whaling, Arctic circle

Whales have been hunted for centuries. Inuits (Eskimos) hunt whales for oil, meat and bones. However, countries and companies started to hunt whales and this became unsustainable.

Whaling in the 20th century

In the 1930s over 50,000 whales were being killed every year. Huge factory ships were catching 10-20 whales each time to make products like margarine, chemicals and make up. In 1946 the **International Whaling Commission (IWC)** was set up to protect whales. It sets a total number of whales that each country can catch. In 1986 the IWC banned commercial whaling (whaling to make products), however Japan continued to catch whales for what they called '**scientific research**'. Since 1986 30,000 whales have been caught, mostly by Japan.



The Marine Wildlife Sanctuary

This safe place for sea animals was set up on the coast of Baffin Island, Northern Canada. The sanctuary covers 12 miles and protects 17 species of whale. Upto 2,000 bowhead whales stop in the area every year on their migration. Polar bears, seals and fish also benefit from the sanctuary. It is illegal for whaling ships to come into this area. 1,000 Inuit people live on Baffin Island and Greenpeace support them hunting Whales. Greenpeace want to work with the Inuits (indigenous people) and make a joint stand against oil drilling in the Arctic Ocean. Inuit people only live off what they need and they use every part of the Whale in their way of life.

The Arctic – not protected

Why does it need protecting?

- It reflects the sun's energy (Albedo effect) keeping our global temperature cooler
- It is a habitat and breeding place for hundreds of species
- Very little of the land is currently protected – it means that any countries can go and exploit the resources in the area.

Greenpeace

Greenpeace is campaigning for the 'Arctic Sanctuary'. This sanctuary would cover 3 million miles of the Arctic Ocean and ban any harmful human activity. At the moment, this part of the ocean isn't owned by anyone. Within the sanctuary they would ban...

- Fishing
- Drilling for gas or oil
- Mining
- Military activity

Antarctica – protected

- The Antarctic treaty was signed in 1961 by 46 countries because the area was under threat
- Humans are only allowed on the continent for scientific research and tourism (tourism is limited to a certain number of visitors each year)
- The scientific research there discovered the o-zone layer. This helped humans identify how our greenhouse gases were destroying it.
- This scientific research has benefitted the future of our planet.

Why is the Arctic a fragile environment?

- Resources like oil and whales are exploited
- Global warming causes climate change
- The minimum area of ice shrinks each year

How is the Arctic protected?

It isn't!

1996 – 8 countries came together to form the **Arctic Council**. It's goal is to protect the fragile Arctic environment but it has no legal powers to prevent any countries carrying out harmful activities.

The Paris climate agreement

This international agreement was signed by 195 countries in 2015. The agreement sets out a plan to help the world avoid dangerous climate change by limiting global warming to less than 2 degrees. This could help slow the rate of sea ice melting and sea levels rising in the Arctic area.



Managing the Arctic and Antarctica
sustainably
Your international/global case study

Birmingham – a city in an AC

- Uks 2nd largest city
- Population of 1.1 million
- Part of the West Midlands which includes Coventry and Wolverhampton
- Was the ‘workshop of the world’, now it’s a city of culture and shopping

Migration and Diversity

Birmingham grew into an industrial city during the **industrial revolution** (18th century). It then went into decline as manufacturing moved abroad (late 20th century). Birmingham’s population is now growing. **1950s + 60s** = immigrants came from Asia and West Indies. **2000 onwards** = Eastern Europe, Africa and the Middle East. 40% of people Nechells and Aston are ethnic minorities. Birmingham has a greater % of youthful population than the entire of the UK.

Birmingham’s Re-generation

The Bullring shopping center created a shopping hub in the 60s. By the 90s it was run down and congestion made life difficult for pedestrians. In 2003 Birmingham had finished regenerating the Bullring. It drew people back from Merry Hill and is now the 3rd retail destination in the UK. Brindley Place was also regenerated into bars and restaurants, including the NIA. The library was also re-developed and HS2 is planned to link Birmingham to London in 2026. Birmingham now offers 160+ shops, luxury apartments, excellent public transport and pedestrianised streets.

Inequality in Birmingham

Is huge! In Four Oaks house prices are around £500,000 for a 4 bed house, whereas a 2 bed house in Sparkbrook is around £90,000.

Sparkbrook: 25% unemployment, average household income is 21,000 and 49% of children live in poverty.

Four Oaks: 3% unemployment, average household income is £40,000, 7% of children live in poverty.

Sustainability in Birmingham

‘A leading green city’ plan has been put in place to reduce carbon emissions. Becoming more sustainable could mean a healthier lifestyle, becoming a smart city with efficient transport, and a new greener economy.

1. Birmingham energy savers = fit old houses with better insulation and double glazed windows
2. Midland metro = the tram network has created jobs
3. District energy schemes = the city plans to supply power to 40,000 homes by burning waste.
4. High speed rail 2 = connecting to London will help to regenerate the city.

Birmingham Library – built on a brownfield site, has a roof garden to attract wildlife, recycles water, employed 250 local people during construction, attracts 2.5 million visitors a year which raises educational achievement.

Istanbul

The largest city in Turkey that stretches across Europe and Asia. A population of 15 million but isn't the capital of Turkey. It started as a major city in the Greek Empire, then became the capital of the Roman Empire and was named Constantinople, then in 1453 it was conquered by the Ottomans (Muslim Turks). The city reflects all these cultures.



Population and the city

1950 – population of 1 million

2015 – 15 million

2025 – expected to reach 20 million

the population has grown from internal migration from other parts of Turkey, people come looking for employment in the informal sector and better living conditions. Turkey is also growing as a tourist destination. However, the city will struggle to expand because it is divided by the Bosphorus river. The only way it can grow is along the coast.

...is a very important city. It creates half of the country's wealth by producing food and textiles. It only has 20% of the country's population but the majority live in the suburbs. This has created new centers with a growth in financial and tertiary industries.

How is the city center changing?

It is a tourist hub full of culture, markets, historic buildings and large mosques.

- Beyoglu has been regenerated into new offices, hotels and apartments.
- Faith is the oldest part of Istanbul. It is the market center.
- Topkapi Palace was home to the kings of the Ottoman Empire.
- The Sea of Marmara brings in cruise ships and tourists which create business to the city center.



Istanbul



Challenges in Istanbul

The population grew rapidly so they started to create squatter settlements called gecekondu. They lacked basic services. Other migrants moved into old buildings which needed repairs. However, Istanbul is trying to regenerate...

- Beyoglu – since 1990 the area has gone through gentrification. This is where young businessmen/women have moved in, improved the area and poor people can no longer afford to live there.
- Esenler – the gecekondu are being demolished and replaced with high rise apartments with more green spaces.

Congestion in Istanbul

Istanbul is one of the most congested cities. 420,000 vehicles cross the Bosphorus river each day. Istanbul's transport problems...

- Taxis and minibuses are in decline
- The rail network covers a small area
- It is too dangerous to cycle



Integrated transport system

The ideal situation would be for all transport systems to link together. Railway links are being built to go under the Bosphorus river. Istanbul should also use ferries across the Bosphorus as they produce lower carbon emissions and carry more people.

Zambia

A brief history...

Is rich in minerals like copper but has never developed. It is landlocked and was a British colony in 1888 until 1964. With a population of 14 million, 80% can read and write and the gross national income is \$3,000.

Development over time...

- 1970 – the price of copper falls and Zambia has to accept aid.
- AIDS spreads across Zambia.
- 1990 – debt is high. Food is expensive and there are riots.
- 2000 – copper starts to rise again.
- 2006 – the IMF cancel Zambia's debt.
- 2010 – Zambia develops new industries in tourism, farming and hydro electric power through the Kariba Dam.

The Millennium Development Goals (MDGs)

In 2000 world leaders agreed to these MDGs. They are...

1. Halve extreme poverty and hunger
2. Reduce child mortality
3. Improve maternal health
4. Achieve primary education everywhere

Zambia's achievement of these was mixed. The number of HIV infections has dropped, most children attend primary school but child mortality is still high and many mothers still die in pregnancy/childbirth.

- 90% of children attend primary school
- 10% of the population is affected by AIDS
- 140 children per thousand die under 5yrs old

Foreign investment

In 2012 Zambia started a project called 'Why invest in Zambia?'. The country has been a peaceful democracy since 1964, the economy has been growing since 2000, Zambia borders 8 countries and is part of the World Trade Organisation (WTO) and 50% of its land is suitable for farming.

Zambia's reliance on a single commodity – Copper

Zambia relies on the copper metal it has, it makes up 70% of its international export. Between 1970-2000 the price of copper fell and this put the economy into decline and Zambia went into debt. Since 2000 the price has risen but Zambia wants to diversify its economy. China uses the most copper in the world and has therefore invested in Zambia. Over 500 Chinese companies invest in Zambia from mining to tourism to manufacturing. China has expanded the Kariba Dam, built 8,000km of new roads and there are 100,000 Chinese people now living and working in Zambia.

Zambia

Benefits of TNCs...

- Provide jobs and an income
- The company and workers pay taxes which supports the government
- Investment helps the country exploit its natural resources

Problems of TNCs...

- Large companies try to avoid paying tax
- Small companies can't compete
- They pollute and damage the environment

Transnational companies in Zambia

Associated British Foods (ABF) bought Zambia Sugar in 2001. Zambia sugar paid almost no tax in Zambia because profits were sent to ABF in the UK where tax rates are lower. Zambia, like other LDCs needs taxes to pay for services like education and healthcare, but it also wants to offer tax incentives to encourage TNCs into the country.

Water Aid in Zambia

Water Aid is needed because 5.2m people don't have access to clean water, 5,000 children die every year from water borne diseases. In one year Water Aid provides 54,000 people with safe water and 42,000 people with improved sanitation.

Top down development – 'The Kariba Dam'

Advantages: power is vital for the copper industry, renewable form of energy, fishing and tourism have developed around the Lake.

Disadvantages: 57,000 local people were evicted from the land and moved to less fertile land,

The future...the dam could collapse because of erosion. Mozambique would be flooded within hours, ecosystems and wildlife would be lost and 3.5 million people's lives would be at risk from flooding.

Bottom up development – 'Room to Read'

Its aims: increase the years of schooling for girls, increase girls self awareness and life skills, increase family and community support for girls education.

Why target girls...higher drop out rate, girls are expected to do chores and parents don't value education for girls. Girls are pushed into early marriage.

Reading for success...school attendance is poor and there are very few schools in Zambia's countryside. Room to Read trains teachers to engage students, children like Milmo travel 90mins to school and he is learning to read, he wants to become a teacher one day himself.

Tanzania – an attempt towards food security

Food security over time

- Tanzania is ranked 98th out of 109 countries in the global food security index.
- Africa's undernourishment is at just 20%, in 1991 it was at 28%. Tanzania's undernourishment is at 33%, up from 24% in 1991.
- However, since 2004 it has been recorded that there is enough food for everyone in Tanzania, this shows that the food isn't equally distributed. The average number of calories per person in Tanzania has been rising.

Achieving food security at a local scale – Goat Aid in Babati

The bottom up aid project imported 200,000 worth of Toggenburg goats – they produce 3litres of milk a day. Villagers were trained in how to keep and care for the goats. The villagers had to pay back the money as the charity felt that if they were given for free, they wouldn't value and care for them. On average, villagers have spent 25% of their income on school fees and 20% on medical bills. In Tanzanian shillings Goat Aid farmers have earnt 2,203,854 whereas farmers not in the Goat Aid scheme get paid 763,880.

Disadvantages

- Too small scale – doesn't impact nationally.
- Goats need lots of water – a scarce resource.
- Poverty has kept on increasing all over Africa.

Achieving food security at a national scale

In 1967 Tanzania started to grow its own food. Canada helped set up a wheat programme. Canada provided \$95 million worth of aid along with seeds and machinery, eventually Tanzania had to pay them back. They chose to harvest on the Hanang Plains and had to force off the local people, the Barabaigs. People say that Barabaig villages were burnt down, the people were raped, beaten and killed if they opposed.

It was partly successful...

- Provided 60% of it's wheat
- Employed around 700 people
- Tanzania didn't rely on food aid during the 1992 drought

However...

- 40,000 Barabaigs were affected
- Would have been cheaper to import wheat
- Only a few jobs were created

Tanzania – an attempt towards food security



Plans for the future...

Tanzania has set up the **Growth Corridor** – a strip of land that is very fertile and connects to a port, and the TAZARA railway. It is hoped that by 2030 millions will be lifted out of poverty, and local transport networks will be developed creating a modern economy around crops and animal farming.

The Hub model – create big farms with warehouses that will help local farmers and improve the quality of their seeds and food production. Local farmers will learn off the large farm. This has been successful so far with the Kilombero plantation doubling the amount of rice made in the area and benefitting 7300 local rice growers.

