Paper 1

Physical Geography

Yellow Book

Natural Hazards
Living World
UK Physical Landscapes

"Geography of somewhere not anywhere"

AO1- Knowledge

Increasing Case Study & Place Example Knowledge @ PHS

Paper 1: Living World
Small Scale Ecosystem

Epping Forest
London, UK HIC

Ancient deciduous forest in North East London

19 km (12 miles) long from north – south but no more than 2.5 miles wide.

Forest has been managed for over 1000 years, used for hunting and timber but now for leisure.

Food web

Producers: Hazel, holly, beech, elm, ash fern, bracken

Primary consumers: Insects, beetles, worms, small mammals, deer

Secondary consumers: Owls, adders, badgers & foxes

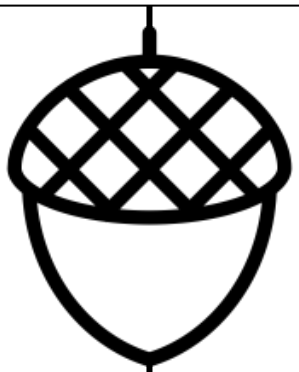
Nutrient cycling

Large biomass: 177 species of lichen and moss, 38 species of birds

700 species of fungi to assist with effective decomposing of nutrients.

High flow rates: new growth cycles and leaching

Characteristics



Interdependence

Temperate climate: trees shed leaves in winter - Deciduous

Broad spring leaves maximise photosynthesis

Autumn drop adds to leaf litter and saves energy in winter

100 lakes and ponds provide essential habitats for numerous fauna & fauna

Leaf nutrients converted to humus, supporting new growth

9 forest keepers protect with controlled recreation, car parking and cattle grazing

The forest is a site of SSSI – Site of Special, Scientific Interest meaning it is a protected environment.

People and ecosystem components are interdependent too – management by Epping forest rangers means cattle have been reintroduced to add manure to help fertilize the environment. Vegetation cut back by roads so that deer can cross safely. Conservation volunteers help with management every Sunday.

Paper 1: Living World
Small Scale Ecosystem

Avington Park Lake Hampshire, UK - HIC

Located near Winchester in Hampshire – it has Historical & ecological importance

Lack of maintenance over the years has led to many changes

Food web

Producers: algae, marsh marigold, reeds, duckweed, lilies

Primary consumers: water boatmen, great diving beetle, water worm

Secondary consumers: stickleback, perch, minnow, duck, dragonfly, Heron

Nutrient cycling

Silt & vegetation growth, created excellent bird habitat but blocked views of the lake from the house.

Lake was restored in 2014 to preserve bird habitats

Silt was removed from the lake and nesting sites made for birds

Characteristics

Interdependence

Temperate climate: trees around the lake shed leaves in winter - Deciduous

Broad spring leaves maximise photosynthesis

Autumn drop adds to leaf litter to the lake to create sediment

Decomposers & detritovores consume lake detritus and litter

Lake detritus adds nutrients to the bottom of the lake and provides for the bottom feeders of food chain

After restoration The lake was made visible from the house and there has been an increase in biodiversity

Nutrient cycling demonstrates clearly the interdependence of plants, animals, water and soil in the lake eco system.

People and ecosystem components are interdependent too – management by the Avington Lake Park Trust means dredging, careful control of the lake allows for new growth and habitats for wildfowl birds and wildlife.

Paper 1: Living World
Tropical Rainforests

Malaysia Rainforest Deforestation NEE

South East Asia – Peninsular Malaysia & Eastern Malaysia and part of Borneo

TRF is natural vegetation – 63% area covered with rainforest and home to the orangutan. Trees and forest cover an area the size of the UK.

Rate of deforestation is increasing faster than anywhere else in the world – an area the size of Denmark has been removed.

Causes

Energy: $2 billion Bakun Dam, 230 km2 cut down to flood land. Traditional farmers forced to move

Farming: commercial (1970s palm oil) and subsistence (slash & burn)

Logging: 1980s Borneo became largest export of tropical wood.

Minerals: tin mining is popular, smelting, oil and gas drilling have recently begun

Road building: increased activity demands access, leading to further deforestation

Settlement: 2003 local Penan in Serawak state protested against logging companies

Impacts

Erosion: no roots mean soil is washed/blown away easily

Biodiversity: habitat destruction has huge impact on ecosystem – Malaysia supports over 5500 flowering plants

Pollution: Lead from the mining companies into the water course

Climate change: loss of transpiration leads to drier climate. Fires are common- from slash and burn methods

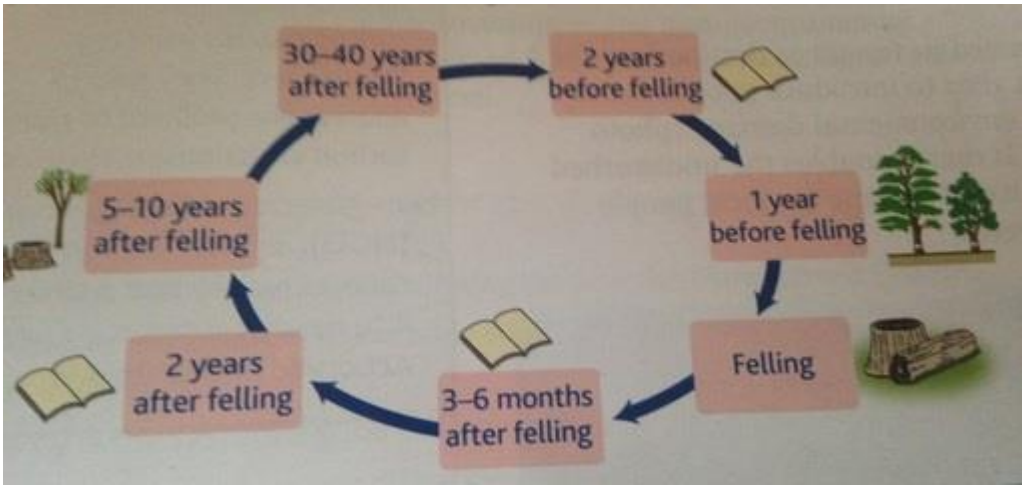
Employment: development provides job opportunities and new skills

Investment: tax incomes invested in healthcare & education – Logging estimated $30-100 billion annually

Timber is a highly valued export and deforestation opens the land up for other economic activity

Malaysia has seen economic growth as a result of new industries, improving the quality of life for its population. GDP in Malaysia is: $10,930 (2021) this is 3.41 % increase since 2020.

National forestry act 1977 aimed to create sustainable methods using selective management strategies to remove only older trees in cycle of replanting.



Selective Management Cycle in Malaysia

2 Years Before Felling - Pre-felling study to identify what is there.

1 Year Before Felling - Commercially viable trees marked for felling. Arrows painted on trees to indicate direction of felling to avoid damaging other valuable trees.

Felling - Felling carried out by license holders.

3-6 Months After Felling - Survey to check what has been felled. Prosecution may result from illegal felling.

2 Years After Felling - Treatment plan drawn up to restore forest.

5-10 Years After Felling - Remedial and regeneration work carried out by state forestry officials. Replacement trees planted.

30-40 Years After Felling - Cycle begins again.

Paper 1: Living World Cold Environments

Development in Alaska, USA HIC

North American Continent, US bought the land from Russia in 1867 for $7.2 million

Anchorage is the main town, population 291,247

85% land covered in permafrost – not much arable farming and no trees (TUNDRA)
Landmass – huge State, 2 million km2.

Opportunities

Alaska used to be called the 'Gold rush state'. Value of mining industry is $1 billion annually

Geothermal energy Chena Hotsprings near Fairbanks produces energy for 400 homes
HEP Bradley lake 20% of states power

Oil & gas: Prudhoe bay oil - $14 billion annually

Fishing: 60,000 jobs and $250 million for govt via tax

Tourism: Direct visitor spending is $1.8 billion annually

Challenges

Temperature:
-30° C makes it dangerous to work outside – frostbite!

Construction:
housing, services & infrastructure – temp and sunlight most happens in summer, permafrost a challenge

Services:
electricity & sanitation heated due to temp and above ground to protect permafrost. Utilidors

Pollution: Toxic materials like arsenic can be used in mining and leak into water sources

Accessibility: The extreme cold temps and frozen permafrost mean boats can get stuck in frozen sea ice and roads buckle

Rich natural resources mean a range of economic activities to generate money for the state

Climate creates challenges that people are trying their best to overcome

Fragile environment that needs to be protected as economic development increases

Paper 1: Living World Cold Environments

Trans Alaskan Pipeline Alaska, USA

Alaska, North West, USA – Prudhoe Bay in North Arctic circle to Valdez in South Alaska.

Contracts with Shell Oil to extract and transport natural oil via a pipeline 800 miles long.

Construction of the pipeline was completed in 1977 and has been a controversial project, it costs $800 billion to construct.

Positives

Transports 212 billion barrels of oil each year

Only 5 years after the completion of the pipeline 85% of Alaskan revenue came from the Oil

Employment for local people is improved, with the opportunity to develop new skills. Boomtown effect in Alaskan towns

Pipeline attracts thousands of visitors to marvel at the technological engineering innovation. The pipeline slides to avoid cracking in seismic activity

Negatives

Heat radiation from piping the hot oil causes permafrost to melt, contributing to climate change

Exxon Valdez oil tanker ran aground in Prince William Sound in 1989. Released 11 million gallons of crude oil, killing Salmon, sea otters, seals and seabirds

Controversial construction as crossed ancestorial indigenous lands, built into permafrost and halted migration routes for Caribou

Leaks from the pipeline such as Fort Greely in 2010, and damage during earthquakes

The economic gains of the project are considerable for a nation that is striving to develop its economy

People are able to have secure, reliable incomes and improve their quality of life

Local tribes and the environment, however, suffer greatly in the pursuit of economic development and that is before we consider the impact of further fossil fuel consumption on the climate!

Haiti Earthquake 2010

Paper 1 Tectonic Hazards

LIC

Haiti Caribbean, North America – epicentre 10km from capital city Port-au-Prince

12th January 2010

Magnitude 7.0 on the Richter scale

Impacts

316,000 dead

300,000 injured

250,000 homes destroyed.
1 million homeless

Looting and violence spread within the survivors.

Dead bodies and poor management of the military spread cholera in the aid camps.

2 million people were left without access to food and only had dirty drinking water

After 1 year there were still 1,300 aid camps.

90% of the cities buildings were destroyed including the presidential palace.

Responses

200,000 locals were paid in food to help clear the rubble.

United Nations provided security to 'keep the peace'

Dominican republic supplied emergency food and medical supplies.

UK Disasters Emergency Committee (DEC) raised £100 million.

The red cross set up temporary field hospitals.

Schools, prisons and governmental buildings were rebuilt.

Emergency rescue teams arrived from Iceland & Nepal.

3 million people live in Port-au Prince & the life expectancy was 61 years old.

Haiti is an **LIC** with a **GNI of $870 per capita**. This means they will be unprepared, with poor building quality and a lack of response resources. They depended on aid from other countries, which takes time to arrive.

At 7.0 on the Richter scale, this was a powerful quake. This, along with a shallow focus, will have caused significant damage.

Christchurch Earthquake, New Zealand 2011

Paper 1: Tectonic Hazards

HIC

Christchurch, New Zealand South Island.

Struck at 12:51 pm on 22nd February 2011 (aftershock from 7.1 Canterbury quake in Sept 2010)

Magnitude 6.7 on the Richter scale | 5 km shallow focus

Impacts

- 181 dead
- 2000 injured
- Over 100,000 homes damaged
- 163 schools damaged, closed 3 weeks, schools had to share sites.
- Liquefaction destroyed 50% of the cities buildings 80% of the city was without electricity
- Estimated total cost of rebuild $40 million Insurance claims: £1.5 billion
- 30 million tonnes of ice broke away from Tasman glacier coastal flooding.
- People reported PTSD and needed mental wellbeing and support

Responses

- By Aug 80% of roads repaired from liquefaction
- 450 mobile homes provided for people who lost their homes
- 30,000 chemical toilets provided to citizens
- Power and water restored to 90% of people within 10 days
- Housing reconstruction plan: Land use zoning used, Green, Amber & Red. Red is no build zone.
- $6-7 million donated in foreign aid
- Retail centres rebuilt out of steel shipping containers
- Government predicted four-year recovery plan

New Zealand is an earthquake prone country, the population are used to preparing with stop, drop and hold **drills.**

New Zealand is an **HIC, the GNI per capita is: $45,000.** This means they will be prepared, with good building quality and plenty of response resources. They still needed aid from other countries to recover though. Canterbury TV building did not meet building regulations.

Liquefaction was a significant issue as to why there was so much damage, they rebuilt the city with foundations resistant to ground movement. Nature can still win despite HIC status.

Paper 1: Tropical Storm Hazard

Typhoon Haiyan 2013 Philippines, S.E Asia

NEE

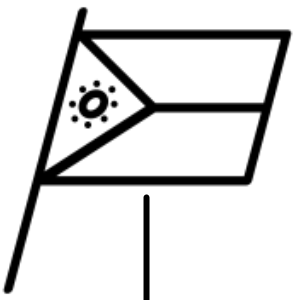
Philippines, Asia – 2,000 inhabited islands (+ 5,500 uninhabited)

Category 5 on the Saffir-Simpson scale | 3rd -11th November 2103

Winds of 170 mph and waves 15m high

Impacts

- 6,300 dead
- 600,000 people displaced, 40,000 homes damaged
- Tacloban airport badly damaged
- 30,000 fishing boats destroyed
- Flooding caused landslides, cutting off access
- Power supplies cut off for a month
- Shortages of food and water led to disease outbreaks
- Looting and violence broke out in Tacloban



Responses

- International aid arrived quickly
- US aircraft carrier & helicopters for search & rescue
- 1,200 evacuation centres set up
- France, Israel & Belgium set up field hospitals
- Rebuilding of roads, bridges and airport
- 'Cash for Work' programme to help clear and rebuild
- Fishing and rice farming quickly re-established
- Cyclone shelters built to protect coastal communities

This was one of the strongest storms ever recorded. Most of the destruction in Tacloban was caused by a **storm surge**, which swept away anything in its path.

The Philippines is a **NEE – GNI 2022 $3,400** Decline from 2019. The high levels of destruction meant that help came from all corners of the globe, through the United Nations and individual nations.

The cost of rebuilding was estimated at around **$5.8bn**. A year after the storm, thousands of people were still living in temporary shelters.

Beast from the East UK Feb & March- 2018

Paper 1 : Extreme Weather Hazards

United Kingdom, Especially South and South East regions.

Low pressure weather system – Storm Emma **1st March** met Cold Air from North East Siberia.

Sudden stratospheric warming 8 miles up in the atmosphere, weakened the jet Stream and changed wind direction so cold air could approach from the East.

Social

- 10 people were killed
- Rail services cancelled and people left stranded overnight
- Motorists on M80 in Glasgow stranded for 13 hours – 8 mile block
- Schools closed for several days, 125 in North Yorkshire, 330 across Kent.
- A baby was born on A66 nr Stockton on Tees due to traffic jams

Economic

- Cost from Insurance claims was £ 10 million
- AA estimated 8,620 collisions on Britain's roads in 3 days.

Environmental

- 50 cm of snow fell on areas of high ground – Exmoor, Dartmoor
- Rural countryside regions had lows of -12C, and snow drifts 7m high

Impacts

Responses

- Military provided support recovering vehicles in Pennines on M62.
- Environment Agency issues warnings for high tides 400mm higher in Cornwall – Strom Emma.
- Red weather warnings issues advising people not to travel outside.
- Snow Gritters were used to clear and salt the roads.
- RAF Soldiers helped transport 200 staff to NHS services to help elderly in the cold.
- Driver of a Greggs food van stuck on A1 gave out free food to stranded travellers

UK is an HIC – GNI 2022: $45,300. The response was fairly well organised and rapid, no need for reliance on international financial aid. The roads were blocked by traffic collisions and stranded cars which meant the snow ploughs couldn't clear the roads for several days though.

The Environment Agency advised people to prepare for significant flood levels due to Storms in South West.

The Met Office issued an amber rain warning and Red warning for cold snow conditions.

Paper 2: Changing Economic World
Reducing the Development Gap

Jamaica
Tourism in NEE

One of the largest islands in the West Indies, Caribbean – North America

Economy based on minerals, agriculture and tourism

Tropical climate and white, sandy beaches

Economy

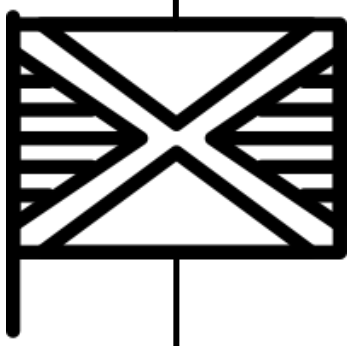
- 24% of Jamaica's GDP – $2 billion
- People on cruise ships spend half as much as others

Employment

- More money is spent in shops and on services- This helps to create a positive multiplier effect for the economy
- Those employed develop new skills 200,000 people employed in Tourism

Infrastructure

- The north coast has seen investment in roads and services
- New port facilities in Trelawney



Quality of Life

- Northern areas (Montego Bay) have high-quality housing
- Large numbers live in poor-quality housing
- Some residents lack clean water, health & education services

Environment

- Landscaping has reduced water pollution from hotels
- Ecotourism has developed isolated communities
- Travel contributes to climate change

Jamaica enjoys good international air links and is a hub for cruise ships

Tourism generates taxes, employment and income – over 200,000 jobs link to tourism. It can bring issues of crime, environmental pollution, erosion and over dependency however.

Economic growth, debt and unemployment are all improving but tourism is seasonal and during Hurricane season the Tourism numbers drop.

Paper 1:
UK Physical Landscapes

Lake District Post Glaciated landforms

Lake District, Cumbria, United Kingdom – *See Sketch Map for more location detail*

Helvellyn mountain 950 m high, is home to landscapes of Glacial erosion

Plucking & Abrasion: Erosional

Till, Moraines, Outwash plains: Depositional

Plucking and abrasion are the processes of erosion that carved the landscape during the last glaciation

Striding Edge is the name of the knife shaped arete

Greater Langdale valley is U-Shaped valley with Truncated Spurs

Waterfalls like Sour Milk Ghyll are found in hanging Valleys in Easedale Valley

Landforms of Erosion

Landforms of Deposition

Red Tarn is the name of the Lake formed in a corrie

Windemere lake is the famous ribbon lake that is located in the Lake District

Swarms of Drumlins are located in Swindale. Kendall castle is built on a drumlin

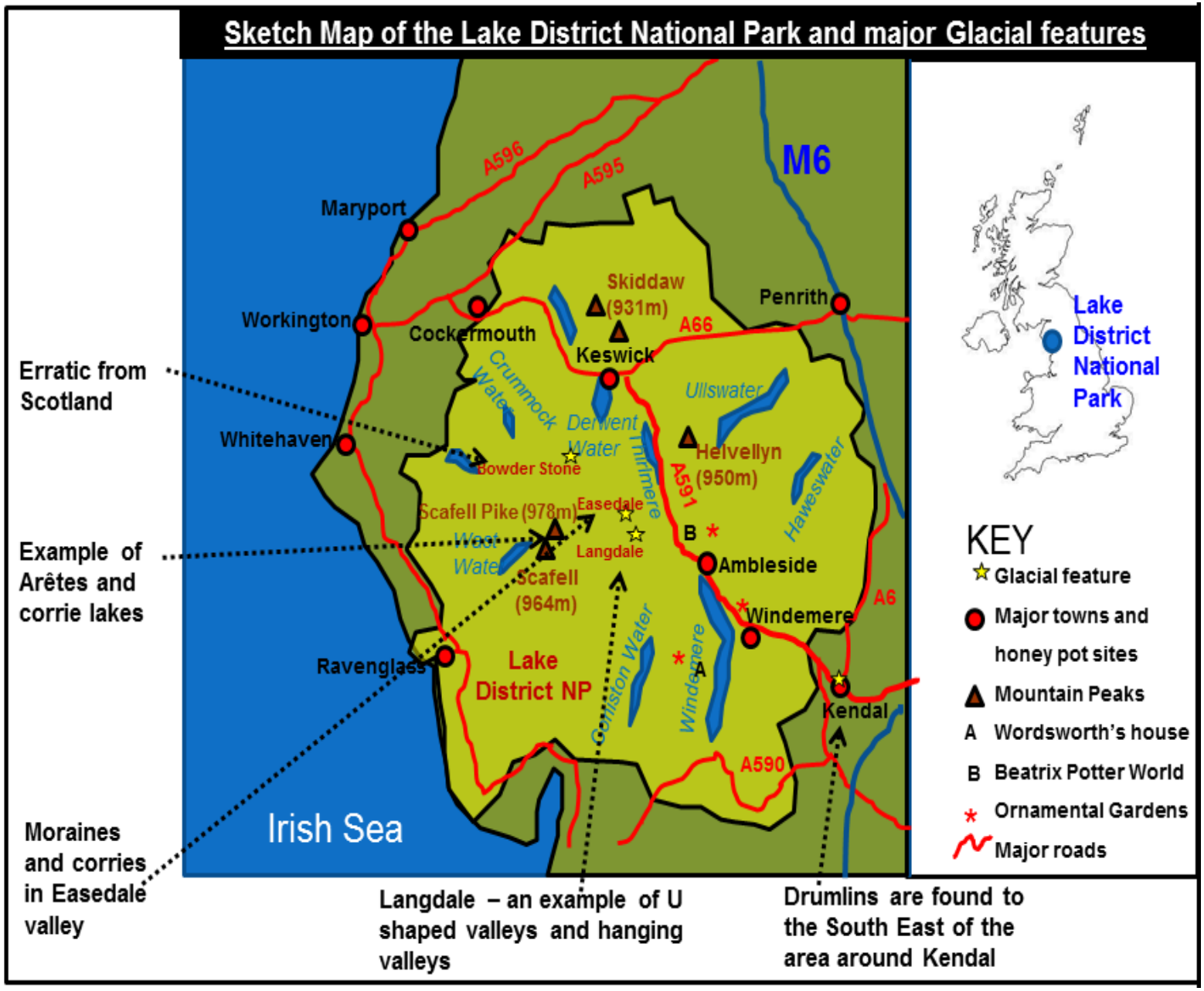
Bowder Stone is a Glacial erratic from Scotland located in Easedale Valley

The Lake District in Cumbria, North West England is an excellent example of a landscape with post glacial features.

A wide range of landforms can be found in a relatively small area and constantly changing.

Weathering, Erosion, transportation and deposition are all active processes in this area

Sketch Map of the Lake District National Park and major Glacial features



Paper 1:
UK Physical Landscapes

Tourism in Glaciated Areas
Lake District, UK

Lake District, Cumbria, United Kingdom

42,400 permanent residents in Lake District region, lots on offer for tourists.

Popular for Tourists: 15.8 visitors per year. but results in Land use Conflicts, how different users agree on how the land should be managed and used.

Attractions

Scafell Pike – Tallest mountain 978 m, Wastwater, Deepest Lake: 79m deep.

15.8 million visitors per year generate £925 million.

Tourists come to visit the scenery, hillwalking, mountain biking also Beatirx potter Museum.

Lake Windemere alone attracts 1 million visitors per year.

4 million hikers each walk 6km average each year on footpaths

William Wordsworth poet ' I wondered lonely as cloud' was inspired by this landscape

Management & Conflicts

Upland Path Landscape Restoration project (UPLRP) 10 yr project to repair footpath erosion in fells.

Boats, bikes boots & busses initative to cut 11,000 tonnes of carbon emissions.

Cross- lakes shuttle park and run bus service & Coniston rambler to reduce cars on roads

Land- use Conflicts
Famers vs tourists
Mining companies vs tourists
Famers vs forestry

89% of visitors come by car- traffic congestion and pollution on winding roads is increasing.

15% of houses are 2nd homes- increases house prices, pushing out lower income locals

National Parks current challenge is finding a way to encourage sustainable tourism without damaging the positive effect it has upon the economy. Public access to the fells and mountains is unrestricted and this can bring issues.

Sustainable management is essential to ensure glaciated areas can benefit economically without damaging the environment.

The very nature of glaciated environments poses both challenges to development and offers opportunities too. The steep terrain makes many types of farming difficult for example, whilst also offering spectacular scenery for tourists to enjoy.

Paper 1:
UK Physical Landscapes
GLACIATION

River Severn, UK landforms

South West England & Wales. Flows

Rock types in the upper course allow the formation of waterfalls – High Force is the tallest in the UK

Further downstream, the land is flatter and floodplains are wide

Upper Course

Source – Plynlimon Hills, North Wales 600 m above sea level.

V-shaped valleys vertical erosion from 2,650 mm rainfall annually
Rain is stored in peat in the hills

River Severn flows over mudstone, siltstone and sandstone layers

6km from the source the river plunges over the waterfall
'The severn breaks its neck' In Hafren Forest

Middle Course

Oxbow lakes are found East of Berriew at Dolydd Hafren Nature Reserve

After Llanidloes, gradient is gentle and flows east then north east in mid Wales to Ironbridge Shrewsbury.

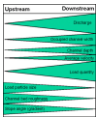
Lower Course

Large estuary with mudflats & sandbanks found at Bristol channel – significant deposition here

Natural levees are created as flooding recedes along the River Severn near Worcester & Tewkesbury

The upper course of the river dominated by erosion: rapids, v-shaped valleys, gorges, interlocking spurs and waterfalls.

Human activity increases as you move downstream and the land becomes more favourable for development, land becomes fertile for agriculture on flood plains and meanders in middle course where deposition is occurring.



Erosion, transportation and deposition are all active processes – the **Bradshaw** model shows how the river processes are expected to change downstream.

Paper 1:
UK Physical Landscapes
RIVERS

Flood Management Scheme

BANBURY floods

Cotswold Hills, 50km north of Oxford

Population of ~45,000

Town is on the floodplain of the River Cherwell – a tributary of the Thames

Management

- 3km embankment parallel to the M40 ~4.5m high
- Flood storage area on natural floodplain
- Flow control structures control discharge
- A361 raised and drainage improved
- Flood walls protect homes and businesses
- Pumping station to transfer excess water south of town
- Biodiversity Action Plan creates habitats that absorb water

Cost/benefit

Environmental

- Earth for embankment from local area
- BAP benefits the animals affected by construction
- Natural floodplain used for flood storage

Economic

- Scheme cost £18.5 million
- Council & Environment Agency worked together
- Protection savings estimated over £100 million

Social

- Raised road stops disruption to people's lives
- Green areas improves Quality of Life
- Anxiety of flooding is reduced

Banbury has a history of devastating floods – 1998 floods saw damage costs of £12 million and 2007 floods covered significant areas

Economic investment has been costly but means that the damage caused is significantly reduced

Social and environmental benefits are also high

Paper 1:
UK Physical Landscapes
RIVERS

Flood Management Scheme
BOSCASTLE, UK

North Cornwall, August 16th 2004 Flash Flood

Population – small coastal village approx. 650

Village is located on the confluence between river Valency and Jordan

Causes of Flood

- 75 mm rain fell in 2 hours, 2 billion litres of water rushed down the valley
- Confluence – meeting of Rivers valency and Jordan mean they overflowed suddenly
- Steep valley impermeable topography increased surface run off

impacts

- 50 cars were washed downstream out to sea in the harbour
- Short term loss of tourism whilst defences were rebuilt
- Coastal pollution as debris from cars flowed out to sea
- Long term stress an anxiety for the local residents

Management Cost/Benefit

Environmental

- Removed low bridges, replaced with wider ones
- Widened & deepened river channel, dead trees removed
- Car park raised using permeable surfaces

Economic

- £ 10 million flood defence investment environment agency
- Council & Environment Agency worked together
- Prince (now king) Charles Duke of Cornwall donated money to help rebuild the town

Social

- Boscastle tourism increased, GCSE school groups fieldtrips
- Helicopters, lifeboats and fire services helped
- Flood defence completed in 2008 – took 4 years and might still not cope with a flash flood like in 2004.

Boscastle is a small village in Cornwall, some argue that the 2004 floods helped 'put it on the map'

Economic investment has been costly but means that the damage caused is significantly reduced. There are debates as to if the defences would cope with 2004 scale disaster again though.

Social and environmental benefits are also high, but locals disagreed over the look of the new flood defences schemes. Some liked them but others didn't like the new bridge.

Paper 2

Human Geography

Purple Book
Changing Economic World
Challenges in Urban Environments
Resource Management

"Geography of somewhere not anywhere"

AO1 – knowledge
Increasing Case Study & Place
Example Knowledge @ PHS

Paper 2: Changing Economic World
Developing Economy

Nigeria context NEE

West Africa, bordering Benin, Niger, Chad and Cameroon

Tropical forests in the south, Jos Plateau highlands in centre and dry Sahel to north

The capital of Lagos lies on the Gulf of Guinea

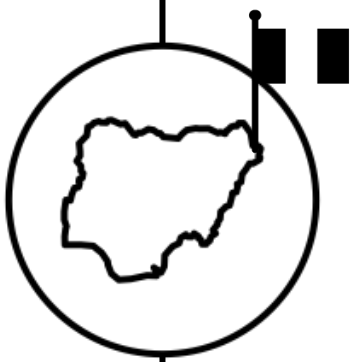
Importance

Global

- 31st largest economy in 2018 and growing
- 12th largest producer of oil – 2.7% global supply
- United Nations peacekeeping – fifth-largest force
- China investing heavily in Nigeria – trade links

Regional

- Highest GDP of any African nation
- 20% of the GDP of the entire African continent
- 70% population employed in agriculture
- Largest population in Africa



Features

Political

- United Nations, CEN-SAD, ECOWAS, OPEC
- Terrorist attacks from Boko Haram
- Government corruption has been an issue

Social

- Over 250 ethnic groups
- Civil war has affected the nation
- Inequality has led to further instability

Cultural

- Film-making – Nollywood
- Football – Africa Cup of Nations
- International artists

Huge variation in wealth and development – 60% secondary school attendance in cities but 36% in rural areas

GDP per person varies greatly – highest in the south and more than 10x lower in the north

Rural-urban migration occurs because of the distinct differences

Paper 2: Changing Economic World
Developing Economy

Nigeria NEE Population growth

Employment in agriculture is falling due to mechanisation

Primary industry is becoming more and more focused on oil

Construction and motor manufacturing are growing

Manufacturing gains more profit than raw materials

Labour force is relatively cheap

Regular, secure incomes = more disposable income

Taxes increase = further investment

Connections develop – eg Volkswagen parts

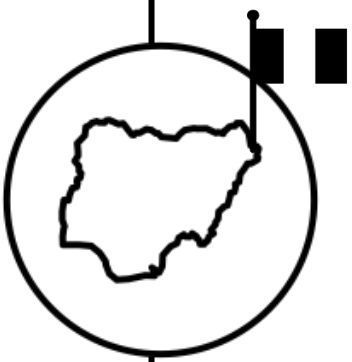
Oil extraction provides jobs

Oil processing brings more employment

Ceramics very popular (China)

Manufacturing leads to economic growth

Changes



TNCs

Unilever

Manufacturing soap since 1923

Employ around 1,500 people

High employment & environmental standards

Shell Oil

Active in Nigeria since 1937

Niger delta is challenging (expensive) $$$

90% contracts to Nigerian companies

65,000 direct 250,000 indirect employees

Heavy investment in social projects

The involvement of Transnational corporations is a driving factor in economic growth in Nigeria

TNCs are attracted to develop here because of relaxed taxes and working standards (Which has social and environmental impacts)

The relationships that develop are invaluable to nations that want to develop their economy and become more connected to the global network

Paper 2: Changing Economic World
Developing Economy

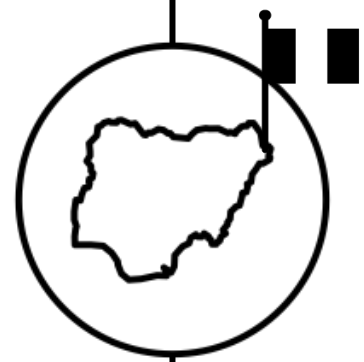
Nigeria - NEE Impacts

As the economy grows, the population should see some benefits; their quality of life **should improve**

In 2000, Nigeria was placed among the 'least developed nations' in terms of wealth and education – in 2011, it had one of the highest HDI improvements over the past decade. **21st wealthiest** nation in the world today.

Benefits

- Reliable employment and new skills
- More disposable income to spend on food and recreation
- Better access to safe water and sanitation
- A healthier diet makes a more productive workforce
- Infrastructure improvements, eg roads
- Reliable electricity gives safety at night
- Better healthcare provision – more doctors and nurses



Challenges

Environmental – Shell Oil

- Oil extraction has led to conflict over land use
- Bodo – 2008/9 – 11 million gallons of oil from leaks
- 20km^2 area covered in crude oil
- Fish farms destroyed by oil spills
- £55 million pay-out from Shell
- 10 years to start the clean-up process

Cultural

- Not all benefits are felt evenly – inequality still exists
- Still a need for a stable government
- Historical distrust between ethnic groups

Despite the clear improvements, many people in Nigeria are still poor – access to services continues to be a problem

Oil wealth has not been shared with the country effectively, with many profits going to the TNCs rather than fully invested in Nigeria

The gap between rich and poor has become wider, The success of TNCs depends on how they are managed and if economic leakage back to HIC headquarters can be reduced to avoid overdependency and Neo-colonial relationships.

Paper 2: Changing Economic World
UK ECONOMY

UK -HIC sustainable industry

Torr Quarry, Somerset – one of eight limestone quarries on the Mendip Hills – Owned by Aggregate Industries

Output around 5 million tones per year, with material mostly going to construction industries

Sustainable development is increasingly important when companies carry out their work, with strict planning and operations regulations

UK quarries

Torr Quarry

Impacts

- Limestone is the rock extracted, but destroys habitats
- Pollutes nearby water courses if not managed
- Scars the landscape and can be viewed as an 'eyesore'
- Contributes £15 million to the local economy
- 100 people are employed in the quarry

Restoration

- Habitat creation – lakes, woodlands
- Flood storage areas and a lake created for recreational use
- Restoration to create wildlife lakes for recreation
- Limestone features will create a more natural appearance
- 200 acres of site have been Landscaped meaning that areas blend in with the surroundings
- Noise, vibration, emissions & water quality monitored regularly by environment agency
- Limestone rock is transported by Rail transport minimises road congestions
- Deepening not widening has less impact on environment. Quarrying will be conducted until 2040

Today there is much greater concern about the impacts of economic activity on the environment

Technology helps us to ensure that the landscape does not suffer as much when we use materials from the earth

Stricter targets, and fines if they are not met, help to protect the landscape from air, water and land pollution

Paper 2: Changing Economic World
UK ECONOMY

UK - HIC wider world

Globalisation has increased the possibility and importance of links between nations

In the past, the UK was one of the world's superpowers and the history of the British Empire is still evident in our relationships with other countries

Links with other nations bring many benefits to the economy and the people

Trade

- USA top export destination
- Germany top import source
- Globalisation helps increase the network

Culture

- The UK is a global centre of culture for many things
- TV shows are sold all over the world
- Nature documentaries are the most popular

Transport

- London Heathrow is one of the busiest airports in the world
- The Channel Tunnel connects the UK to mainland Europe
- Sea ports are important too, eg Southampton

Commonwealth

- 53-nation voluntary group
- Sustainable, inclusive, equitable
- Cultural links – Commonwealth Games

European Union

- 28-nation trade group
- Economic support for areas/industries
- Money, people & goods move freely

Connections

- IT offices – Google, Microsoft, IBM
- Submarine cables between Europe & North America
- £32 billion to economy

The outcome of the UK referendum was to leave the EU, which is a work in progress

Our strong links with countries that were previously colonies gives us reach across the globe

As a small island nation, some see links with other nations as important, so that our voice continues to be heard

UK - HIC
Post-industrial

Paper 2: Changing Economic World
UK ECONOMY

Deindustrialisation has occurred due to mechanisation and cheaper products elsewhere

Globalisation means that ideas and people can move around the world and has encouraged growth of the quaternary sector

Government policies have driven support (or lack of) for particular industries

Research
- Employs over 60,000 highly qualified people
- Contributes over £3 billion to the economy

Services
- Rapid growth since the 70s – nearly 80% of economic output
- Finance an important element – UK is world centre

IT
- Over 1.3 million people employed
- UK is one of leading digital economies = investment

Business Parks
- Arlington Business Park, Reading
- Road (M4), rail and cycle network for easy access
- Group activities to encourage socialising
- Landscaping to create pleasant surroundings

Science Parks
- Bristol, Bath & Malvern Science Parks
- 3 universities for access to research and graduates
- Creative industries – broad mix
- Locals able to access the open spaces for leisure

The UK is a post-industrial economy – manufacturing has been replaced by tertiary and quaternary services – by 2015, 88% of people were employed in these two sectors

Technology plays a key role in people accessing these services around the world – even the world wide web is a creation of a UK scientist

Research and development is likely to be one of the UK economy's main growth areas

UK - HIC
Regional Differences

The north-south divide shows significant differences in wealth and health

Deindustrialisation affected the North more, due to their heavy industries (ships, steel, coal)

The fast-growing service sector was based around London and the south – London is globally important and has developed more quickly

HS2

High-speed rail service (HS2) to connect Northern Powerhouse $90 billion project

- Aims to create 50,000 new jobs by 2030
- Business Growth Hub – supporting small businesses
- £20 million transport improvements (M6)
- £62 million BT superfast broadband investment
- Enterprise Zones creating 60,000 high-skill jobs
- Science & Business Parks part of development

High-speed rail service (HS2) to be completed 2033

- M62 cross-Pennine railway improvement
- Deep-water container port in Liverpool 2 to increase capacity
- Mersey Gateway to improve access – 6-lane toll bridge
- Heathrow runway in debate.
  For: 76,000 jobs created
  Against: noise pollution

Strategies

- EZ – reduced taxes and subsidies
- EZ – simpler regulations to make setup easier

Financial support from the UK government and the EU has helped to develop new businesses and infrastructure

The Northern Powerhouse is a key element of the government's focus on reducing the north-south divide, with Lancashire, Liverpool and Manchester focus areas

Transport improvements will increase access and help to fuel the growth of the north

UK - HIC
Population change in Rural Areas

Population Growth in Cambridgeshire & Population decline in Outer Hebrides

South Cambridgeshire

- Population growth from 130,000-200,000 between 2001-2031
- 80% car ownership means congestion and pollution
- Gentrification of old farm buildings can cause tension with locals
- Young people raised in the area cant afford house prices so forced to leave
- Farmers forced to sell land for residential homes. Decline in farming money
- High petrol prices due to high demand
- Pressure on local public services increasing the costs

Outer Hebrides

- Population decline due to negative natural change 2020-26,500 people
- Government cant support infrastructure busses & post offices closing
- Lack of services as the population declines – ferry crossings become expensive
- Predicted care issues for the elderly in the future
- Number of school children declining due to school closures and young people moving away to cities at university level
- Population structure has changed – ageing population
- Located on Isle of Lewis – North West Coast of Scotland

Population change in rural areas can have significant social and economic impacts.

Population decline in the outer Hebrides is causing a brain drain de-skilling effect and older generations are left with poor services and care.

Population increase in South Cambridgeshire puts pressure on the local services, can create tension in the local community and unfairly drive cost of living and house prices for the locals.

Paper 2: Challenges in Urban Environment
NEE

LAGOS Megacity Importance & Population

South Nigeria, coastal, Gulf of Guinea – It is Nigeria's Economic Capital

Largest City in Nigeria, population of: 15,946,000 people (2022)

If Lagos was a country, the size of the economy would be ranked number 7 in Africa. It has more money than the countries of Kenya and Ghana.

Importance

National: GDP over $136 billion in 2017 - 7th largest in Africa

Global: Murtala Muhammed International airport flies to over 60 destinations.

Regional: Largest Economy in Nigeria

Regional: Many companies have their headquarters in Lagos

Features

Oil discovery in 1970 Niger delta attracted 7 million migrants between 1990-2004

Natural increase caused population to grow. 50% of Lagos population is under 25

Challenges

Urban growth: Squatter settlements Makoko – water pollution & Cholera

Unemployment: Informal sector and low incomes 19% unemployed

Waste management -10,000 tonnes per day in Lagos

Environment: Air pollution form congestion 'Danfos' busses

Opportunities

Jobs in the informal economy like Olusosun Rubbish dump

Education: 5 universities located in Lagos

Water supply: Treatment plants and new pipes

Lagos Rail mass Transit due to be open in 2022, air con reliable bus network

Lagos attracts migrants from all over Africa for the hope of a better quality of life due to the pull factors found there.

Rapid urbanisation leads to a range of social, economic and environmental challenges.

Wealth is growing, but the gap between rich and poor has become wider in recent years due to rapid population growth in this mega city.

Paper 2: Challenges in Urban Environment
NEE

Urban Planning Makoko Slum LAGOS

Makoko Slum is the name of the town in Lagos Lagoon in Eastern Lagos home to 250,000 people, most of whom are the urban poor living in poverty.

Squatter settlements develop when people move from rural areas for better opportunities but lack the money to rent accommodation and skills for a decent wage

In 2012, the city authorities attempted to demolish part of Makoko by force, homes were set on fire and destroyed. 72 hours notice was given and 3000 people affected.

World bank gave Lagos $200 million to improve Makoko. 280 out of 450 planned classrooms.

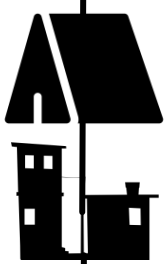
95,000 people had improved water from world bank funding but 15 facilities still didn't work

Construction of Floating school in 2013, Triangular A-Frame structure for stability

The floating school won design awards but sadly In 2016 the floating school collapsed due to heavy wind and rain

Floating School designed to be sustainable with solar panels on the roof & 250 plastic reused barrels to help it float

Floating Schools Poor



Eko-Atlantic Rich

Eko Atlantic is the name for the site of reclaimed land on Victoria Island for rich Business owners & residents.

Eko Atlantic project will provide homes for 250,000 people as well as 150,000 jobs, boosting the GDP

Aimed at the richest in the world – the new Dubai, not suitable for urban poor

Will potentially cause water pollution and sand erosion along the coastline, could flood with sea level rise

Local Oni – Jegi community lands are affected and were not consulted in the planning process

Urban Planning in Lagos has mixed success, the floating school was a good design but was not durable, the challenges in the slums continue to be an issue.

The city population continues to grow which puts pressure on the services across the city.

Eko-Atlantic is thought to generate money for the economy in Lagos and Nigerian GDP but it is controversial.

Paper 2: Challenges in Urban Environment
HIC

Opps & Challenges
BIRMINGHAM, UK

2nd Largest city in the UK – population of 1, 144, 900, West midlands

Grew rapidly in 1700s due to the manufacturing in the Industrial Revolution 'Workshop of the world'

It is a diverse and multicultural city, due to migration from Pakistan and Irish communities

Context

Global: reputation manufacturing, Jaguar landrover, Cadburys Chocolate, Jewellery quarter

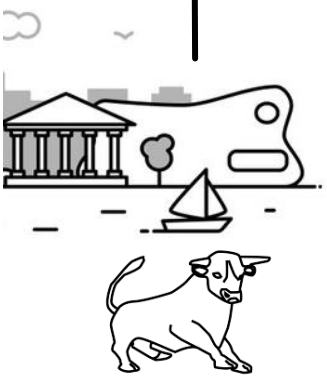
Global: International Birmingham airport, 150 destinations worldwide. 9 million customers in 2014

Regional: 4th most visited city in the UK. Bullring, BBC Birmingham, Sea Life Centre

Regional: cultural significance – high migration. Many immigrants from Asia and West Indies since 1950

7th largest Jewish community in the UK. 2nd largest Buddhist, Sikh, Hindu & Muslim communities in UK

50 languages spoken. Europe's 2nd most diverse city



Features

Challenges

Urban sprawl: new housing on outskirts creates congestion & pollution

Air pollution: 200 deaths/year due to respiratory illness

Urban decline: closure of factories due to competition abroad

Social inequality: huge gap between rich (Sutton Coldfield vs Sparkbrook)

Opportunities

Education: 5 universities with 65,000 higher education students

Shopping: Bullring shopping centre 140 shops

Cultural diversity: Balti triangle famous international cuisine

Urban greening: Eastside city park, park and ride scheme

With a move from industrial to service industries, Birmingham is able to attract new investment and build a reputation for success

Environmentally, it is one of the 'greenest cities' in the UK, it has over 600 public parks & green spaces across the city. There is still a way to go with waste disposal and air pollution

As the population continues to grow, dealing with inequality will remain a priority

Paper 2: Challenges in Urban Environment
Regeneration in HIC

Regeneration BIRMINGHAM, UK

Urban decline, failure to rebrand in modern concrete styles after the war meant Birmingham have a poor brand image.

New Street Station was once voted 'the ugliest train station in the UK'

Redevelopment of: Bullring, Millennium point, Grand Central, HS2 and the 'Big City Plan' aims to make Birmingham a city to be proud of.

Millennium Point: East side cost £155 million creating 100 studio offices for arts and media

Grand Central Station £600-750 million. Improved connections John Lewis store

HSBC: head-quarters outside capital, based in the Grand Central area

Bullring shopping centre: £530 million, created 8000 new jobs, 35 million visitors per year

Selfridges: £20 million in modernising. One of the most photographed buildings in UK.

Brindley Place: Waterfront redevelopment, pubs, Sealife centre

Big City plan: 20 year city master plan to create a connected sustainable city

Mailbox: high end updated old postal office near Brindley place

Features

Evaluation

Environmental

- Repurposing of buildings is more attractive
- Solar technology, grey water used in grand central to flush toilets
- Greenest city in the UK but sustainable urban greening still needed.

Economic

- Independent emphasis Digbeth to contrast chain shops in Bullring
- Over 50,000 new jobs created from Big City plan & Grand central
- Contributes £2.1 billion to economy each year

Social

- Providing 5000 new homes under the Big city plan
- Links to heritage & history – makes people proud
- Housing aimed at young & wealthy – no social mix

Socially, the mix of people in Birmingham is varied, visitors have increased since the redevelopment.

The city's visitor economy has grown by over 11% over the past 6 years with 33.8 million visitors in a year contributing more the £5 billion a year into the local economy.

Environmentally, there is a mix of building materials and good use of heritage buildings but the links to nature and vegetated areas could be greater

It is rated as one of the UK's best train station development projects

Paper 2: Resource Management
Q4: Food NEE

Indus Basin Irrigation System (IBIS) Asia

Indus River is in **Pakistan,** Asia. 5 rivers in drainage basin from China, Afghanistan & India

Indus is a point of trans boundary and international use which can lead to conflict due to poor management. Farming is very important to the populations here.

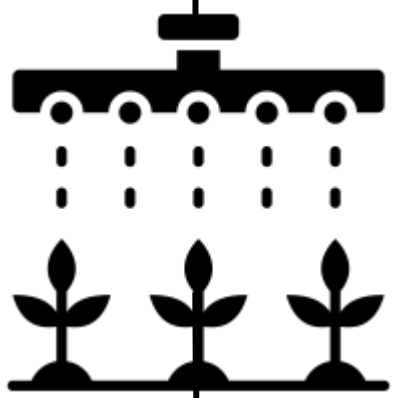
Sources of water come from snowmelt in the summer from the Himalayas, South Pakistan has very little rainfall so the farmers need irrigation for their crops. Indus water treaty agreed in 1960

Advantages

Environmental
- Largest irrigation scheme in the world. Water provided 1.6 million km2 land
- 3 dams along the Indus help manage water levels

Economic
- High % of earnings in Pakistan is from farming, irrigation has helped to create 40% more available land
- Jobs provided on fish farms 54% of labour forces works IBIS
- Locals are using and developing skills
- 25% of country's GDP comes from the IBIS water for food production

Social
- Larger variety of crops can now be grown. Diets have improved – life expectancy increases
- Protein from fish farms also helps diets to improve
- Indus water provides 90% food production in Pakistan



Disadvantages

Environmental
- Reservoirs could pose a risk of flooding if they were to break.
- Waterlogging and salinity of soil continue to be a challenge
- Climate change, retreating glaciers and less snow melt threaten water availability

Economic
- Dams and specialist canals, equipment are expensive to maintain
- Old equipment and techniques leads to water loss

Social
- Farmers not trained in effective irrigation or greedy & take too much water
- Soil salinisation occurs (salty) due to poor irrigation & hot weather. Crops are dying

This is an important international large scale food scheme. The disadvantage is that it has larger environmental impact than smaller schemes, because large reservoirs are built, which floods habitats and displaces people.

People's livelihoods have improved and the economy has developed due to the IBIS

Management of this shared water scheme continues to be an issue as climate change threatens water availability in this region. The use of the IBIS is often discussed at the UN council.

Small Scale Food Production
Makueni – Kenya

Makueni county in eastern Kenya – small scale food production scheme – 'Just a drop'

Population of 885,000 people –

Low rainfall in this region means that crops often fail and agricultural output falls

Who? Why?

- Crops grown here: Maize, Beans, Sweet potatoes
- Most people live in rural communities and rely on primary sector agricultural work
- Annual average rainfall only 500mm
- Crops can fail, leaving people starving

Context

Method

- In 2014 the charity 'Just a drop' worked with two small villages
- Sand dams were built in each village. Collecting water during the rainy season
- Sand acts as a natural filter and water is extracted through a hand pump
- Famers given training on best techniques and water crops

Impacts

Advantages

- Bottom up community approach has helped empower populations
- Populations healthier with better diets and nutrition
- Water Bourne diseases have been reduced
- Time spent walking to far places to collect water reduced
- Crop yields have increased since the project began
- Children can now focus on education rather than working on the fields getting crops
- Rainwater harvester put on the school roof to help collect water in rainy season.

This is an important as small scale e schemes have a smaller environmental impact than large schemes like IBIS - because large reservoirs do not need to be built, these flood habitats and displace people.

People's livelihoods have improved and diets have become more nutritional.

This is a successful example of bottom up approach community charity work, providing communities and training with the tools to sustainably help themselves in the future.