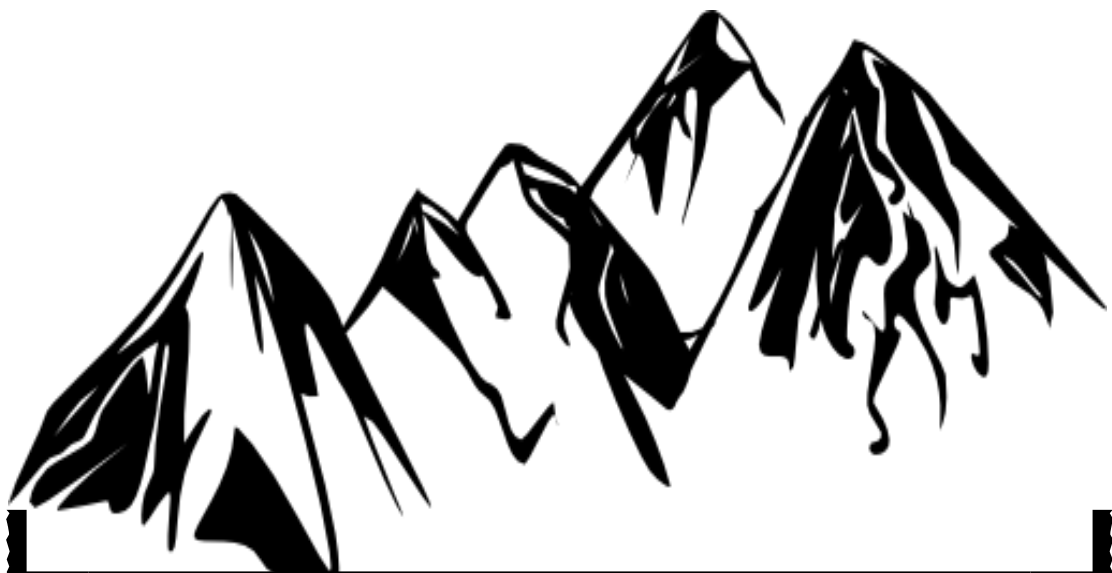
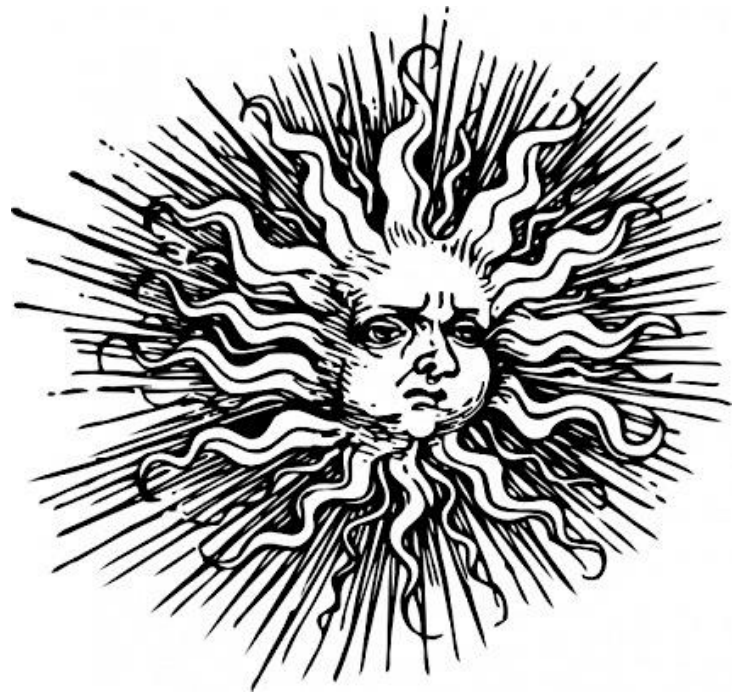


Carve Studies



Contents:

Rocks, resources and scenery.

- ⇒ Yorkshire Dales
- ⇒ London Basin Aquifer
- ⇒ Hope Quarry, Castleton
- ⇒ Hollow Banks Quarry
- ⇒ Drayton Sands and Gravel Quarries
- ⇒ Dartmoor

The coastal zone.

- ⇒ Holbeck Hall, Scarborough
- ⇒ East Anglia
- ⇒ Keyhaven Marshes, Hampshire
- ⇒ Holderness Coast

The restless earth.

- ⇒ The Andes Mountains
- ⇒ Eyjafjallajökul
- ⇒ Yellowstone National Park
- ⇒ Kobe, Japan
- ⇒ Haiti
- ⇒ Boxing Day Asian Tsunami

Population change.

- ⇒ China's One Child Policy
- ⇒ Kerala
- ⇒ Ageing Populations, France
- ⇒ Poland to UK

Changing urban environments.

- ⇒ London Docklands
- ⇒ Hulme, Manchester
- ⇒ Boris' Bikes
- ⇒ New Islington
- ⇒ Kibera, Kenya
- ⇒ CBD redevelopment
- ⇒ Curitiba, Brazil

The development gap.

- ⇒ Haiti Earthquake
- ⇒ Practical Action in the Andes
- ⇒ Regional Development Fund

Yorkshire Dales

The Yorkshire Dales is the first national park that opened in 1954. It has been managed by the National Trust for over 50 years. It is a honeypot site, so it attracts many tourists. This means more chance of vandalism or litter. It is part of the National Trust, which preserves it for future generations.

Tourists can buy things in the local shops and contribute to the economy. The money can be used for improvements in the area. Since tourists need to be supervised, more jobs will be available for local residents.

On the other hand, tourists can also leave gates open or leave litter lying around that could be consumed by animals living in the area and making them sick. Tourists are noisy and can disrupt people living in the park. Most tourists travel by car, so fumes can be released, damaging the environment.

Activities include the long distance path Pennine Way, Malham Cove and the National Park Centre, which provides tours and information.

Sustainable management is being achieved by visitors being informed of the areas in which they can and can't go. Bins are provided so litter will not be an issue as a bin is in close proximity. There are gates that separate visitors and animals so neither gets injured.



London Basin Aquifer

London takes its water from an underground aquifer. Lately, due to industrial processes, the aquifer is not being used as much and the water table has risen. In the past, pumping from the aquifer lowered the water level by 70m but now it is rising again and if this continues, in 30 years the water could cause movements resulting in damaged buildings and flooding..

This can be prevented by additional pumping or Capital Expenditure (installing wells). In order for this to work, the additional pumping would need to be 31.5 mega litres per day. There would be 30 wells costing 10-30 million pounds.

If this problem was not sorted the damage would occur in central London because the clay is thinner and building foundations are closer to the aquifer. In 2005, 200 million litres were pumped to satisfy 10% of London's needs.



Hope quarry, castleton

Hope Quarry (opened in 1929) situated the Peak District (opened in 1951) is responsible for supplying 2 million tonnes of limestone to the nearby Hope Cement Works. Hope Cement Works produces 1.3 million tonnes of cement (using shale) annually. Hope Quarry is in Castleton and produces aggregate. It is one of the largest quarries in the Park.

Views:

- ◆ **Conservationist:**
They would promote the quarry because it creates jobs for local residents. This would help the economy to grow and would set aside money for improvements to make the park a better place. On the other hand, they would like to limit the impacts of the quarry by reducing dust, noise and rebuilding habitats to encourage tourism.
- ◆ **Quarry Worker:**
They would like to keep the quarry because it provides a vital job in an area that does not provide many. They would have money to spend in local shops, helping the economy and local businesses to grow.
- ◆ **Local Residents:**
They would not like a quarry near their home because they wouldn't enjoy the noise and dust created by the quarry. The explosives and ugliness of the quarry would also be unwanted. There would be lots of traffic from lorries and cars going to the quarry. In comparison, the quarry provides more jobs and creates an economy boost.
- ◆ **Tourists:**
They will not like a quarry because they came to see the beautiful landscape and wildlife. The quarry is essentially a large hole in the ground surrounded by rubble and dust, which is an eyesore. This will leave them to spend money in shops to get away from the dust, noise and pollution that the quarry brings.

To manage the impacts, Hope Quarry has planted 7000 trees to hide the quarry and to control its 1m tonne output of CO₂. It also uses trains instead of lorries to reduce pollution and this cost £15 million to set up.



Hollow banks quarry

Hollow Banks Quarry is an example of restoration AFTER the quarry has been exhausted. It is near Catterick, North Yorkshire and sand and gravel were extracted from 1999-2003. In total over 900, 000 tonnes were extracted.

It was contoured to create a gently undulating landscape. Loose soil was divided into parcels for woodland and farming. Woodland was fenced to protect it. From 2004-2005, 20,000+ trees were planted and locally raised. Footpaths have been established and aquatic plants were introduced.

To manage the restoration, weeds like ragwort and thistle are controlled, grass is improved for more livestock. This will make the land productive and self-managing. Erosion is reduced and planted trees are replaced. There is also regular monitoring of the free draining nature of the agricultural parcels.

Drayton sands and gravel

Drayton Sands and Gravel is an example of restoration DURING extraction. It is located in Chichester in West Sussex. There are two quarries: Drayton North and Drayton South. It is 30 hectares in total. The restoration process will take over 3-4 years.

1 hectare of woodland and shrub planting will take place as well as a 15 hectare freshwater lake with aquatic plants. 2.3 hectares of grassland such as pond and seasonal wetlands will be made. In addition, bird nesting boxes and bat boxes will be installed.

As quarrying can destroy habitats, Drayton Sands and Gravel will rebuild them by introducing new habitats. A reed bed will be provided for small animals/insects and wet woodland for larger ones. There will be open standing water for otters, voles and newts.



Dartmoor

Dartmoor National Park is home to many activities such as farming, military training and hiking. Over 10 million people visit the area each year.

As the soils are infertile and acidic, crop farming is not possible so sheep are farmed instead. Farming brings conflicts between many groups of people. It brings job opportunities and stocks local shops but tourists pose a threat by leaving gates open and littering.

As granite is impermeable, Dartmoor is a popular place to build reservoirs. Granite blocks were quarried to build buildings and dry-stone walls but many are now abandoned. Copper and tin mining used to be common as they were found in thin veins within the granite. China clay or Kaolin is a product of hydrolysis and is used during ceramics or papermaking. This industry is very important for employment and the economy.

Issues include tourists and activities. Quarrying, mining and kaolin leave scars on the landscape so tourists are discouraged to visit. Tourists can cause congestion and pollution. They also buy second homes in Dartmoor, which results in home prices being pushed up. Rural poverty is becoming an issue.



Holbeck hall, Scarborough

Holbeck Hall in North Yorkshire is an example of cliff collapse, particularly focusing on mass movement and mechanical weathering. It occurred in 1993 and the landslide lasted for 2 days. On the 3rd June, the Hotel dramatically collapsed into the sea, depositing debris at least 200ft into the ocean.

The Hotel had experienced a dry summer prior to the landslide and this caused the clay cliff to harden. After this, the Autumn brought along 2 months of rainfall totalling to 140mm. The rainwater settled into and lubricated the cracks them in the cliff that were caused by the summer before. This, in turn allowed the clay to slip and slide with little friction.

The first sign were cracks appearing in tarmac. They were filled but opened again. The hotel garden also experienced some movement.

After the landslide, a 100m debris pile lay across the rocky platform and was once moving at 10 feet an hour! This causes a hazard to people, animals and habitats. There was a 100m wide x 250m deep bite taken from the cliff after the landslide.



East Anglia

As the oceans absorb heat from the atmosphere, thermal expansion occurs. The oceans expand, resulting in rising sea levels. Sea levels rise when ice that was previously on land melts into the ocean too. The result of this is not only islands like the Maldives and Bangladesh disappearing but also increased coastal erosion.

East Anglia in England is most likely to be affected, as it is low lying. Some impacts include a tourist destination called The Norfolk Broads that brings in £5m+ each year being destroyed. This would be devastating on the local economy and the social environment.

Settlements such as Happisburgh, which is right on the coastline, could be lost because of increased coastal erosion. Other settlements such as Kings Lynn that contain valuable agricultural land (The Fens) could be flooded.

The Thames Barrier, which is worth £80bn, will need to be replaced in 30-50 years in order to protect the settlements, farming and industry behind it. This is expensive.

As 22% of the marshlands around Essex are thought to be destroyed by 2050, a controversial political decision has been made to purposely breach the sea wall to build up the salt marshes, which act as a natural defence, again.

In 1953, a devastating storm hit East Anglia, killing 300 people and evacuating 300,000. Tourists and locals are afraid of this happening again.



Keyhaven marshes, hampshire

Keyhaven Marshes in Hampshire is an SSSI (Site of Special Scientific Interest) and is retreating up to 6m a year. It is carefully monitored and managed to maintain the rich biodiversity it has. It is in the lee of Hurst Castle spit. There are groynes to the west of the spit that starve it, so it is vulnerable to a breach. In December of 1989, a storm surge breached the spit and exposed 50-80m of the marsh, which was eroded in less than 3 months.

The Marshes contain lots of wildlife including sea lavender and asters, which are pretty, vibrant colours. The Oyster Catcher and Ringed plover both feed and nest on the marshes. Halophytes such as cord grass stabilise the marsh. Wold spiders cling to the cord grass and wait under for the low tide to feed. The common blue butterfly is also found on the marshes.

Increased demand for tourism and leisure has resulted in management for the sustainability of the marsh as tourists litter, trample and harm the wildlife.

As sea levels are expected to rise by 6mm a year, in 1991 rock armour and beach nourishment was placed on the spit to prevent any breaches. 550m of rock armour was added to the spit in 1996.

The £5m worth of sea defences has been successful so far.



Holderness coast

Holderness coast, in the north east of England, is retreating up to 1.2m a year. It is made of soft boulder clay so it is easily eroded by the destructive waves from the North Sea.

The eroded material feeds Spurn Head spit and a thin beach is formed. It is so thin that it provides little to no protection.

Towns and farms are at the risk of being lost and 4km of land has been lost since the Roman era.

At Bridlington, a 4.7km promenade was built; concrete walls from the 19th century were reinforced and a maintenance programme was set up.

In 1991 in Mablethorpe, 2 rock groynes and a 500m long rock revetment were built. This resulted in beach halting erosion.

Easington oil refinery and gas terminal is 25m from the coastline and plans are being made to create a cliff length rock revetment.

Spurn Head spit is starving due to man-made defences. Groynes at Hornsea and Mablethorpe and the concrete walls at Withernsea contribute. This also affects downstream beaches.



The andes mountains

The 7000km long Andes Mountains stretch from Columbia to Argentina along the West Coast of South America.

As it is a mountainous region, the relief is quite difficult so locals have to adapt in order to survive. An example of this is subsistence farmers cutting stairs into the land called terraces. These provide suitable land for crops to be grown in, retain rainfall (which is rare) and prevents the downfall movement of soil.

Male llamas are also used for transport as cars or other land rovers would not be able to handle the terrain. They can carry up to 25% of their weight. They usually carry building or irrigation (artificial watering) materials. Female llamas are used for meat, milk and wool.

The land is watered artificially as rainfall is rare. This is called irrigation and helps crops to grow so the people living in the Andes can survive.

The Andes has a rich supply of gold, silver, coal, oil and other mineable. The Yanacocha mine is a large open cast mine in Peru. Dynamite is used to blast open rocks. This creates dust and noise and is a potential hazard, so tourists will not like this. After they are blasted, they are sprayed with toxic cyanide, which can harm wildlife, water and workers.

The nearby town of Cajamarca expanded from 30,000 to 240, 000 in 2005. Crime rates are high and poverty occurs because of the lack of services. On the other hand, the mine creates jobs.

The Andes is suitable for HEP (hydroelectric power) as it has steep slopes and narrow valleys. This increases the velocity of the water, which in turn creates more electricity.

Project El Platanal started generating electricity in 2009 and it dams the Cañete River. It is the second largest HEP generator in Peru.

The Andes contains “The Lost City of the Incas”, Machu Picchu, which is one of the 23 World Heritage sites as deemed by the UNESCO. The Inca trail is 45km long and contains many ruins, stunning scenery and exotic jungles. The sanctuary contained over 250 species of Orchid and many species of birds.



Eyjafjallajökull

Eyjafjallajökull is a shield volcano in Iceland that erupted in April 2010. It is 125km south east of the capital, Reykjavik. The Eurasian and North American plates were moving away from each other on a constructive plate boundary at a rate of 1-5cm a year.

While it was erupting, 30,000 tonnes of CO₂ was released into the atmosphere and 500 tonnes of ash was thrown 11000m into the air (high enough to reach the stratosphere). There were also mudflows, lahars and 2000-3000m³ of melt water per second from the glacier it was under. Over 1000°C lava was spewed 150m into the air.

Over 500 farmers had to be evacuated. In total 800 local people had to be evacuated and embankment was purposely breached in order to protect a nearby bridge and save the need to rebuild it.

100,000 flights from Northern and Western Europe were cancelled and this resulted in a daily £130m loss from airports. In total 10 million passengers were affected.



Yellowstone National Park

Yellowstone is a supervolcano in the USA, complete with typical hydrothermal features, like a geyser called Old Faithful, which has the potential to release up to 1km^3 of material into the air.

Yellowstone erupted 2 million, 1.3 million and 600,000 years ago and the fact that the ground has risen up to 70cm in some areas suggests another eruption is inevitable as the magma chamber fills. there are also 3000 earthquakes per year in the area.

If an eruption were to occur, $10,000\text{km}^3$ of land would be destroyed, 87,000 people would die and 15cm of ash would settle on buildings and fields. 1 in 3 people would die. There would also be an ash cloud that shoots 25 miles into the air. Everything within a 100 mile radius would be destroyed.

Nationally, transport, electricity and water systems would be damaged, if not destroyed. Internationally, ash would be released into the atmosphere, travelling into the UK within 5 days. Global temperatures would drop to $12\text{-}15^\circ\text{C}$ and crops would fail. As a result of this, many people would die after the disaster too.



Kobe, Japan

Kobe, Japan suffered an earthquake on the 11th January 1995 at 5:46am. It measured 7.2 on the Richter scale and lasted for about 20 seconds or 2-3 minutes on reclaimed land.

Primary effects included 6434 deaths and 40,000 people injured. Land moved 1m up and 50cm across and gas and water pipes were ruptured. The worst affected area was central Kobe as the ground practically liquefied, allowing buildings to collapse and sink.

Secondary effects included 300,000 people being homeless in -2°C weather, 2 million homes without water for 10 days and 1 million people without electricity. The Hanshin Expressway also collapsed and road and building damage was £100bn. The total damage was approx. £150bn.

People were digging around for friends in rubble and had to sleep in cars and tents. Emergency aid was unreachable due to the damaged roads and

As a result, more earthquake monitoring devices were set up so that people could be effectively prepared if another disaster happened. Also, the HEW was replaced within a year and gas and electricity was back by July 1995 and 134,000 houses were built by 1999. Many new buildings and houses in the last 20 years were built to be earthquake proof. Japan refused all international aid and sorted the damage out itself.



Haiti

Haiti, in the Caribbean islands suffered an earthquake measuring a 7 on the Richter scale. The epicentre was 15km south west of the capital, Port-au-Prince. It happened on 12th January 2010 at 4:53pm.

It was caused by a conservative plate boundary between the Caribbean and North American plates.

Overall, 230,000 people died, 180,000 homes were destroyed and 19m³ of rubble collected in Port-au-Prince. 1.5m were made homeless. The main prison was destroyed and 4000 inmates escaped.

The total damage was \$11.5bn and lasted over 5-10 years.

1 in 5 people lost their jobs and the clothing industry was one of the worst affected. Due to the large amounts of dead bodies littering the streets, cholera killed many people. Getting aid into the country was difficult due to the damaged roads and airports.

Short-term responses included 810,000 people being placed into aid camps. 4.3m people were given food rations in the coming weeks. Medical teams and dogs sifted through the rubble in order to save people trapped. The UK disasters emergency committee donated £100m to Haiti. The total damage was \$11.5bn and lasted over 5-10 years.

Long-term responses include several thousand people moving away in fear of another earthquake. 200,000 people received cash for manual work like cleaning away rubble. Water and sanitation was eventually supplied to 1.7m people. After 1 year, 1 million people were still in aid camps.



Indian ocean Tsunami

The Indian Ocean tsunami occurred in 2004 on a subductive/destructive plate boundary involving the Indo-Australian and Eurasian plates. This resulted in the west side of the plates being uplifted by 40ft, in turn displacing the entire water column above it. This water went to fuel the 115ft high tsunami that went around the world thrice and had the force of 60 hurricanes.

230,000 people died, 1.7m were homeless and families were separated. 650k people were injured and forests and reefs were damaged from the salt water. 5-6m people had to be given food and medical supplies. Affected countries included India, Indonesia and Sri Lanka. Many people in Indonesia reported seeing animals fleeing before the disaster hit, afterwards, not many animal bodies were found.

The UK government gave £75m and £100m was raised by the UK public. A year later, the UK public raised £372m and the Indian Ocean Tsunami Warning System was set up in June 2006.



China's one child policy

In 1979, the resources in China were becoming scarce as the population was growing rapidly. China was also close to a famine, so the population had to be controlled in order to be sustainable. To manage this, a *birth control* method has been used.

Couples had to wait until their late 20s before getting married and having a child. They could only have one successful pregnancy and afterwards, they would need to be sterilised or abort future pregnancies. If couples followed these rules, they would get a 5-10% salary addition so the child could be raised well. They would also have priority housing; pension and everything would be paid for them (medical bills, school). Later on, ethnic minorities, only child couples or agricultural families that had a girl the first time would be able to have additional children.

If the rules were not followed, the family would suffer a 10% salary cut and they would have to pay for everything themselves. If the child were born abroad, they would not be classed as a Chinese citizen. They also had a large fine.

Sadly, this has caused a sex ratio imbalance with more boys than girls because boys were more desired. They were believed to be more useful for jobs. Because of this, many female babies were aborted or killed. There was also a high female infant mortality rate.

Some issues besides the gender imbalance were children being spoiled, as they were the only children in the family. The birth rate is also falling, resulting in an ageing population.



Kerala, india

Kerala in India experienced a large population growth. It is extremely densely populated and needs careful management so people can have a sustainable, good quality of life. In order to maintain this, a *non birth control* method has been used.

It has a population of 32 million but it has the lowest birth rate of 17 and its growth rate is 9.4% which is less than India's 21.3%. The life expectancy is 71 years old and infant mortality is low. There are also vaccines and contraceptives available.

Women get a better education because 85% are literate and are more respected in the general community. Women have a choice to have a child or not, slowing growth down as some women would put their jobs first. Women are educated better and hold more respectful jobs. Due to this, Kerala's population is spread evenly and it focuses on health care. Land is distributed evenly to each family so they could use it for farming to survive.

Also, Kerala allowed maternity leave for the first two babies only and provided extra retirement benefits for those with smaller families.



Ageing populations, France

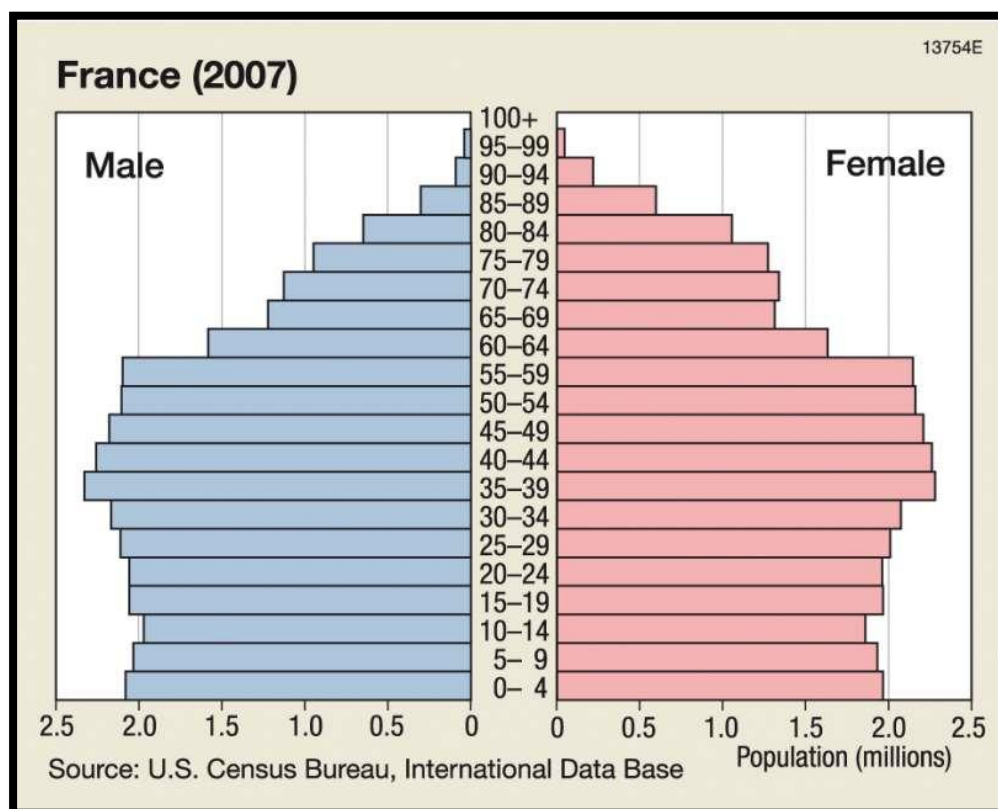
In France, the birth rates are very low and life expectancy is high because of advanced medical technology so the death rate decreases. This means there is a bad dependency ratio; the older population is struggling at the lack of young people providing for them. (i.e pension, taxes)

People are having smaller families and having children later on in life. A post war baby boom also happened in 1945, resulting in more children.

As elderly people are fragile, and need to be cared for, they tend to have weakened immune systems so they can catch diseases easily. Hospital fees for elderly people would need to be funded by more taxes and also more money for pensions would be needed so the elderly people could actually pay for their medical bills.

France has introduced benefits such as 3 years of paid parental leave, early full time schooling, day cares and more children, earlier retirement if couples decided to have more children. Payments were up to £1064 for 3rd child. There was a 30% fare reduction on all public transport for families with 3 children.

More jobs are available for elderly people's benefit such as carers or care homes, meals on wheels etc.



Poland to UK

Poland joined the European Union in 2004 and ever since there has been an increase of migration to the UK. This is because members of the EU allow their people to travel freely around countries in the EU.

The majority of migrants are single and do not bring their families. 80% of migrants look for work and 97% of them are in full time work.

Push factors include high unemployment rates in Poland at just under 20%, despite 40% of youth being educated. In 2006, the GDP was £12,700.

Pull factors include the UK's unemployment being low at 5.1%. There was a large need for certain labour skills and the migrants were happy to undertake these jobs. In 2006, the GDP was £30, 900.

This had resulted in an economy boost and migrants had contributed to 1% of this growth from 2005-2006.

On the other hand, citizens think that the government has lost control on the amount of immigration into the UK. They also have a fear that migrants from Poland may cause overcrowding and a lack of resources.

There are now 545,000 Polish passport holders in the UK compared to 2003's 75,000.



London docklands

This project is an Urban Development Corporation strategy. It happened between 1981-1998. The London Docklands Development Corporation worked to secure the regeneration of the London Docklands, create an attractive environment, encourage people to live there and to encourage the development of industry.

The Government, Neil Spence, Reg Ward and other key people were involved.

It was financed by the Government and the income generated by the disposal of land for housing, industrial or commercial development.

In total, 24,046 new homes were built, 1,884 acres of derelict land was reclaimed and 85,000 people now work at the London Docklands.

1066 acres of land was sold for redevelopment and 144km of new and improved roads were involved. The Docklands Light Railway in 1987 cost £77 million. There were contributions to 5 new health centres and the redevelopment of 6 more.

11 new primary schools, 2 secondary schools, 3 colleges and 9 vocational training centres were built.

£1.86 billion was invested in the public sector and £7.7 billion was invested in the private sector.



Hulme, manchester

This is the city challenge and has a holistic approach where local authorities, private companies and the community work together to improve housing and increase the number of families with children in the area.

It started in the 1960's and is currently on going. It was funded by £37.5 million of the government's money.

600 new homes were built and 400 have been improved. An office block has been built for large companies such as Michelin. A gym and sporting centre have been built for the 2002 Commonwealth Games.

A new community centre was built and so was a main shopping centre containing ASDA. Many schools and parks have been built. 2000 hectares of derelict land was reclaimed.

Over 40,000 houses have been improved and 53,000 jobs have been created. 3000 new businesses have been established and the reputation of the area has improved due to decreasing crime.

Some disadvantages include a high rate of unemployment so people went into poverty. Communities were split from redeveloping of flats and the quality of building materials and methods of construction were poor so vandalism still occurred.



Boris' Bikes

In order to encourage more people to use other forms of traffic-free travel like bicycles or buses, Boris' bikes was introduced. It was sponsored by the bank Barclays and was originally called Barclay's bikes. Cities are growing by 200,000 people a day as they move from rural to urban areas. This results in congestion and traffic.

It is in London and is available 24/7. Bikes are available for hire for a small price of £2 for 24 hours. There have been over 22 million journeys since 2010 when it was launched.

Bike lanes are being created to make using a bike cheaper and safer and workplaces are now installing showers so people using the bikes can wash when they get to work.

There are currently 6000 bikes but this will soon expand to 10,000. It cost £14 million to launch and the millionth journey was made after 10 weeks. It resulted in less air pollution, less traffic and fitter people.



New Islington

In New Islington, a sustainable community was created where people can have a good quality of life with access to jobs, housing, education and healthcare now and in the future.

It started in 2003 and ended in 2010. It was funded £20M from Urban Splash and the residents of New Islington and Will Alsop were involved.

In total, 66 new homes and 200 ground floor apartments were built. 500 two/three story apartments were built along with 600 1 and 2 bed apartments. 3000m of canal side and a new park with 300 new trees, 2 garden islands an orchard and beach play areas were built.

A health centre with 8 GPs and a free school available for children was built.

Overall, the quality of life is better, the houses are made to a better standard and there are more jobs available. There is access to shops, education and healthcare and the community is aesthetically pleasing with a strong sense of family. A sustainable community has really been achieved.

Some disadvantages include ugly scaffolding, loud construction noises and building may take a long time.



Kibera, kenya

Kibera is in Nairobi in Kenya. It is a squatter settlement where 800,000 to 1 million people live in a small area of 225 hectares.

Over the years, Kibera has been improving. A British charity called Practical Action has been selling low cost roof tiles made from shale, clay or natural fibres. This provides a better quality of life as the residents are protected from harsh weather conditions.

Also, the local council has provided a local pipe of water to use as a method of self-help. Along with this, the World Bank has provided another pipe, which provides 20 litres of water for 2 pence. This provides more people with clean water, preventing diseases like cholera and dysentery.

In 2003, a project lasting 15 years has rehoused 770 families in flats with running water, electricity and sanitation. The families now get basic human rights and a better quality of life.

Affordable electricity is being provided by the UN-Habitat for £2.25.

Gap year students are also encouraged to go to Kibera and bring awareness to the issue so more charities would be informed and willing to help.

Over 100,000 children are orphaned because of the high rate of HIV/AIDS due to poor medical care.

Most houses are made from wood, corrugated iron and any other materials that are found on the land. Paths are irregular and sewage is found in the streets.



cbd redevelopment, bullring

Birmingham was redeveloped because it wanted to gain more attention and footfall as new attractions were being created.

It was redeveloped in 2003 and cost £530m pounds. It was known as Europe's largest retail redevelopment project and was very successful with its 50 million shoppers in the first year.

140 shops, cafes and restaurants were built and 8000 members of staff work there. It contained shops like Selfridges, Zara and Next. There is 110, 000 square feet of retail space available.

Advantages include a run down area being redeveloped to look pleasant. More jobs were created so unemployment rates dropped. It is famous so more tourists visit, resulting in an economy boost.

Disadvantages include safety hazards due to the amount of people in a busy environment. It is expensive to maintain and contains lots of traffic and pollution. Less popular areas will suffer such as the palisades, pavilions and high street shops.

It was a very successful project because it reduced unemployment, regenerated an area, provided an extensive shopping area and attracted shoppers. On the other hand, it reduced the success of nearby shopping centres, created a hazard and tainted the environment.



curitiba, brazil

Curitiba in Brazil is a sustainable city. It is an urban area where residents have a way of life that will last a long time. The environment is not damaged and the economic and social fabric, due to local involvement, are able to stand to test of time.

To conserve the historic and natural environment, a law was passed in 1970 to preserve the city's historical sector. The old historic places were turned into tourism activities like shops, theatres and museums. For example, the public squares were improved by adding cultural/commercial facilities and the downtown area was turned into shops. The Flower Street was recreated to be appealing.

In order to reduce and safely dispose of waste, a green exchange program called Câmbio Verde allows people to exchange recyclable for food or toys. This makes use of surplus farming products and helps homeless people. Curitiba has the highest recycling rate in the world of 70% and this is partly because waste collections and rubbish carts are available at a low price. The waste collected is sold to private companies.

Providing adequate open space is important for the resident's social and mental well being. Former quarry sites will become landscape features. This makes sure that each person had 52m² of green area. There is 21 million m² of parkland that is visited by over 150,000 people at weekends. The parks are also linear and this avoids any illegal occupation. To preserve the environment and avoid pollution, sheep are allowed to graze anywhere. This keeps the grass neat and short.

Curitiba involves its residents and they get involved in citywide plans. There is an outpatient post where people come into the city and provide healthcare in each region. Migrants are encouraged to go home and they get free flight tickets. Small farms are available for jobs and in 2600 schools, children take water samples from fountains and examine signs of contamination.

The public transport system is very good and the ticket price is the same everywhere in Curitiba. The cities are linked like a spider's web. 250,000 people use the bus system daily and car traffic is decreased 30% while the population trebles. 1902 buses are running and 14k journeys are made daily.



Haiti

Haiti suffered an earthquake that measured 7.0 on the Richter scale in 2010. The epicentre was 25km from its capital, Port au Prince. 220,000 people died and 300,000 were injured. 1.3 million were left homeless and 2 million were left without food or water. After the quake, cholera spread rapidly and caused many people to get ill.

The USA sent ships, helicopters 10,000 troops and \$100m in aid in order to help. 235,000 people were moved to less damaged areas and 200,000 received cash or food for cleaning rubble. The World Bank also pledged \$100m to Haiti.

Overall, 3 million people were affected and the area before the quake was extremely densely populated and filled with poor people. The infrastructure was not good enough to withstand the earthquake and many buildings were deemed unusable, for example the International Airport and Seaport in Port-au-Prince were damaged beyond use. This is because buildings were built where they could be, in order to house the many people living there. The foundations were bad and structures were raised with steel works.

The government was not stable, which made the aftermath even worse. They argued about where to put the corpses, resorting to littering the street with them. Of course, this did not help with the prevention of the cholera and disease outbreak. There was a delay in the distribution of aid so citizens resorted to looting and rioting. On the 23rd Jan, only 11 days after the earthquake, the search for survivors had been called off.

Long-term responses include several thousand people moving away in fear of another earthquake. 200,000 people received cash for manual work like cleaning way rubble. Water and sanitation was eventually supplied to 1.7m people. After 1 year, 1 million people were still in aid camps.



Practical Action in the Andes

Practical Action is an NGO that aims to challenge poverty by using technology. It has worked in Northern Peru in the Andes and this is what we are focusing on.

Before the project, the village had no electricity for heat, light and cooking equipment. In winter, families struggled to be fed. Meagre shacks have dirt floors and plastic sheeting for roofs. At night the temperatures drop below freezing. Life was dull, with no vibrant atmosphere and people just slaving away to do what they could manage before the sun set. As a result, jobs were scarce and people abandoned the village to find better opportunities elsewhere.

Then, Practical Action came and saved the day! They used HEP to produce electricity by turning GPE into KE then E. This is good because the NAdes has steep valleys that increase the velocity of the water, meaning more KE! Micro hydroelectric systems were built and one system provides 10-50 homes with electricity! After the installation of this, life was better as people were happier. Their SOL and QOL increased. There was light for cooking, a radio show for entertainment (and to provide jobs) and the Internet, which became a massive aid for education. Life- saving vaccines could also be kept in a fridge, to preserve them. It means they can grind their grain in a mill rather than by hand. It means they can dry fruit and vegetables to last them the winter. And it means they can power a school, health centre and workshops.

This was sustainable because not much money was used and the energy comes from a renewable, clean (no polluting gases) source that won't disappear overnight. The number of MHS is thought to double in the next 10 years, so even more homes can have electricity.



The eu regional development fund

The EURDF (Germany, UK) takes money from richer countries and distributes it to poorer ones (Poland). From 2007-2013, 36% of the EU's budget will be spent on this...€350bn! The focus is on countries in central and Eastern Europe. It comes from:

1. The European Regional Development Fund, which pays for infrastructure.
2. The European Social Fund that pays for training and job creation.
3. The Cohesion Fund that covers environmental and transport related projects as well as renewable energy. It is reserved for countries with a living standard of <90% of the EU's average, so it includes Portugal and Poland.