

AQA A

GCSE GEOGRAPHY

Adeyfield School

#GEOGRAPHYROCKSMY SOCKS

CASE STUDIES

The Restless Earth
Water on the Land
Population Change
Globalisation
Tourism

Use the rule of the **5 'Ws'** when looking at a case study:

- **What** happened?
- **When** did it happen?
- **Where** did it happen?
- **Why** did it happen?
- **Who** was affected?

The Restless Earth

KOBE EARTHQUAKE (MEDC)

Where/When

January 17th 1995.

Kobe region of central Japan.

Causes

- Oceanic Philippines plate was *subducted* below continental Eurasian plate. Destructive plate boundary.
- 5am made it worse as most people were still asleep and were not prepared.
- 7.2 on the Richter Scale (BIG EARTHQUAKE!)
- \$50 billion costs

Primary Effects

- Collapse of old wooden buildings, bridges and roads (Hanshin Highway the elevated road).
- During the 20 second earthquake the ground moved up to 50cm horizontally and up to 1m vertically.
- 6, 400 dead.

Secondary Effects

- Fires that broke out all over the city of Kobe because of broken gas pipes and electric lines.
- Many more people died in the fires
- Congestion and chaos on the roads – damage to all types of transport including trains.
- Closure of businesses. Industry on the port was also badly affected.
- Problems made worse by the large number of aftershocks.

Responses

- **SHORT TERM** - people given emergency shelter in schools, town hall and parks
- **LONG TERM** - New laws were passed to make buildings and transport structures even more earthquake proof.
- More instruments were installed in the area to monitor earthquake movements.

SOUFRIERE HILLS VOLCANO, MONTSERRAT (LEDC)

Where/When

July 1995

Montserrat, Island in the Caribbean.

Causes

- On a destructive plate boundary. Caribbean plate being subducted under the North American plate.
- Was a dormant volcano, hadn't erupted for more than 200 years. It was unexpected.

Primary Effects

- People killed
- Plymouth, capital city buried
- Loss of homes, animals and crops

Secondary Effects

- Destruction of airport lead to no trade
- Loss of tourism
- The need to rebuild
- Stress for people
- Relies upon aid from London

Responses

- **SHORT TERM –** Evacuation
- **LONG TERM –** aid totalling £41 million from British government.
- £10.5 million to relocate refugees
- £2400 offered to each adult over 18 wanting to leave the island.

MT. ST HELENS VOLCANO, WASHINGTON, USA (MEDC)

When/Where

March 1980

Washington state, Cascade Mountains, USA.

Located on the 'Ring of Fire'

Causes

- On a destructive plate boundary
- N. American and Pacific plates collide
- Pacific plate is sub-ducted and pressure/heat causes rock to "melt" into magma
- Increased pressure caused Mt St Helens to erupt.

Primary Effects

- 520km of pine forests flattened
- ash and mud blocked roads, choked rivers, bridges destroyed
- ash cloud took 17 days to travel round the world
- 57 people died
- livestock, wildlife and crops destroyed
- the national park was closed
- Volcano triggered giant landslide – 700mph

Secondary Effects

- national park partly destroyed
- local tourism disrupted i.e. camp sites, hotels etc.
- farming community and locals suffered huge losses-land, £, property
- Environment suffered - loss of trees, 1000s of birds and other animals (deer, elk and bear) lost their habitats
- Unemployment in the immediate region of Mount St. Helens rose tenfold and then returned to nearly normal levels once timber salvaging and ash-cleanup operations were underway

BUT

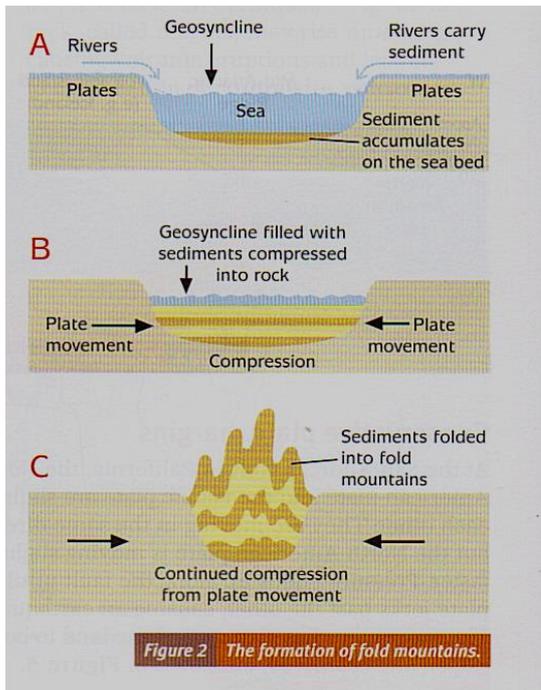
- souvenir ash trays/T-shirts
- became an even bigger tourist attraction
- some financial compensation
- fertile soil
- rapid natural recovery
- huge tree planting and clean up programme

FOLD MOUNTAIN RANGE (ALPS)

Where

Central Europe, the Alps form the border between Italy and the neighbouring countries of France, Switzerland, Austria and Slovenia. The highest peak is Mont Blanc near the French-Italian border at 4810 metres.

Formation



When fold mountains are formed various rocks get folded in a variety of ways. These have specific names which you have to learn for the exam:

- **Geosyncline** - a large depression in which sediment has been deposited into it
- **Anticline** - the upfolds of folded rock
- **Syncline** - the downfolds of folded rock
- **Nappes** - when the rock has been severely folded and faulted it forms these

Physical problems for people

- **Relief** – mainly high and steep. There is little flat land for farming and building settlements.
- **Climate** – with increasing height it gets colder, windier and wetter and more precipitation falls as snow. Often impossible to grow crops at high levels.
- **Soils** – mountain soils are typically stony, thin and infertile.
- **Accessibility** – roads and railways are expensive to build; travel on them is frequently disrupted by rock falls; avalanches and bad weather. High mountains in inland areas such as the Himalayas are the least accessible of all.

Human activities

1. Farming

- Farms located on sunnier and warmer south-facing slopes
- Dairy farming is prominent, use a system called 'transhumance' which is the seasonal movement of animals. In summer, the cattle are taken up to the high alp to graze, in winter the animals return to the farm on the valley floor, where they are kept in cattle sheds.
- Changes to traditional farming system have been made – *cable cars* are used to bring milk to the co-operative dairies down on the valley floor.
- Farmers buy in additional feedstuffs, so that they and their cattle can stay on the valley floor farm all year.

2. Forestry

Coniferous trees cover many of the slopes. Wood, as a plentiful local resource has always been the main building material and winter fuel.

3. Tourism

Winter tourism (examples of resorts are St Moritz and Chamonix)

- Snow for skiing and other winter sports; in between the days of heavy snowfall there are many sunny, crisp and clear days.
- Flatter land on high-level benches (high alp) for easy building of hotels, restaurants, ski lifts and other facilities
- Steep slopes above the resorts for ski runs amid great mountain views.

Summer tourism (examples of resorts are Interlaken and Garda)

- Large glacial lakes on valley floors
- Beautiful mountain scenery with snow capped peaks.

4. Hydro-electric Power (HEP) and Industry

- The steep slopes, high precipitation and summer melting of glaciers produce fast flowing rivers that are ideal for generating HEP
- The narrow valleys are easy to dam and there are lakes in which to store water.
- Cheap HEP is used by industries which require high input of electricity, such as sawmills and fertiliser manufacturing
- Some of the electricity is also exported to other regions to supply towns and cities.

TSUNAMI, ASIA

When/Where

December 2004

Earthquake Indian Ocean, off the coast of Sumatra, Indonesia.

Places affected

Indonesia, Thailand, India, Sri Lanka, Maldives, Malaysia, Somalia and others.

Causes

Pressure from the Indo-Australian plate pushing under the Eurasian plate (destructive plate). 8.9 magnitude – 5th strongest earthquake ever recorded.

Effects

Number of people dead/missing – 220 000+

Number of people displaced – about 2 million

Houses destroyed – over 500 000

- Indonesia – Province of Aceh, lying closest to epicentre was worst hit. A mosque was the only building left standing in the town.
- Thailand – tourist beaches and resorts such as Phuket took the main hit. A big loss of income to the Thai economy.
- India – Livelihoods of poor coastal fishing communities wrecked. 4500 fishing boats destroyed in one coastal area alone.
- Sri Lanka – whole island badly hit; southern city of Galle worst affected. Over a million homeless; 1700 killed in train swept off tracks.

Responses

- In a week over £450 million had been pledged from all over the world.
- Cargo planes from all over the world brought blankets and medicines.
- Trucks full of food, medicines and body bags reached places still accessible by road.
- Air drops to coastal communities that were cut off from outside world.
- Troops using bulldozers helped to clear the dead bodies into mass graves to reduce the risk of disease spreading.

Positive

The international tsunami warning system between countries. Now governments and people are aware of potential dangers from strong earthquakes in oceans.

Water on the Land

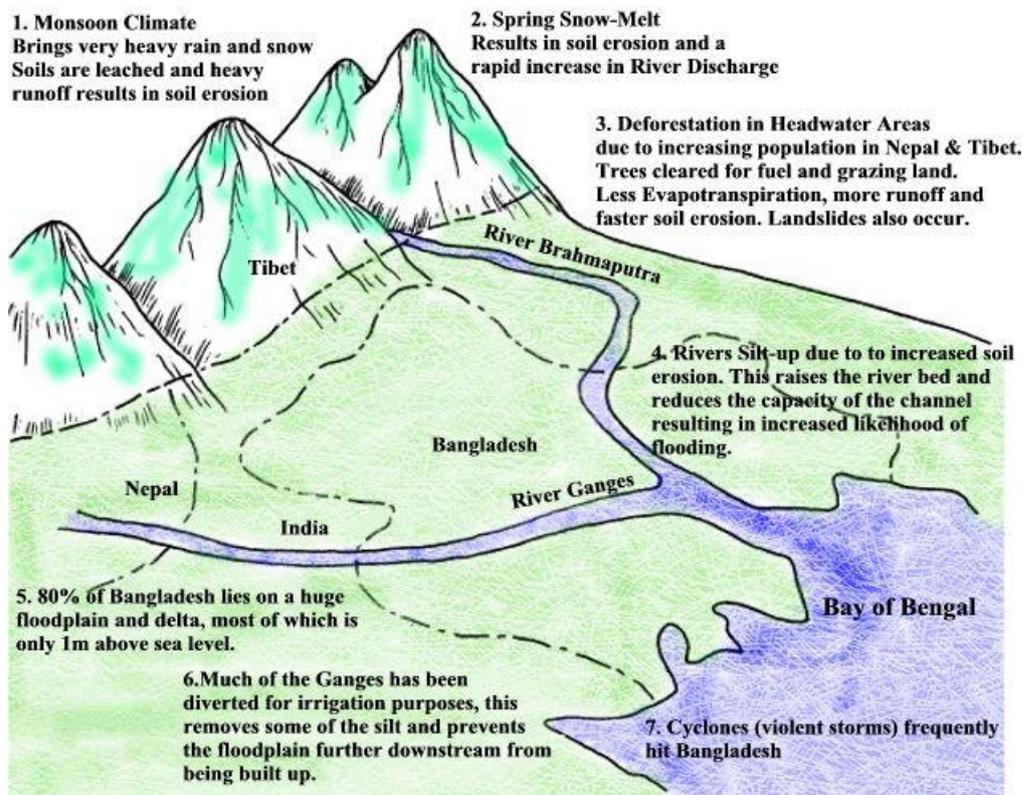
FLOODING IN BANGLADESH (LEDC)

Where/When

15th September 1998
Bangladesh.

Causes

Some Causes of Flooding in Bangladesh



Effects

- Flood waters **swept away and caused severe damage to railways, roads and bridges**. This cut communications and made rescue operations difficult.
- **Water supplies were contaminated** by dirty water and sewage and fresh water became scarce.
- **Farmland was flooded** and over 50% of crops in flooded areas were lost.
- Many people **lost their homes and belongings**
- **Many were killed** (over 2000). Deaths were not only due to being swept away by the flood waters but also secondary effects of flooding, such as **disease** spread in contaminated waters and the **lack of food** resulting in starvation in some cases.
- There were **great financial losses**, such loss of income by shops and businesses which were unable to sell goods or services and the costs incurred due to damaged infrastructure (roads, buildings etc.)

BANGLADESH CONTINUED...

RESPONSES

Short Term

- Farmers provided with free seed from the government
- Foreign aid was given (including £21 million from the UK government)
- Water Purification tablets were brought by money raised by the WHO (World Health Organisation)
- Food aid was given (including foreign and national aid)

Long Term

- Flood protection shelters built (able to provide shelter in times of flood but have on other occasions been swept away by floods)
- Flood embankments built along the river. (7 500km built since 1947) Not always successful.
- Upstream dams proposed. These would hold back peak flow, but the costs of construction are very high.
- Reduce deforestation in headwater areas.
- Making provision for emergency flood warning systems to give warnings and organise sufficient rescue and relief services (provision of emergency medical and food supplies).

MISSISSIPPI RIVER FLOODS, USA (MEDC)

Where/When

August 1993
Mississippi, USA

Causes

- **PHYSICAL** – snowmelt in spring
- Torrential downpour of rain – saturated soil.

- **HUMAN** - Urbanisation of the flood plain – reducing infiltration rate
- Poorly built non-federal levees
- The channelisation of the river (straightening river) – especially at St. Louis resulting in a faster flow of water

Primary Effects

- 50 people died
- 62,000 families were evacuated
- 72,000 homes destroyed
- 70% of levees damaged
- 55 towns flooded
- 6 million acres of farmland flooded

Secondary Effects

- River traffic stopped for several months
- Crop losses were put at \$2.6 billion
- Insurance pay-outs reached \$12billion in property alone
- Stagnant water attracted mosquitoes and rats – threat of disease
- Electricity lines collapsed
- Transport – roads, railways and bridges affected.

Responses

- **Dams & Reservoirs** – 6 huge reservoirs have been built along the River Missouri to store excess water
- **Afforestation** – Increase in tree cover to delay surface run-off into rivers
- **Levees** – have been strengthened with concrete mattresses to reduce erosion of river banks
- **FEMA** – the Federal Emergency Management Agency has published risk assessments and encourages risk settlements to move off the flood plain.
- **FLOOD FORECASTING** – The National Weather Authority are now responsible for flood warnings along the river.

Population Change

CHINA'S ONE CHILD POLICY

The government introduced the 'one child' policy in the hope that the population would stabilise at about 1.2 billion early in the 21st century.

STRATEGIES (METHODS USED)

It is virtually illegal to have more than one child and families are criticised and fined.
Advertising campaigns and incentives used by the Chinese government:

WHY HAVE ONLY ONE CHILD?

For you with one child:

Free education for your one child
Family allowances, priority housing and pension benefits

For those with two children:

No free education, no allowances and no pension benefits.
Payment of a fine to the state from earnings.

To help you

Women must be 20 years old before they marry.
Men must be 22 years old before they marry.
Couples must have permission to marry and have a child.
Family planning help is available at work.

REMEMBER: One child means happiness

RESULTS

The One Child Policy has brought the birthrate in China down.

Birth rate per 1000:

	BR per 1000
1970	33.43
1990	21.06
2006	14.5

DRAWBACKS AND PROBLEMS

- 2/3 of China's population are peasant farmers living in rural areas, these couples want large families to help them work in the fields and to look after them in their old age.
- Chinese culture holds boys in higher esteem than girls, as a result baby girls have been killed by couples who want a son.
- Forced abortions and sterilizations have been reported.
- Young men are having difficulty in finding partners because of the shortage of women.
-

HOW EFFECTIVE OVERALL

Although the number of babies being born has reduced, this will result in an increasing proportion of older people, a smaller workforce to look after them and a disproportionate number of boys to girls.

AGEING POPULATION, (UK)

Problems Caused

- People are drawing their pensions for longer – state pension is low the government is struggling to pay for it.
- Living longer increases the need for healthcare and social services, for more places in nursing and care homes and for home services such as daily care and meals on wheels.
- Cost of maintaining current levels of care services, is set to double to £24billion by 2026.

Strategies for coping with problems

- Raising retirement age. In UK retirement age is 65, this is going to change in stages, so that by 2046 it will be 68. People will have to work longer, so there will be more people paying tax and fewer claiming pension.
- Increasing financial benefits and employment rights for pregnant women.
- Welcomed migrant workers into the UK. Many come from EU countries of Eastern Europe, this increases the number of people paying taxes which helps to pay for the state pension and services.

Likely effectiveness?

Future generations will have to work longer and rely on their families to support them in old age.

GLOBALISATION

TRANS-NATIONAL CORPORATION (TNC)
SIEMENS, GERMANY

Location of HQ

Berlin and Munich, Siemens is the largest engineering group in Europe.

Other Locations

Over 190 countries and regions (in almost every country in the world) including Malaysia, China, Israel, Argentina.

Types of Businesses

- **Electrical and electronic consumer goods** – Bosch (owned by Siemens) household appliances e.g. washing machines and tools e.g. drills
- **Industrial** – High speed trains, software and IT systems and Osram lighting systems.
- **Energy** – Generators and turbines for power stations, wind turbines, power transmission systems.
- **Healthcare** – Eye scanners, hearing devices and laboratory equipment.

ECONOMIC GIANT, CHINA

INDUSTRIAL GROWTH IN A DEVELOPING COUNTRY

World Importance

- World's largest manufacturing country
- Produced 19.8% of world manufacturing output in 2010 -
- Dominates world production of ready-to-wear clothes, footwear and toys.
- Has over 25% of world production of TV sets and washing machines
- Makes half of the world's cameras, mobile phones and photocopiers.

Reasons for Growth

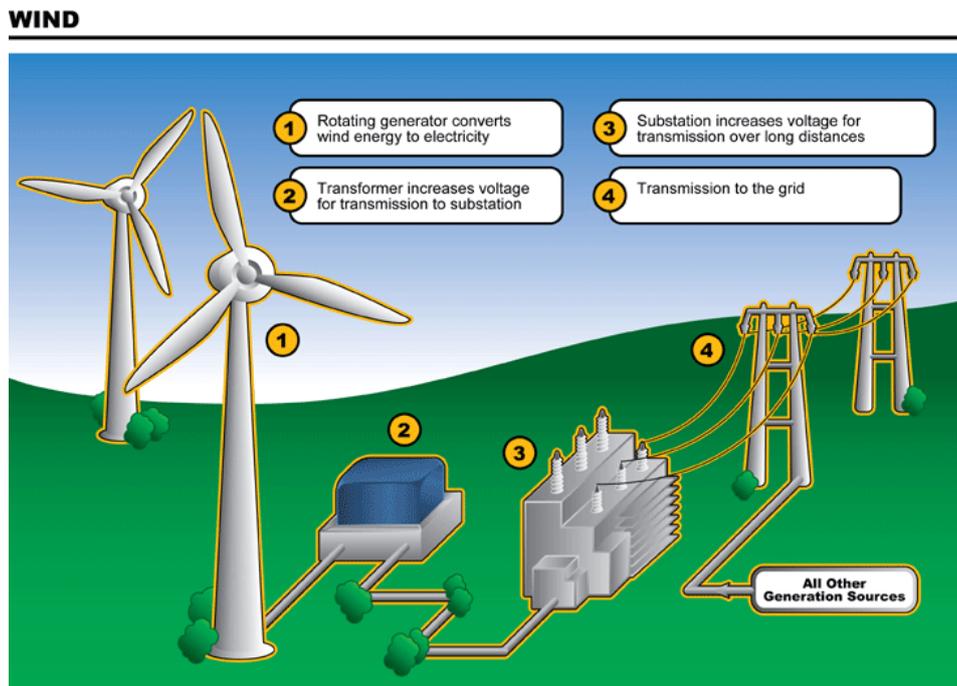
- Cheap labour- wages are low by world standards. Asian workers are reliable and work hard for long hours
- Transport – Access to main shipping lanes. Sea has always been the cheapest way to transport goods over long distances. Shanghai is a major port and business centre and Hong Kong remains China's outlet to the world.
- Government backing – commitment to economic development. Encourage the import of overseas companies' capital and technology to establish factories and provide employment.
- Markets – Asia is the most populous continent, the future potential of Asian markets is enormous as economies grow and personal wealth increases.

Retake revision water on the land sophie, jake and daniel

RENEWABLE ENERGY, WIND POWER

How it works

The wind turns two or three propeller-like blades around a rotor. The rotor is connected to the main shaft, which spins a generator to create electricity.



Locations

Wind turbines need to be in areas with regularly high wind speeds. This means that exposed coasts or upland areas are best. There are on shore and off shore wind farms.

Advantages

- Wind fuel is free
- Wind farms create jobs in rural areas
- Does not generate waste and has little impact on local ecosystems
- Wind power can be developed on a small scale
- There is no emission of greenhouse gases, contributing to global warming and acid rain
- Wind farms can be constructed in a few months (thermal power stations take 6-10 years).

Disadvantages

- Rotor blades can be damaged in strong turbulent winds.
- It takes 30 wind farms to generate the same amount of electricity as one coal fired power station.
- The setting up costs are more expensive than for traditional fossil fuel power stations
- Some people consider the wind farms to be visually unattractive and noisy.

TOURISM

TOURISM IN MEDC, LAKE DISTRICT, UK

Reasons for growth

- Scenery – large lakes e.g. Windermere and mountains e.g. Scafell Pike
- Activities – bird watching, walking, pony-trekking, boat riding, and rock climbing
- Cultural attractions – Beatrix Potter and Wordsworth Museums

Problems created by visitors to the Lake District

- High number of visitors leads to parking problems, noise pollution and air pollution
- Footpath erosion
- One in six of Lakeland properties are second homes / holiday cottages. Demand has forced house prices to rise beyond the reach of most local people
- Shop keepers increase prices to take advantage of the tourists – this is a problem for locals
- Employment may only be seasonal
- Honey-pot sites become overcrowded during peak periods (e.g. Beatrix Potter's house and Aira Force Waterfall)

Strategies

- *Coping with extra traffic* – campaigns to encourage people to use new services e.g. 'Give the driver a break' campaign. Provides leaflets that show the routes available and offers discounts at cafes.
- *Coping with erosion* – encouraging visitors to use less vulnerable areas. Using hard-wearing material for paths. E.g. at Tarn Hows, severely eroded footpaths have been covered with soil and reseeded, and the main route has been gravelled to protect it.
- *Protecting wildlife and farmland* – there are signs to remind visitors to take their litter home. Campaigns to encourage visitors to enjoy the countryside responsibly e.g. by closing gates and keeping dogs on a lead.

Plans for the future

The official tourism strategy for Cumbria is to attract an extra 2 million visitors by 2018:

- Public transport will be improved to make the lakes more accessible
- Widespread marketing and advertising for area
- Farms encouraged to provide services like quad biking and archery alongside traditional farming
- Timeshare developments (where people share the ownership of a property, but stay there at different times) are to be increased, to help bring people into the area all year round.

TOURISM IN LEDC, KENYA

Attractions

- Tribal cultures and wildlife including the 'big five' – rhino, lion, elephant, buffalo and leopard
- Warm climate all year round
- Beautiful scenery – Savannah, mountains, forests, beaches and coral reefs.

Positive effects

- **Economic** – tourism contribute to 15% of country's GNP. Creates jobs for local people.
- **Social** – culture and customs preserved as traditional dancing is displayed to visitors
- **Environmental** – 23 National Parks in Kenya – tourists have to pay to get in, this money is used to maintain the parks, which help protect the environment and wildlife.

Negative effects

- **Economic** – only 15% of the money earned goes to locals. The rest goes to big companies overseas
- **Social** – Masai tribespeople forced to leave land to create National Parks. Some Muslim people in Kenya are offended by the female tourists dress.
- **Environmental** – safari buses destroy vegetation and cause soil erosion. Wild animals hunting and breeding patterns have changed.. Coral reefs have been damaged by tourist boat anchors.

Strategies for the future

The Kenya National Tourism Master Plan emphasises

- Walking or horseback tours are being promoted to reduce number of vehicle safaris
- Alternative activities that are less damaging to the environment are being encouraged, eg climbing and white water rafting

Big hope for ecotourism as a way of spreading tourist money among more people and increasing the involvement of tribespeople in preserving the wildlife and the environment.

EXTREME TOURISM, ANTARCTICA

Attractions

- Scenery, icebergs and nesting penguins by the millions in summer. Remoteness.

Impacts

- Tourists trample plants, disturb wildlife and drop litter
- Accidentally introduce non-native species or diseases and wipe out existing species.
- Spillage of fuel from ships e.g. MS Explorer in 2007 sank. Fuel spills killed mussels and fish and birds that feed on them.

Measure in place

- **The Antarctica Treaty** – international agreement, 1961 signed by 47 countries. The treaty is designed to protect and conserve the area and its plant and animal life. New limits on tourism mean only ships with fewer than 500 passengers are allowed to land there.
- **International Association of Antarctica Tour Operators (IAATO) has set guidelines for tourists** – Tourists cannot go within 5 metres of penguins
 - Do not walk on lichens
 - Do not leave litter or waste
 - Tourists must stay with their group supervised by a qualified guide.

ECOTOURISM, THE MAASAI IN KENYA

Facts

- $\frac{3}{4}$ of the wildlife found in Kenya is on Maasai land outside game parks.
- Tourists demand to see wildlife on safari

Characteristics

- Environmentally sound – natural environments and wildlife safeguarded
- Socially sound – considers the needs of people and involves locals in decision making
- Sustainable – looking after today's tourist and considers future generations
- Ecotourism is responsible tourism

Sustainable benefits to the people (social), economy and environment

- Maasai tribes are financially better off
- More Maasai children attend school
- Maasai have better healthcare
- Kenya National Tourism Master Plan – create a larger variety of holidays, e.g. adventure holidays and distribute tourists. Increase the park entrance fees and set higher minimum hotel prices and re-invest into game park improvements