ZNOTES // IGCSE SERIES

visit www.znotes.org

CIE IGCSE GEOGRAPHY 0460

CASE STUDIES NOTES

ANTI-NATALIST POLICY: CHINA'S ONE CHILD POLICY

- Introduced in 1979 by Chinese leader Deng Xiaoping to limit population growth
- Marriageable age for men = 22, for women = 20
- Couples had to apply to get married, and again for a child
- **If they conformed:**
  - Free education
  - Priority housing
  - Family benefits
- **If they didn't conform**
  - No benefits
  - Fined heavily
  - Women pregnant for a 2nd time had to get forced abortions
  - Persistent offenders sterilized

NOTES

ANTI-NATALIST POLICY: CHINA'S ONE CHILD POLICY

- **Exceptions:**
  - 2nd child allowed if 1st was mentally/physically handicapped or died
  - Farmers could have 2 children if 1st was a girl
  - In rural areas, 2nd child allowed on payment of fine/bribe
  - Policy did not apply to the 56 ethnic minority groups
- **Achievement of policy:**
  - Birth rate fell from 31 to 19 in 20 years
  - The fertility rate has fallen to 1.7 births per woman.
  - Reduced severity of problems that come with overpopulation

NOTES

PRO-NATALIST POLICY: ITALY

- Low fertility rates of 1.33 children per family
- Italy has long had a problem with declining birth rates
- Yuppiedom – preference for luxury goods delays marriage and babies
- **Problems**
  - Women do not want to interrupt career to have children
  - High fees charged by nurseries
  - Shortage of affordable housing for young people
- **Solutions**
  - Italian government offers a one-time payment of 1000 euros to couples who have a 2nd child

NOTES

HIV/AIDS: BOTSWANA

- In 2005, 24.1% of total population living with HIV/Aids
- **Policy:**
  - (1987-89) screening of blood to eliminate the risk of HIV transmission through blood transfusion.
  - (1989-97) information, education and communication programs
  - (1997 onwards) education, prevention and comprehensive care including the provision of treatment for 19,000 people.
- HIV Prevention program included condom distribution, public education and awareness, education of youth and improvement of safety for blood transfusion

NOTES

OVERPOPULATION: LAGOS, NIGERIA

- From 1986 to 2010, the percentage of population living in urban centers increased from 20% to more than 40%
- Persistent problem of inadequate water supply leading to unhealthy living conditions.
- Increased levels of pollution; air, water, noise, soil contamination.
- High infant and child mortality; no development of the health system.
- Elevated crime rate due to drug cartels and increased theft by people stealing resources to survive.
- Malnutrition constant issue in rural areas

NOTES

UNDERPOPULATION: AUSTRALIA

- Australia has an area of 7.6 million km^2 and population of 22 million
- Australia export their surplus food, energy and mineral resources
- High incomes, good living conditions, and high levels of technology and immigration.
- Australia is the world's thirteenth largest economy
- World's fifth-highest per capita income
- It is probable that standards of living would rise, through increased production and exploitation of resources, if population increased

NOTES

INTERNATIONAL MIGRATIONS: MEXICANS INTO THE USA

Push Factors

- 1800 per doctor
- GDP per capita $14,406
- Adult literacy rates only 55%
- Life expectancy 72 years
- 40% Unemployed
- Poor standard of living
- Shortage of food

Pull Factors

- 400 per doctor
- GDP per capita $46,860
- Adult literacy rates 99%
- Life expectancy 76 years
- Many jobs available
- Better housing
- Family links

NOTES

INTERNATIONAL MIGRATIONS: MEXICANS INTO THE USA

Effect on USA

- Millions of $ on border patrol
- Drain on US economy
- Migrants keep wages low; Good for US economy, bad for US workers
- Cultural and racial issues
- Increased incidents of TB
- Culture enriched

Effect on Mexico

- Shortage of economically active
- Men emigrate leaving women
- Trouble find marriage partner
- Immigrants send $6 billion a year back to Mexico

NOTES

AGEING POPULATION: JAPAN

- An ageing population - birth rates have fallen and one of the world's highest life expectancy's.
- Highest proportion of old dependents - about 23%
- Lowest proportion of young dependents about 13%
- Has a total fertility rate of only 1.25
- Have to look outside its borders to prevent future population decline and economic decline

NOTES

PROBLEMS WITH URBANIZATION: SAO PAULO

- Rapid urban growth due to immigration and high birth rate
- Poor people live in shanty settlements (favelas) and slums built along main roads leading to the city or vacant space next to factories on the outskirts of the city
  - Land with little economic value
  - Steep hillsides or unhealthy valley floors
- Shacks made from wood, corrugated iron, cardboard or sacking
- Overcrowded, high population density
- **Problems:** pollution, eyesore
- **Threat:** flooding, landslips or industrial pollution

NOTES

PROBLEMS WITH URBANIZATION: SAO PAULO

Type 1: Low-cost improvements

- Houses rebuilt with cheap and easy-to-use breeze blocks
- Water tank on roof collects rainwater for toilet & sink
- Electricity and mains sewerage are added
- Pay a low rent

Type 2: Self-help schemes

- Groups of people encouraged to build their own homes
- Local authority provides breeze-blocks and roofing tiles
- Electricity and water supply added
- **Advantages:**
  - Creates community spirit
  - Cheap; more houses built

NOTES

OUT-OF-TOWN-SHOPPING-CENTERS: BLUEWATER

- Opened in 1999 and located near Dartford, Kent
- Built on a Brownfield site in a dis-used chalk quarry and is just outside the M25
- 14 hectares of retail space and almost 1.5 hectares for indoor leisure use.
- **What's there?**
  - 320 shops
  - Parking for 13,000 cars
  - Cafes and restaurants
  - 50 acres of lakes and parkland, playgrounds and cycle ways
  - 12 screen cinema

NOTES

URBAN REGENERATION: LONDON DOCKLANDS

- The Docklands suffered a spiral of decline and became very deprived due to containerization and deindustrialization
- During the 1980's, British government launched Urban Development Corporations (UDCs) to regenerate poor and deprived areas
- **Physical Regeneration:** 200,000 trees planted and 17 conservation areas made
- **Social Regeneration:** 2,000 new homes built, shopping centers, sports centers and colleges built and $160 million spent on education and healthcare
- **Economic Regeneration:** businesses doubled, jobs tripled, railways built, city airport opened

NOTES

CONGESTION: LONDON

Social Problems

- Increased congestion so increased pollution – health problems
- Increased travel time
- More cars - increases frequency of accidents
- More traffic jams increase frequency of road rage.

Environmental Problems

- Increased amount of air and noise pollution
- Increased road building - destruction of greenfield sites.
- Air pollution can - acid rain and greenhouse effect

Economic Problems

- Increased government expenditure – building more roads
- Workers arrive late to work
- Reliance on oil

NOTES

CONGESTION: LONDON

Solutions

- Congestion charge: Drivers are now charged to drive into the center of London.
- Bike hire scheme: Borrow bikes for a short period at minimal cost &bike lanes created
- Trams (like buses that run on train tracks) reintroduced
- Pedestrianisation: removing cars from the roads and making them walking only areas.
- Improved rail links which decreases travel times
- The amount of buses have been increased and old ones renewed.
- Encouraging carpooling and building dedicated lanes
- Increased car tax and petrol duty

NOTES

EARTHQUAKE IN MEDC: KOBE, JAPAN

- 7.2 Richter on 17 January 1995, 5.46am
- **Cause:** Destructive plate margin; Philippines Plate forced under Eurasian plate
- **Effects:**
  - 5500 dead
  - 40 000 injured
  - 230 000 homeless
  - 1km of railway collapsed
  - 180 000 houses destroyed

NOTES

EARTHQUAKE IN LEDC: TAKHAR, AFGHANISTAN

- 6.1 Richter on 4th February 1998, Winter
- **Cause:** Collision plate boundary; Indian and Iranian plate collided with Eurasian plate.
- **Effects:**
  - 4000 died
  - 10 000 injured
  - 15 000 homeless
  - 27 villages largely destroyed

NOTES

VOLCANO IN MEDC: MT. ST. HELENS, USA

- Erupted on 18th May 1980, 8:32am
- **Cause:** Destructive margin; Juan de Fuca plate forced under North American plate
- **Effects:**
  - 63 people killed
  - Hot ash and gas destroyed forests and logging camps.
  - Mudflows of ash and water
  - Ash blocked rivers
  - Flooding destroyed communications

NOTES

VOLCANO IN LEDC: MT. PINATUBO, PHILLIPINES

- Erupted in June 1991
- **Cause:** Destructive margin; Philippines plate subducted by Eurasian plate
- **Effects:**
  - 847 people killed
  - 1.2 million lost homes
  - 1 million farm animals died
  - 80,000 ha of cropland destroyed
  - $700 million loss of roads, water and telecommunications

NOTES

LIVING NEAR VOLCANOES

Mt. Arenal, Costa Rica (Tourism)

- Hundreds of jobs created
- 100 hotels
- Most active volcano

Iceland (Geothermal Power)

- 5 GT power stations; 24% energy needs
- Heats 87% buildings and its water supply
- Large tourism industry
- Hot springs; world famous, Blue Lagoon

Mt. St. Helens (Natural Beauty)

- Beautiful area, mountains & Spirit Lake
- Home to people who like outdoor/nature
- Tourist destination
- Volcano monitored - safety

El Boqueron, San Salvador (Space)

- Fertile slopes, coffee farming
- Shortage of space downtown
- Cooler, safer & less congested

NOTES

FLOODING IN MEDC: MISSISSIPPI RIVER, USA

- **Cause:**
  - Heavy rain in April 1993 saturated the upper Mississippi basin
  - Thunderstorms in June caused flashfloods
  - Mid July 180mm of rain in one day
- **Effects:**
  - 43 deaths
  - 50,000 people evacuated
  - 26,000km of land flooded
  - $12 billion in damages

NOTES

FLOODING IN MEDC: MISSISSIPPI RIVER, USA (1993)

- **Responses:**
  - 6 huge dams and 105 reservoirs
  - Afforestation to delay runoff
  - Strengthening levees with concrete mattresses
  - Making course shorter and straighter - from 530km to 300km
  - Less construction on floodplain

NOTES

FLOODING IN LEDC: BANGLADESH (1998)

- **Cause:**
  - Monsoon season- 80% of rain falls June to September
  - Himalayas: deforestation and global warming increases runoff below
  - Ganges, Brahmaputra and Meghan peak at the same time
  - Urbanization
- **Effects:**
  - 1300 deaths
  - 25 million homeless
  - $1.5 billion damages
  - 70% of country's land affected
  - 2 million tonnes rice destroyed

NOTES

FLOODING IN LEDC: BANGLADESH (1998)

- **Responses:**
  - Building of seven large dams
  - Building of 5000 flood shelters
  - Building of 350km of levees
  - Developing flood warning system
  - Reduce rates of deforestation

NOTES

FLOOD DEFENSE: THREE GORGES DAM, CHINA

Advantages

- 100 million people protected
- Provide 2% of China's energy needs
- Tourism increased on lake
- Improved shipping
- New settlements have better services

Disadvantages

- 3 million people relocated
- Factories submerged releasing toxic waste into water
- Silt doesn’t fertilize fields downstream
- Risk of earthquake cracking dam
- Loss of species, Yangtze dolphin

NOTES

COASTAL PROTECTION: NEW FOREST COASTLINE, UK

- New Forest coastline in Hampshire has clay and sand cliffs of
- Retreated 60m since 1971
- Now protected by concrete sea wall and groynes
- Constructing rock revetments and groynes at Barton on Sea
- Marshland with wildlife value from Keyhaven to Lymington – so nature reserve created and New Forest named as National Park

NOTES

SAND DUNES: MORFA HARLECH

- Morfa Harlech is a sandy peninsula immediately north of the town of Harlech in the county of Gwynedd North Wales.
- This large area of sand has formed since the ice age.
- Sand comes from beach and has been moved northward by longshore drift to form a spit across the estuary
- The prevailing south-westerly winds picks it up and molds into sand dunes
- The youngest dunes are found closest to the sea.

NOTES

COMMERCIAL FARMING: EAST ANGLIA

- Large farm, 570 hectares in area
- High output per hectare and highly mechanized
- Uses good quality, hybrid seeds which maximize yields
- Heavy use of fertilizers and pesticides
- Output is cash crops which are produced and sold for profit
- Profits are invested back into the farm
- Farm is run by the family partnership, Sears Bros Ltd.

NOTES

SUBSISTENCE FARMING: LOWER RIVER GANGES

- River Ganges flows southeastwards from Himalayas
- Alluvium deposited east of New Delhi and Bay of Bengal to form a flat plain and large delta – farming occurs here
- Farmers produce just enough for family
- Continuous growing seasons: rice in monsoon season & vegetable/cereal in dry season
- Labour intensive
- Recent changes include application of modern farming techniques, usage of HYV cereals, improvement in irrigation via technology and increased farm size.

NOTES

CASH CROP: VIETNAM

- Over 500,000 hectares dedicated to coffee plantations
- Coffee farmers in Vietnam, the biggest producer of Robusta beans
- Farmers grow/rear necessities (subsistence) and sell cash crop, coffee (commercial)
- **Advantages:**
  - 500,000 jobs
  - Income (over $2 billion in 2008)
- **Disadvantages:**
  - Deforestation
  - Rural areas overcrowded
  - Water shortage
  - Erosion of topsoil
  - Loss & endangering wildlife

NOTES

DESERTIFICATION: SAHEL

- Narrow belt of semi-arid land South of the Sahara in Africa
- Rainfall is only in 1 or 2 months of the year
- Rainfall is irregular with no rain in some years
- **Physical Causes:**
  - Low amount of water supply
  - Global warming; less rain per year
  - Water holes dry up
  - Non drought resistant grasses die

All these increase the size of the desert, increase soil erosion and cause famines for people

- **Human Causes:**
  - Population growth; 4% each yr
  - Overgrazing; increased 40%
  - Overcultivation; same crops grown and no fallow land left
  - Taking local trees for firewood

NOTES

TOURISM IN AN MEDC: LAKE DISTRICT

Attractions

- Mixture of natural and farmed landscapes
- Diversity of landscapes (lakes, woodland, moorland)
- Wide range of ecosystems
- 101 SSSIs (sites of special scientific interest), nature reserves and protected limestone pavement
- 3200km of footpath, bridleways and green lanes
- Local settlements with human history
- Culture, dialect, sports, literature movements

NOTES

TOURISM IN AN MEDC: LAKE DISTRICT

- **Advantages:**
  - Wealth to locals
  - Employment for locals
  - New amenities used by locals too
- **Disadvantages:**
  - Traffic: too many cars
  - Footpath erosion:
  - Places become overcrowded
  - Conflicts; locals and tourists
  - Ruining scenery; cars and litter
- **Solutions:**
  - Landscaping: repairing eroded foot paths & planting trees
  - Integration of rail, bus and lake steamer transport
  - Road hierarchy, decreasing congestion

NOTES

TOURISM IN AN LEDC: ZANZIBAR

Attractions

- Climate – temperature always 28-38 degrees
- Island surrounded by coral reefs
- Un spoilt white sand beaches
- Swimming with dolphins
- Jozani forest reserve with walks and guides
- Red Columbus monkey can be seen

NOTES

TOURISM IN AN LEDC: ZANZIBAR

- **Advantages:**
  - Hotels at Nungwi built to fit in with the environment
  - Job opportunities
  - More diverse economy - no longer just relying on primary industry
  - Improved roads to use

- **Disadvantages:**
  - Raw sewage into Indian ocean
  - Waste left around island
  - Lack of drinking water
  - Loss of fishing stocks
  - Loss of access to beach
  - Many jobs menial and low paid
  - Cost of food has risen locally
  - Economy dependent on tourism

NOTES

ECOTOURISM: BELIZE

Attractions

- A coral reef with abundant life
- Over 450 cayes (low-lying islands); favored by scuba divers
- Relics from the Mayan civilization
- A sub-tropical climate & abundant wildlife.
- Political stability and close to the USA

NOTES

ECOTOURISM: BELIZE

- **Successes:**
  - Tourism is Belize's second most important earner of foreign exchange.
  - Has attracted the elite market
  - ¼ of country designated as nature reserve, preserving wildlife
- **Problems:**
  - 90% of recent developments are foreign owned
  - Coral at the Hol Chan Marine Reserves has been damaged.
  - Mangrove swamps are being drained
  - Some tourists are failing to take care in nature reserves.
  - Deforestation by refugees

NOTES

TROPICAL STORMS IN MEDC: HURRICAN FLOYD (1999)

- **Cause:**
  - Formed in Atlantic Ocean off coast of Africa
  - Began 2 September 1999
  - Cat 4 hurricane in Bahamas by 13 and 14 September
- **Effects:**
  - 79 deaths
  - 4 million evacuated
  - Insurance = $460 million
  - $1 billion agricultural losses
  - Beaches in Bahamas destroyed
  - 1 million had no electricity or water
  - 14 states affected – N Carolina worst hit

NOTES

TROPICAL STORMS IN MEDC: HURRICAN FLOYD (1999)

Solutions and Management

- **Prediction:** National Hurricane Centre tracked storm using satellites, allowed 4 million people to be evacuated.
- **Preparation:** evacuation was well planned, supported by army and many hundreds of hurricane shelters
- **Prevention:** US citizens educated on how to survive a hurricane by government
- Buildings are well constructed to withstand high winds, floods and storm surges.
- **Aid:** USA relies on internal aid for it's own government, the US government gave £1.5 billion and whilst FEMA gave £0.8Billion

NOTES

TROPICAL STORMS IN LEDC: BANGLADESH (1997)

- **Cause:**
  - Cyclone One Bravo formed in the Bay of Bengal
  - Struck SE coast of Bangladesh on Monday 19 May 1997
  - 250kph winds struck Cox's Bazaar and Chittagong
- **Effects:**
  - 111 died
  - 7000 injured
  - 500,000 homeless
  - 300,000 ha crops destroyed
  - 2m high tidal surges
  - Saltwater contamination of freshwater wells – 1 million people with no clean water

NOTES

TROPICAL STORMS IN LEDC: BANGLADESH (1997)

Short-term Response:

- Donations:
  - USA: $640,000
  - Sweden: $240,000
  - UK: $160,000
- Government established ‘Relief fund’
- International donors:
  - CARE gave food, survival kits
  - UN established new wells

Long-term Response:

- Earth embankments
- Cyclone shelters above sea level
- Education programmes

NOTES

DROUGHT IN MEDC: UK (1995)

- **Cause:** Less than average rain in 1995-1996
- **Effects:**
  - Garden hosepipes banned
  - Water rationing
  - Clay soiled dried, cracked and buildings collapsed
  - Grass stopped growing so cattle did not have enough food
  - Crops died
  - Forest fires as land dry
  - Legislation introduced to reduce home and industrial use of water

NOTES

DROUGHT IN LEDC: ETHITOPIA (1983)

- 1983-84 = worst drought ever + famine (civil war = difficult to transport food)
- **Cause:** Rainfall level was considerably lower than average
- **Effects:**
  - 500,000 people died
  - Farmland dried out
  - Animals died and crops failed causing widespread starvation and illness
  - Millions of people needed food from MEDC charities like Oxfam and Bandaid
  - People migrated to other areas or refugee camps
  - People malnourished

NOTES

CHANGING LOCATION: IRON & STEEL INDUSTRY IN WALES

19th Century in South Wales

- On coalfields; cheaper/easier to locate near input (coal is needed)
- Rivers used for power and effluent
- Exports routes through valleys so easy
- Large numbers of unskilled workers close; e.g. from Merthyr Tydfil
- Local markets e.g. Cardiff and Newport
- Small scale and manual technology only

20th Century at Port Talbot

- Import coal from far; need port
- Iron ore from North Africa & America
- Coastal water used for cooling
- Electricity from National Grid
- Large area of cheap flat land
- Government & EU incentives for location
- M4 links Wales to London for outputs
- Modern technology now used

NOTES

HI-TECH INDUSTRY: M4 CORRIDOR

M4 corridor runs from Wales to London and is home to a lot of high tech firms like microelectronics, Rolls Royce and British Aerospace because it has:

- M4 motorway to allow inputs and outputs to be transported
- Mainline railway Wales to London
- Heathrow airport (and 4 others) for international links
- Large labour force from London and nearby towns (e.g. Reading)
- Nearby firms to exchange ideas
- Near Bristol, Bath, Reading and London Universities for expertise and research
- Attractive environment for workers e.g. National parks like Dartmoor

NOTES

INDUSTRY IN AN NIC: MALAYSIA

- Malaysia first developed heavy industry like steel and ship building
- Now concentrating on high tech industry like microelectronics and biotechnology
- Aims to be an MEDC by 2020
- Many industries not run by government anymore but privatised
- Uses a large workforce so attract workers from Indonesia and Philippines
- Attracting foreign companies too
- Now building a new international airport, new towns, science parks and high tech buildings like Petronas building

NOTES

INFORMAL SECTOR IN LEDCs: RIO, BRAZIL

- Vendors on Copacabana beach sell sunhats, lotions, cold drinks, jewelery and roses

Benefits

- Self employed
- Little capital (money) involved
- Labor intensive
- Use cheap resources
- Employs many people - 15,000
- Gives skills
- Uses local materials

Drawbacks

- Small scale
- No government assistance
- Illegal
- Women and children as workers
- Low standards of goods
- Work irregular wages for uncertain wages
- Not paying taxes

NOTES

HYDRO-ELECTRIC POWER: ITAIPU DAM

- Located along River Paraná: large reliable flow of water
- Hard impermeable rock was ideal for constructing both the dam and reservoir
- However 40,000 people had to be relocated because of construction
- Before construction, already reasonable amount of infrastructure due to nearby towns
- Depth of valley and the relief of wider area flooded for reservoir means Itaipu has lowest flooded area per unit of power production of all HEP schemes in Brazil

NOTES

NUCLEAR POWER: DAYA BAY, CHINA

- Located at Daya Bay in Guangdong, south-east China
- Coastal location: seawater to used in the cooling process
- Hard rock in area: solid foundation for large and heavy installations
- Not on plate fault: no major threat from earthquakes or faulting in area
- Major cities not too far (Hong Kong 50km) so little energy is lost in transmission, but reasonable distance away in case of a nuclear accident
- Nearby supply of labour
- General infrastructure is very good

NOTES

THERMAL POWER: KINGSNORTH, UK

- Major 2000MW thermal power station in south-east England
- Located on the banks of the Medway estuary: lots of water for cooling
- Port facility: allows importation of coal and oil
- Adjacent to farmland and no significant residential areas nearby: lots of space
- Not too far away from house: not much energy is lost in transmission

NOTES

CHANGING POWER SOURCES: THE UK

- UK government wants to reduce CO2 emissions & increase renewable sources.
- By 2020 the UK aims to produce about 15% of its energy from renewables
- 2011, UK had 296 wind farms and over 3,400 turbines
- **Renewable power:**
  - **Wind:** source for greatest amount of renewable energy in the UK.
    - 2010, world's largest offshore wind farm opened in Thanet, on Thames estuary
    - Many wind farms have been set up, particularly in Scotland and Wales.
  - **Biomass:** Production of energy from biomass is expanding.
    - 2011, new biomass energy centre was opened in Chilton, Durham.

NOTES

WATER RESOURCES: LESOTHO

- The Lesotho Highlands Water Project is the largest civil engineering project in Africa
- When completed, will divert 40% of Senqu river water through 5 large-scale damns
- After taking the water for its own use, Lesotho will sell it to South Africa where the demand is greater than the supply
- The income can be used to develop its infrastructure and economy
- Lots of highlands in Lesotho which receive high rainfall, so valleys are ideal for building dams and reservoirs
- Able to generate HEP from the dam
- Lakes will attract tourism, creating jobs and benefitting the economy

NOTES

POLLUTION: ALBANIA

- Capital, Tirana, is one of the most polluted cities in the world
- Deaths due to illness caused by pollution have increased by 20% in the past 2 years
- This is due to 90% of vehicles being too old
- 70% use diesel and 30% petrol
- Mostly petrol with lead and a huge quantity of sulphur used
- Heavy industry in Elbasan produces pollution 15x above acceptable levels
- Babies are being born with deformities as well as deformed animals
- Soil is so contaminated that some places are banned from planting crops

NOTES

EFFECT OF GLOBAL WARMING: MALDIVES

- 80% of the islands are no more than 1m above sea level
- Rising sea levels put these islands at threat due to global warming
- In Malé, a 3m high wall, which took 14 years to build and cost US$63m, has been constructed in an attempt to protect the capital
- The government has identified 5 ‘safe’ islands, designed to resist the rising sea
- Government has proposed to artificially raise the height of some of the islands
- Near Male, a land reclamation project is taking place to create a new island which could potentially house 50,000 people, most of the nations population

NOTES

SOIL EROSION: NEPAL

- Deforestation occurring for the growing need for fuelwood
- 25% of the forest was removed between 1990 and 2005
- Removing trees on steep slopes leads to soil erosion
- Monsoon rains between May and September increase erosion
- Villagers in Tadiya have easy access to the forest to collect fuel and fodder however they are having to travel further and further
- Women spend 1/3 of their day collecting firewood for fuel
- Using fuelwood for tourists (70,000 per year) has increased deforestation and soil erosion by 10%

NOTES

OIL SPILL: EXXON VALDEZ, ALASKA (1989)

- Occurred on 24 March 1989, after midnight supertanker Exxon Valdez ran aground
- 50 million tonnes of crude oil was being carried
- **Effects:**
  - Oil extended 1700km from the boat
  - 35000 sea birds died
  - 3000 sea otters killed
  - Local economy badly affected as depended on fishing industry
  - Oil on beaches
  - Seals, shrimps and shellfish suffocated

NOTES

RAINFOREST CLEARANCE: AMAZON

1/3 of the world's trees in Amazon
Estimates that 15-40% has been cleared

Causes

- Slash and burn farming by Amerindian tribes like the Yanomami
- Subsistence farming by 25 million landless peasants
- Commercial cattle ranching
- Highway and railway
- Timber/ logging companies
- Mineral mining eg diamonds, gold

Effects

- 30000 known species could be threatened
- Could lose the cure for diseases
- Loss of Amerindians + tradition due to European diseases
- Soil erosion and ∴ loss of nutrients in soil
- Climate change and global warming
- Affects global carbon/oxygen levels

NOTES

RAINFOREST CLEARANCE: AMAZON

Ways to protect Amazonia:

- Zones for different activities
- Loggers use selective logging practices
- Laws + fines and prosecution for law-breaking
- Limit licenses to be given out
- Restricting use of heavy destructive machinery
- Avoid construction where local tribes exist
- Community forestry development scheme to educate local people
- Increased patrols

NOTES