



### DEFORESTATION OF TROPICAL RAINFORESTS

#### • Reasons for deforestation:

- Farming: demand for food increases with population - need to clear more usable ground
- Hydro-Electric Power: land may need to be removed to build dam or floodable area
- Mining: demand for resources increase – rainforests hold plenty
- Road building: increased congestion requires new roads – rainforest in the way
- Settlements: population increase causes cities to become bigger requiring more land
- Timber: self-explanatory

#### • Problems due to deforestation:

- Flooding: less interception by vegetation thus more flash floods
- Landslides: removal of vegetation causes soil to become unstable
- Biodiversity Loss: deforestation kills off unknown species, since they will have no home
- Less Photosynthesis: causes imbalance of oxygen and carbon dioxide in atmosphere
- Silting: rivers, seas and oceans become more difficult to navigate due to reduced depth
- Desertification: soil loses components vital to survival of plants – become hard
- Indigenous: these people lose their homes, more importantly impact their society
- Less Rainfall: Less interception = less transpiration = fewer clouds = less rainfall

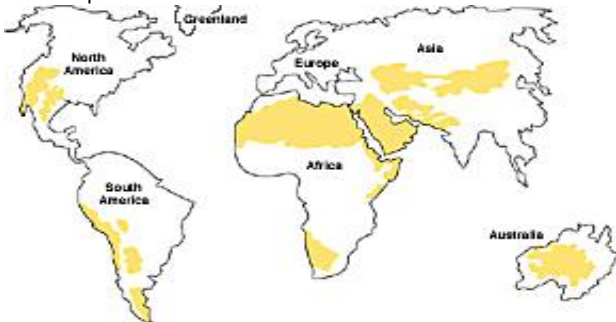
### ECOSYSTEM: TROPICAL DESERT

#### Plants such as cacti:

- Have thick, waxy cuticles to reduce transpiration;
- Fleshy stems to store water;
- Leaves reduced to spines to reduce surface area for transpiration & prevent animals eating them & sunken stomata.

#### Shrubs have:

- Small, waxy leaves & long tap roots to reach down to water table and/or shallow roots to collect any moisture before it evaporates.
- Seeds can lie dormant for years. After rain they germinate quickly, flower & produce seeds within 2-3 weeks.



## INTER-RELATIONSHIPS BETWEEN THE NATURAL ENVIRONMENT AND HUMAN ACTIVITIES

### HAZARDS & OPPURTUNITIES

#### Environmental Hazards

- Volcanic eruptions
- Earthquakes
- Tropical storms
- Flooding
- Drought

#### Environmental Opportunities

- Renewable energy sources:
  - Droughts = solar power
  - Volcanic land = geothermal
- Medical research and genetic engineering of crops
- Flooding = alluvium = fertile
- Tourism = source of wealth
- Tropical rainforests = wood

### DEVELOPMENT

- Affluence: general level of prosperity enjoyed by population
- Appropriate Aid: resources suited to basic conditions prevailing in receiving country
- Development: progress in terms of economic growth, use of technology and human welfare
- Development Gap: difference in standards of living between richest and poorest countries
- Free Trade: trade between countries is not restricted by laws and formalities
- Quality of Life: often used as an umbrella term taking into account GDP and human welfare

### MAIN INDICATORS

- Birth Rate: number of births in a year per 1000 of total population
- Death Rate: number of deaths in a year per 1000 of total population
- Gross Domestic Product (GDP): total value of goods and services produced annually
- GDP per Capita: GDP per head of population
- Human Welfare: condition of population i.e. diet, housing, healthcare, education, etc.
- Infant Mortality: avg. number of deaths of infants under 1, per 1000 live births, per year
- Life expectancy: average number of years a person might be expected to live
- Intermediate Technology: simple, easily learned technology used in economic activities
- Human Development Index (HDI): measures and compares international development

### GLOBALIZATION

- Process in which the world is becoming increasingly interconnected
- Causes of globalization:
  - Improvements in transportation
  - Freedom of trade
  - Improvements of communications
  - Labour availability and skills

IMPACTS OF GLOBALIZATION

- **Positive impacts of globalization:**
  - Economies of scale, cost per item reduced when operating on a larger scale
  - TNCs helps countries; provide new jobs & skills for local people
  - TNCs bring money and foreign currency to local economies
  - Allows for sharing of ideas, experiences and lifestyles of people and cultures
  - Increases awareness of events in far-away parts of the world
- **Negative impacts of globalization:**
  - Globalisation operates mostly in interests of richest countries
  - No guarantees that wealth from inward investment will benefit local community
  - Profits are sent back to the MEDC where the TNC is based
  - TNCs, with massive economies of scale, may drive local companies out of business
  - If cheaper in another country, TNC might close down factory making locals redundant
  - Absence of laws may allow TNCs to operate in LEDCs in ways not allowed in MEDCs
  - Threat to the world's cultural diversity, such as the traditions and languages
  - Industry may begin to thrive in LEDCs at expense of jobs in MEDCs

AGRICULTURAL SYSTEMS

Human Inputs	Physical Inputs	Process	Outputs
<i>Things that are built or made by humans and added on to a farm</i>	<i>Natural things that are found on a farm or added to a farm</i>	<i>The events that take place on a farm to turn inputs into outputs</i>	<i>Things that are produced on a farm that are often sold</i>
<ul style="list-style-type: none"> <li>• Labor/rent</li> <li>• Machinery</li> <li>• Building</li> <li>• Animal feed</li> <li>• Fertilizers</li> <li>• Pesticide</li> <li>• Market demand</li> <li>• Government controls</li> <li>• Seeds</li> </ul>	<ul style="list-style-type: none"> <li>• Soil</li> <li>• Precipitation</li> <li>• Temp.</li> <li>• Length of Season</li> <li>• Alluvium</li> <li>• Floods</li> <li>• Relief</li> <li>• Drainage</li> </ul>	<ul style="list-style-type: none"> <li>• Rearing</li> <li>• Shearing</li> <li>• Ploughing</li> <li>• Fertilizing</li> <li>• Weeding</li> <li>• Irrigating</li> <li>• Cultivating</li> <li>• Harvesting</li> <li>• Slaughtering</li> <li>• Planting</li> </ul>	<ul style="list-style-type: none"> <li>• Profits</li> <li>• Meat products</li> <li>• Wool</li> <li>• Milk</li> <li>• Waste</li> <li>• Crops</li> <li>• Pollution</li> <li>• Erosion</li> </ul>

CLASSIFICATION OF FARMING TYPES1. Specialisation

Arable (crops)	Pastoral (animals)	Mixed (both)
----------------	--------------------	--------------

2. Economic Status

Commercial (for profit)	Subsistence (to survive)
-------------------------	--------------------------

3. Intensity of Land Use

Extensive	Intensive
<ul style="list-style-type: none"> <li>• Normally a larger farm</li> <li>• Few inputs per hectare</li> <li>• Few workers per hectare</li> <li>• Low yields per hectare</li> </ul>	<ul style="list-style-type: none"> <li>• Normally a smaller farm</li> <li>• High inputs per hectare</li> <li>• Lots of workers per hectare</li> <li>• High yields per hectare</li> </ul>

4. Land tenure

Shifting & Nomadic (where farmers move from one area to another)	Sedentary (farm location is permanent)
--	--

FARMER'S DECISION

Successful Year	Bad Year
<ul style="list-style-type: none"> <li>• Buying more land</li> <li>• Buying better and newer equipment e.g. new tractor</li> <li>• Improving drainage/irrigation</li> <li>• Buying new varieties of seed, (GM crops)</li> <li>• New buildings/more farms</li> </ul>	<ul style="list-style-type: none"> <li>• Sell some of your livestock</li> <li>• Sell some of your land</li> <li>• Diversify by opening a shop</li> <li>• Try and farm more intensively by buying more fertilisers and pesticides</li> </ul>

FACTORS AFFECTING FARMING

- Temperature determines crops grown
- Crops grow where there is an adequate growing season
- There must be sufficient rainfall for crops to grow
- Irrigation needed if insufficient rain
- Cereal crops/vines need sunshine to ripen
- Too much rainfall may flood crops/require drainage system
- In areas with frost/long winter hardy animals may be kept
- If it is windy wind breaks are needed etc.
- Better/alluvial soil means arable farming otherwise pastoral
- Flat relief means arable and hilly relief means pastoral

GREEN REVOLUTION

- The introduction of modern western style farming techniques in LEDCs during the late 1960's and 1970's.
- **High Yield Varieties:**
  - Developed to try and end food shortages by increasing yields.
  - Were first developed by cross pollinating different varieties
  - This is now being done through genetic modification.

Successes	Failures
<ul style="list-style-type: none"> <li>• HYV did increase food production and made countries more self-sufficient</li> <li>• Food prices began to fall making; affordable for poor</li> <li>• Shorter growing season, more crops could be grown</li> <li>• The yields were more reliable</li> <li>• Different crops were grown adding variety to local diet</li> <li>• There were surpluses so crops could be traded commercially</li> <li>• Farmers became wealthier</li> </ul>	<ul style="list-style-type: none"> <li>• Required fertilisers &amp; pesticides polluted water</li> <li>• The HYV were more prone to disease and drought</li> <li>• More water had to be diverted to growing crops</li> <li>• Many poorer farmers couldn't afford to buy expensive HYV</li> <li>• Mechanisation led to unemployment</li> <li>• Many natural varieties lost</li> <li>• Countries &amp; farmers became dependent on foreigners</li> </ul>

MONOCULTURE

- Growing of only one type of crop
- **Cash crops:** crops that are normally grown in large plantations for the purpose of selling and making a profit

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Become more efficient</li> <li>• Profitable</li> <li>• Can have high yields</li> <li>• Easily controllable</li> <li>• Low training required</li> </ul>	<ul style="list-style-type: none"> <li>• If demand falls, no profit</li> <li>• Less variety</li> <li>• Bad season, no profit</li> <li>• Labor becomes deskilled</li> <li>• Only source of income</li> </ul>

ORGANIC CROPS AND FARMING

- Farming that uses natural varieties and natural farming techniques. There is only very limited use of fertilisers.

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>• Longer to ripen; better flavour</li> <li>• Low fertilizer use; less run-off</li> <li>• Less chemicals to consumers</li> <li>• Higher prices when sold</li> </ul>	<ul style="list-style-type: none"> <li>• Crops are not uniform</li> <li>• May be susceptible to disease</li> <li>• Take longer to grow</li> <li>• May need more water</li> </ul>