ECOSYSTEMS

→ ECOSYSTEM is an biological enviroment consisting of all the living organisms within a particular area & the non living that interact with the organisms.

→ FOOD CHAINS / WEBS:

- A food chain or web shows the feeding connections within an ecosystem.
- Energy moves up the food chain or web.
- They are very delicate & can be disturbed if any of the pieces is removed/harmed

- TROPHIC LEVEL – The position that an organism has in a food chain/web.
- Producers – at lowest trophic level
  Alpha Predators – at highest trophic level
- AUTOTROPH / PRODUCER – An organism that that produces complex organic compounds from simple inorganic molecules using energy. Autotrophs are vegetation
- HETEROTROPH / CONSUMER – Organism that requires organic compounds for growth & other purposes (Herbivores)
- ALPHA / APEX PREDATOR – The top most predator in the food chain.

- Human activities that can disturb the food chains / webs:

- Hunting of a specific species.
- Deforestation → loss of habitat
  → changes in water cycle
  → removal of organic matter
  → increased water erosions.
- Mining → water pollution
  → damage to fish life
  → loss of habitat of burrowing animals
- Urbanisation → increased pollution
  → increased noise
- Dams / Canals → changing water courses.

→ TROPICAL RAINFORESTS:
→ 5°N to 5°S
→ Main Concentrations:
- Amazon Basin
- Congo Basin
- Madagascar
- Parts of Indonesia
- Southern India.

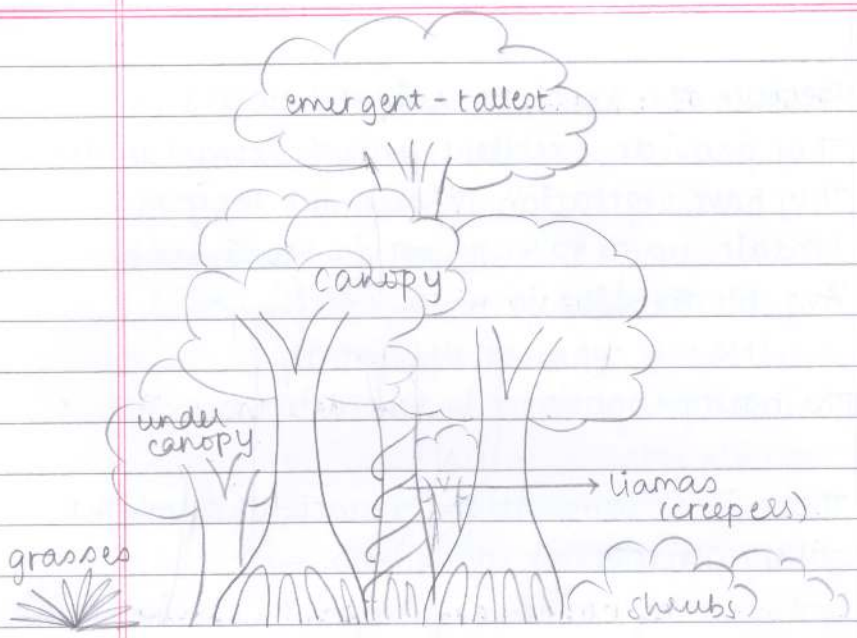
→ Range of Temp is less
→ No difference between summers & winters
→ Days & nights of same length
→ Recieve direct rays of the sun.

→ Recieve the 40' clock rain (showers)
→ They provide excellent growth opportunities.
→ They have vegetation throughout the year.
→ Contain up to 50% of world's biodiversity.
→ Avg biodiversity is — 50 species / m^2
(No of types of life forms)
→ The most pronounced is vegetation

→ There is a competition to reach the sunlight, soil & nutrients.

→ Leached soil / Latsoils / Lateriates (soil type found heart)
The nutrients (obtained from humus) are seeped deep inside.

→ ADAPTATIONS of VEGETATION:
1) Trees are quite tall with high canopies
2) Leaves are broad because of the high amount of water & nutrients available
3) Leaves are pointed to drain water
4) Butress roots above the surface of the ground & support the trunk. They are also deep to reach water & nutrients



Lianas are Epihytes meaning that they take physical support from trees by clinging their roots on them

→ IMPACT OF MAN on Rainforests:

– Deforestation - Causes.

- Logging
- Farming (slash & burn) by nomads.
- For urbanisation
- Mining
- For Plantations (increasing of 1 type of plant will disturb the ecosystem).
- For building dams.

→ IMPACTS of DEFORESTATION:

— ENVIROMENTAL:

- Soil Erosion
  No roots to hold soil
  The water will directly fall on soil without interuption of trees which will loosen the soil.

- Increase in level of CO_2.
  Will result in more global warming
  (CO_2 is a greenhouse gas & doesn't allow terrestrial radiation to escape).

- Disturbance in Ecosystem:
  Organisms directly dependent on plants would decrease & animals in higher trophic level would increase in number.
  Biodiversity would decrease.

- Transpiration will reduce which would result in fall in local rainfall.

→ SOCIAL IMPACTS:

- People living in forests may need to shift to cities or may end homeless.

- Fights would arise between people who want & don't want deforestation.

→ ECONOMIC EFFECTS:

- Land cleared for farming.
- Urbanisation
- Lumbering for logs
- Rubber & papers can be obtained

→ REDUCING DEFORESTATION

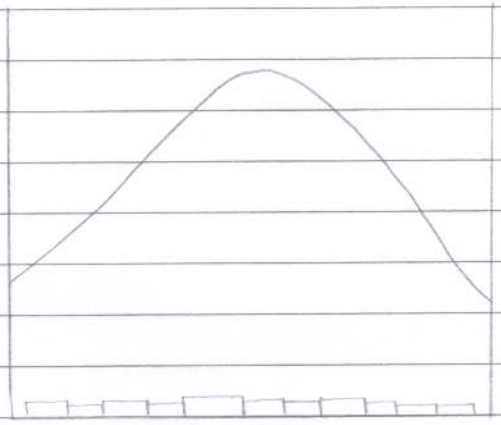
Reforestation.

⇒ TROPICAL DESERTS:

→ Mexican Desert
→ Atacama Desert
→ Sahara Desert
→ Australian Desert
→ Thar Desert

} Are present on the western margins of the continents because of Trade winds

→ Day temp >45°C
Night temp = 0°C because there is
- No moderating influence of sea
→ Precipitation is in the form of dew.



Graph for Tropical Deserts

→ Desertification is degradation of dry land
→ Reasons — Deforestation followed by agriculture
- Use of hyperproductive farming methods which includes use of fertilisers
- Ploughing - to bring nutrients to topsoil
  - this makes the soil loose &
  - dry - this makes it lighter & vulnerable to erosion.
  - moisture is lost from the soil