HUMAN INFLUENCES ON THE ENVIRONMENT

What is deforestation?

Deforestation is the removal of trees and natural vegetation from areas of dense forest or jungle. It is done primarily to obtain space that is essential for agriculture, fuel and building. However, there are many environmental issues that have derived solely from this mass extraction of wood.

Wood has always been a primary forest product for human populations and industrial interests. Since wood is an important structural component of any forest, its removal has immediate implications on forest health. Intensive harvests can lead to severe degradation, even beyond a forests capacity to recover. When the soil has been stripped of its nutrients, farmers move further into the forests in search of new land.

As forests are destroyed in this way, habitiats are removed from the animals living in them, therefore the biodiversity decreases. Forests also hold a big role in the water cycle as they release back the water that falls on them through transpiration. If trees are removed this may reduce the amount of water vapour that returns to the air, and may reduce rainfall either locally or in nearby regions which could inevitibly lead to drought. Trees also intercept the rain , lack of interception means that the water will not be slowed down on its journey to the ground. Therefore soil erosion and flooding can occur from rapid surface run-off as a result of saturated soils.
The most prominent example of deforestation in the world today is displayed by the satelite photographs (1950) of the Amazon rainforest which can be seen below.

What is desertification and how is it caused?

Desertification is the conversion of fertile land into dessert. Occurrence is most likely in an area where rainfall is too low to support very much life or vegetation. There are many causes which lead to desertification, these include:

Overgrazing – this occurs when too many animals are made to graze on land which cannot support their nutritional needs. This means that plants cannot grow as fast as the animals eat them.

Removal of trees and shrubs – People often harvest plant material for fuel or building.

Over cropping – This loosens the soils and increases the risk of wind or water erosion. The necessary irrigation means that there may be a liklihood of

drought due to the inevitable lowering of water from the water table under the soil. Irrigated water often contains significant amounts of dissolved salts. These are left in the soil as water evaporates and can eventually become so concentrated that plants no longer grow.

The factors above destroy the vegetation and cause extensive damage to soil structure and fertility. Therefore crops fail and there is no land for animals to graze on. This means that the soil is loosened due to the roots dying, which can no longer do their job of holding the soil together. This makes the soil susceptible to both wind and rain erosion. Which ultimately leads to desertification.

As land is lost to the desert there is more competition for space and wood and thus the cycle continues with a new area of land.

How can these problems be solved?

Of the areas in the world where deforestation and desertification has already occurred on a large scale, there is little chance of replenishment as the soil has lost any nutrition or structure it may have once had. However in places in which signs of these environmental problems are beginning to show, an attempt can be made to try and prevent matters getting out of hand, for example:

- Increase supplies of water e.g. reservoir or dam scheme. This will maintain and support life on the soil.
- Reduce the demand for wood by using other sustainable methods. E.g. oil burning stoves, bio-gas, solar cookers.
- Sustainable development – Replanting trees, Selective logging (so that in any one area only a few trees are removed), deciduous trees can be coppiced.