

## Human Activity and the Environment.

The population of the world is **increasing rapidly** and this is due to **modern medicines** which have stopped widespread death from **disease**.

It's also due to modern farming methods which can provide more food, needed for so many more hungry mouths.

However, the world's rising human population is causing a greater **impact** on the **environment**.

As the human population increases:

- **Raw materials**, including **non-renewable** energy resources, are rapidly being used up,
- More and more **waste** and **rubbish** are being **produced**,
- More **pollutants** are being **produced** like **phosphates** from detergents, **nitrates** from fertilisers and **sulphur dioxide** from coal burning power stations.

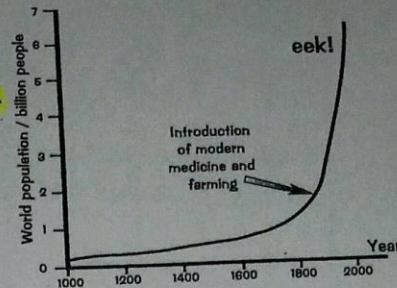
### Use of Fertilisers.

**Fertilisers** are chemicals containing **nitrates** and **phosphates**, which are necessary for **modern farming**. Without fertilisers crops wouldn't grow as well, and this would **reduce food yields**. This is because the crops take **nitrates out of the soil** and these nitrates must be replaced. Remember nitrates are essential for plant growth.

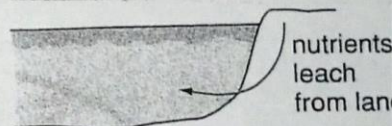
### Problems with Fertilisers.

If **too much** fertiliser is used, it can be **washed** out of the soil by **rain** and find its way into **lakes, streams** and **rivers**. This causes the natural concentration of nitrates and phosphates to **increase**. This is called **eutrophication**.

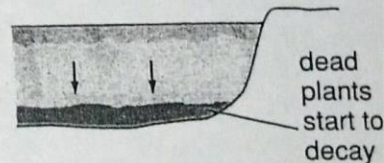
1. The high concentration of nitrates and phosphates causes the rapid growth of surface plants and algae.
2. The algae form a **thick layer** on the surface of the water. Some plants below the algae layer and algae in the bottom parts of the layer start **dying**, due to **competition for light**, and **stop** producing oxygen through photosynthesis.
3. Oxygen levels in the water **decrease**.
4. **Microbes** that feed on the dead remains of the plants and rapidly **increase in numbers** and use up **more oxygen** from the water in their **respiration**.
5. Oxygen concentrations in the water **decrease further**, so fish and aquatic animals **suffocate**, due to lack of oxygen, and **die**.



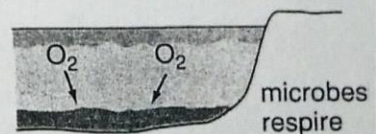
lots of nutrients make water plants grow quickly



some plants don't get enough light and start to die



lots of microbes feed on the dead plants



microbes multiply and use up oxygen in respiration

shortage of oxygen kills fish and other animals

