

## B16 Human Influences on ecosystems

### B16.1 Habitat destruction

An **ecosystem** is a unit made up of a community of organisms (plants, animals, microorganisms) and their physical environment (air, soil, water, light). They interact through feeding, competition, and energy flow.

**Biodiversity** means the variety and number of different species living in an area.

- High biodiversity = stable and balanced ecosystems.

#### *Causes of Habitat Destruction*

- Land use: clearing habitats for housing, crop farming, and livestock grazing.
- Resource extraction: mining, logging, and quarrying remove habitats.
- Pollution: waste and chemicals entering rivers and seas destroy aquatic habitats.



#### *Explanation of Effects*

- Reduced biodiversity & extinction: cutting down forests destroys habitats and food sources, so species populations collapse.
- Extinction – species die out if they cannot adapt or move.
- Loss of soil: tree roots no longer hold soil, leading to erosion - rain washes away exposed topsoil → poorer land for future crops.
- Flooding: without trees, less water absorbed by trees → more surface runoff → rainwater runs off quickly into rivers.
- Increase in CO<sub>2</sub>: fewer trees to absorb CO<sub>2</sub> (deforestation reduces photosynthesis), and burning forests releases more (adds CO<sub>2</sub> from decay/burning) → enhances greenhouse effect → global warming / climate change

#### *Summary*

Habitat destruction - especially deforestation - reduces biodiversity, causes soil erosion and flooding, and increases atmospheric CO<sub>2</sub>, leading to climate and ecosystem imbalance.