

Solutions

2.1 The variety of all the different species of organisms on Earth, or within an ecosystem.

2.2 Reduces the dependence of one species on another for food/shelter; many species maintain the physical environment, so loss of one does not collapse the system.

2.3 Any two: breeding programmes for endangered species; protection/regeneration of rare habitats; field margins and hedgerows; reduced deforestation and CO₂ emissions; recycling.

3.1 Population growth raises demand for resources and living standards raise consumption further; more waste is produced – sewage, landfill, industrial waste; unless properly handled it causes pollution in water – sewage/fertiliser/toxic chemicals; in air – smoke and acidic gases; on land – landfill and toxic chemicals; pollution kills plants and animals, reducing biodiversity.

3.2 Land is cleared to provide grazing for cattle and rice fields, and to grow crops for biofuels. Consequences: habitat destroyed so species are lost, reducing biodiversity; fewer trees photosynthesise, so less CO₂ is removed; burning/clearing releases CO₂, adding to global warming; soil erosion and loss of mineral cycling as roots and decomposer systems go.

3.3 Hedgerows provide habitats, food and shelter for a wider variety of plants and animals than a single crop; they create corridors linking populations, allowing migration and genetic mixing; they support predators of crop pests, improving natural pest control; so the farmland's biodiversity rises while crops continue.