



Core units: Exemplar – Year 10

Illustration 2: Environmental change

Causes of environmental change

Human actions that produce environmental change

A variety of human land uses and activities lead to environmental change. Examples include agriculture, forestry, fishing, mining, urbanisation, industry, tourism and recreation. All of these activities involve specific actions which cause changes to occur to the source, sink, service and spiritual functions of the earth's environment. Some of these specific actions include:

- vegetation clearance
- channelling of streams
- draining of wetlands
- irrigation
- application of fertilisers and pesticides
- ploughing
- covering land with hard surfaces
- building on sand dunes
- extraction of ground water
- planting of exotic forests
- use of off-road vehicles.

Biophysical processes involved in environmental change

Biophysical processes are interconnected sequences of cause and effect relationships. As a result of the specific human actions described above, the environment responds accordingly. For example, as a result of vegetation clearance, rising water tables can produce salinity, and because of the application of fertilisers, run-off into water bodies can cause eutrophication (algal blooms).

Other biophysical processes include:

- acidification of soils
- accelerated soil erosion
- beach erosion
- weed invasion
- enhanced greenhouse effect
- heat island effect
- climate change
- decline in biodiversity.

Activities

1. In your own words, distinguish between the human actions that cause environmental change, and the biophysical processes involved in environmental change.
2. Investigate the cause and effect relationships involved in the biophysical processes listed above.