

PROBLEMS : SHORT TERM / LONG TERM

- Noise, dust, rats, litter, traffic when filling
- Negative impacts on local habitats, ecosystems, flora and fauna
- Pollution of groundwater
- Pollution of drinking water supplies
- Soil contamination (Lead, Zinc, Cyanides)
- Toxic leaching (leachate)
- Methane gas (possible explosions)
- Subsidence when completely filled

LANDFILL SITES MUST BE :-

- Aseismic, tectonically inactive areas
- Flat, horizontal rock strata
- Homogeneous rock (one rock type only)
- Impermeable rock
- OR rock with low hydraulic conductivity
- Fine grained clay that limits percolation of leachates
- Best in an existing hole, eg disused quarry
- Above the level of groundwater circulation

LANDFILL (FACTORS AFFECTING)

SOLUTIONS :-

- Lining of landfill site, may be impermeable clay or a plastic membrane
- Monitoring of possible leaks, leak detectors
- Grouting of jointed rock to increase impermeability
- Drainage with pipes to leachate treatment plants, or leachate collection basins
- Venting or burning of methane gas to prevent possible explosions
- Capping to provide a barrier between the contaminated waste and the surface

LANDFILL SITES MUST NOT HAVE :-

- Faults, this allows leachate migration and may put different rock types together
- Joints, well jointed rocks allow leaks and rock collapses
- Porous rocks or poorly cemented rocks which allow water to leach
- Tilted or folded rocks, these are routes for leachates, and joints open up on anticlines
- Well weathered rocks where the grain size and sorting allow rapid leaching