

MINERAL RESOURCES

Naturally occurring inorganic crystalline solids with uniform chemical composition are called as minerals.

USES AND EXPLOITATION OF MINERALS

1. Development of industrial plants and machinery. - Fe, Al & Cu
2. Construction work – Fe, Al & Ni
3. Generation of energy - coal, lignite, uranium
4. Designing defense equipments like weapons and ornaments
5. Agricultural purposes – fertilizers and fungicides – Zn & Mn
6. Jewellery – Au, Ag & Pt
7. Making alloys for various purposes
8. Communication purposes – telephone, wires, cables and electronic devices
9. Medicinal purposes, particularly in ayurvedic system

ENVIRONMENTAL DAMAGES CAUSED BY MINING ACTIVITIES

1. Devegetation:
 - Topsoil and vegetation get removed
 - Deforestation leads to several ecological losses
 - Land scape gets badly affected
2. Ground water contamination:

Mining pollutes ground water; sulphur is converted into sulphuric acid which enters into the soil.
3. Surface water pollution:

Radioactive wastes and other acidic impurities affect the surface water, which kills many aquatic animals.
4. Air pollution:

Smelting and roasting are done to purify the metal which emits air pollutants and damage the nearby vegetation. It causes many health problems.
5. Subsidence of land:

Mainly underground mining results in cracks in houses, tilting of buildings and bending of rail tracks.

EFFECTS OF OVER EXPLOITATION OF MINERALS

1. Rapid depletion of mineral deposits
2. Wastage

3. Environmental pollution
4. Needs heavy energy requirements.

MANAGEMENT OF MINERAL RESOURCES

1. The efficient use and protection of mineral resources.
2. Modernization of mining industries
3. Search for new deposit
4. Reuse and recycling of the metals.
5. Environmental impacts can be minimized by adopting ecofriendly mining technology.

CASE STUDIES-MINING AND QUARRYING IN UDAIPUR

200 open cast mining and quarrying in Udaipur. But 100 mines are illegal. 150 tons of explosives are used per month. It pollutes air, soil and water. It affects irrigation and wild life.