



Nuclear Hazards

Radioactive (nuclear) pollution is a special form of physical pollution related to all major life-supporting systems – air, water and soil. It is always convenient to discuss radioactive pollution separately because its nature of contamination is different from other types of pollution. Its effects are also of special kinds.

Sources of Nuclear Pollution

Source of energy of Sun and other stars is nuclear energy (nuclear fusion reaction taking place in the core), therefore the cosmic rays emanating from sun and other stars are primary source of nuclear hazards.

Use and testing of nuclear weapons leads unprecedented loss to life and property as was the case in Second World War.

Natural emission of radiation from radioactive isotopes, such as Uranium present in earth's crust.

Mining, processing and extraction of radioactive ores.

Use of radioactive isotopes in nuclear reactors.

Problem associated disposal of nuclear waste from nuclear reactors.

Accidental leakages in nuclear power plants and other nuclear facilities.

Effects of Nuclear Hazards

Effects of nuclear hazards are prolonged and can haunt civilizations for year and can have adverse effect on generations to come.

Exposure to nuclear radiations can affect genetic make-up by breaking the chemical bonds that hold the DNA together. Thus the effect can be transferred to future generations.

Nuclear explosion and nuclear weapons can cause mass destruction to life and property of a scale unprecedented in history of mankind.

Nuclear hazards are transferred in food chains from bottom to top with transfer of nuclear elements from prey to the predator.

Continuous exposure to radiation can lead to cancer.

Nuclear Disaster

Hiroshima and Nagasaki atomic bombing in World War-II(1945) & Chernobyl Nuclear Power Plant Disaster (1986) and meltdown of nuclear reactors in Fukushima Nuclear Power Plant in March 2011 are examples of nuclear disaster that can be cited from history that have caused mass destruction to life and property.

Nuclear Hazard Control

- Nuclear Power plants and research facilities should be set up after careful evaluation in less inhabited areas.
- Nuclear Power Plants must be carefully designed to minimize risks of leakage.
- Strict vigilance bodies should be constituted and laws should be enforced to ensure nuclear safety.
- Summits and conferences must be organized to facilitate the evolution and exchange of new research and ideas in field of nuclear safety.
- Efficient nuclear waste disposal mechanism should be evolved.
- Preventive measures must be taken to minimize risks associated with occupation connected to processing of nuclear material.
- Disarmament of nuclear weapons must be strongly advocated in International Diplomacy

