

# **WATER POLLUTION and CONTROL**

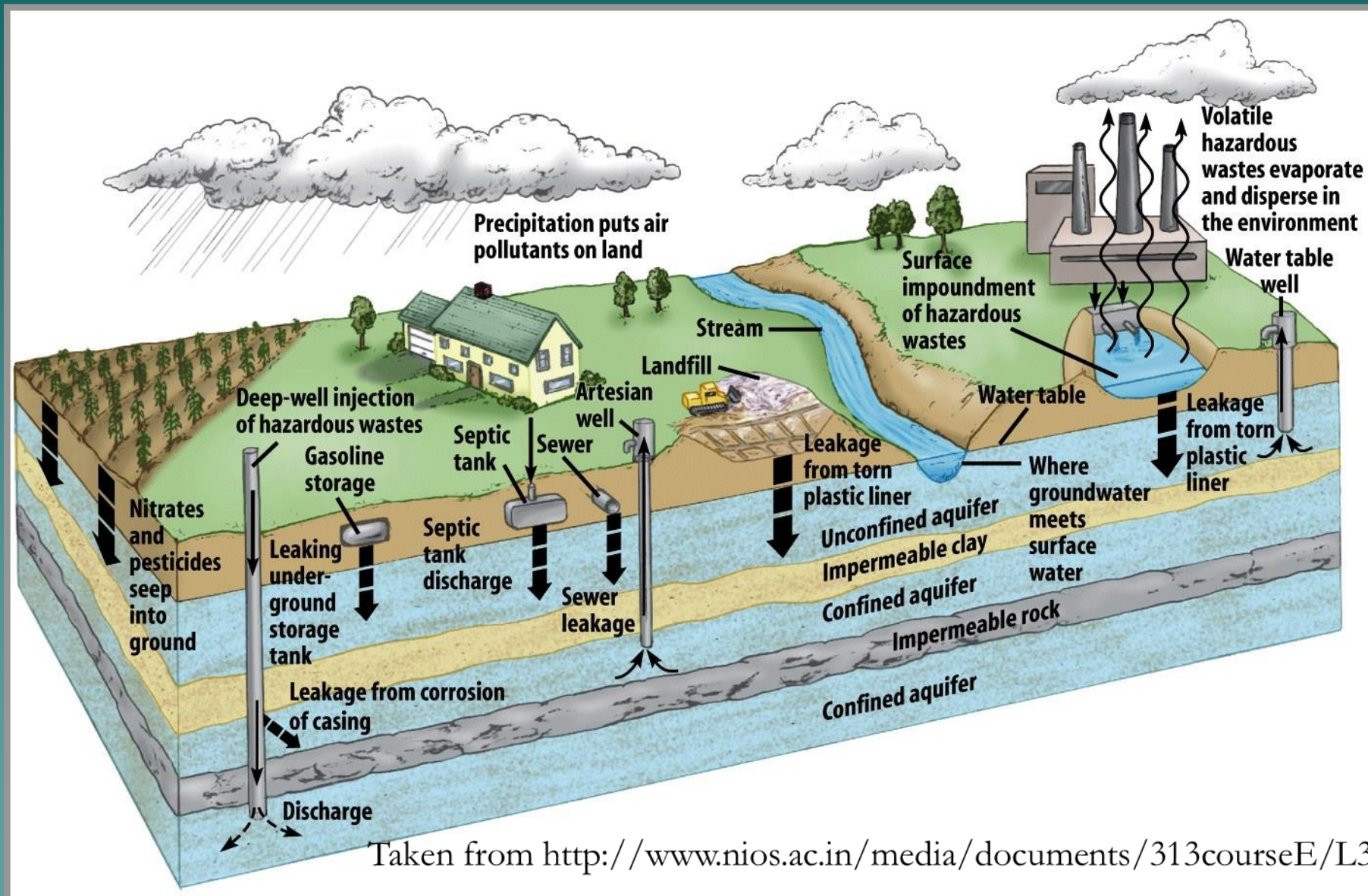
## **Ground Water Pollution**

---

When the polluted water seeps into the ground and enters an aquifer it results into **ground water pollution**.

Groundwater gets polluted in a number of ways. The dumping of raw sewage on soil, seepage pits and septic tanks cause pollution of groundwater.

# Groundwater Pollution



Taken from <http://www.nios.ac.in/media/documents/313courseE/L34.pdf>

---

The soluble pollutants are able to mix with the groundwater.

Moreover the excessive use of nitrogenous fertilizers and unchecked release of toxic wastes and even carcinogenic substances by industrial units many mix with the groundwater.

This problem is very curious especially in areas where water is available near surface of earth.

---

Since the movement of groundwater through the porous rock is very slow, pollutants which get mixed with the groundwater are not readily diluted.

Groundwater does not have access to air therefore, oxidation of pollutants into harmless products in groundwater does not occur.

## Water Pollutants can be broadly put under the following types:

---

- (i) Sewage Pollutants (Domestic and Municipal Waste)
- (ii) Industrial Pollutants
- (iii) Agricultural Pollutants
- (iv) Radioactive and Thermal Pollutants

## **(i) Domestic and Municipal Pollutants :**

---

The sewage contains garbage, soaps, detergents, waste food and human excreta and is the single largest sources of water pollution.

Pathogenic microorganisms like bacteria, fungi, protozoa, algae enter the water system through sewage making it infected with some pathogenic agents.

Water polluted by sewage may carry certain other bacteria and viruses cannot grow by themselves, but reproduce in the cells of host organisms. They cause a number of diseases.

Water pollution can be responsible for deoxygenation of water-bodies which is **harmful for aquatic life.**

## (ii) Industrial Pollutants

---

Many industries are responsible for discharging their untreated effluents into rivers like highly **toxic heavy metals** such as **chromium, arsenic, lead, mercury**, etc. Along with **hazardous organic and inorganic wastes**.

Most of these pollutants are resistant to breakdown by microorganisms so they can damage the growth of crops and the polluted water is **unsafe for drinking purposes**.



### (iii) Agricultural Waste

---

The water body receiving large quantities of fertilizers leads to **eutrophication**

Toxic pesticide residues enter the human body through drinking water or through food chain. These compounds have low solubility in water but are highly soluble in fats.

Some fish over a period of time accumulate so much of DDT that they become unfit for human consumption. The use of this pesticide is forbidden in Turkey.

## **(iv) Physical Pollutants:**

---

- Radioactive wastes
- Thermal sources
- Sediments
- Petroleum products