

PURIFICATION OF WATER

1. Purification of water in small scale
2. purification of water in large scale

I. PURIFICATION OF WATER ON LARGE SCALE

- 1. Storage - Water is drawn from the source & impounded in natural or artificial reservoirs. As a result of storage, natural purification takes place
 - i. Physical - 90% of the suspended impurities settle down by gravity
 - ii. Chemical - Aerobic bacteria oxidizes organic matter, which reduces free Ammonia into

Nitrates

- iii. Biological - when river water is stored properly, bacteria count drops 90% in first 5-7 days

2. Filtration - • 99% bacteria are removed, apart from other impurities

- i. Slow Sand filter or Biological Filters
- ii. Rapid Sand filter or Mechanical Filters •

3. Disinfection • i. Chlorination

- ii. Ozonation
- iii. Membrane process • a. High pressure process > i. Reverse

osmosis

ii. Nanofiltration

• b. Low pressure process > i.
Ultrafiltration

ii. Microfiltration

II. PURIFICATION OF WATER ON SMALL SCALE

• i. Household purification of water • i.
Boiling

• ii. Chemical disinfection

• a. Bleaching powder / Chlorinated lime / CaCl_2

• b. Chlorine solution,

unset;"> • c. High Test Hypochlorite (H.T.H) (Perchloron)

- d. Chlorine tablet (Halazone)

- e. Iodine

- f. Potassium Permanganate

- iii. Filtration (Ceramic filters)

- a. Pasteur Chamberland filter

- b. Berkefeld filter •

- c. Katadyn filter • iv. Ultraviolet Filtratio •

- Multistage Reverse Osmosis • 2. Disinfection of Well • - Double Pot