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ENVIRONMENT MANAGEMENT

Methods for control of water pollution and water recycling

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Control water pollution

Waste water from domestic or industrial sources or from garbage dumps is generally known as **sewage.** It may also contain rain water and surface runoff. The sewage water can be treated to make it safe for disposal into water bodies like rivers, lakes etc. The treatment involves three stages: primary, secondary and tertiary. This includes

1.sedimentation,

2. coagulation/flocculation

3.filtration

4.disinfection

5.softening

6.aeration.

The first four steps are of primary treatment. The first three steps are involved in primary treatment remove suspended particulate matter. Secondary treatment removes organic solids, left out after primary treatment, through their microbial decomposition. Effluents after secondary treatment may be clean but contain large amounts of nitrogen, in form of ammonia, nitrates and phosphorous which can cause problem of eutrophication upon their discharge into a receiving water body such as river, lake or pond. The tertiary treatment is meant to remove nutrients, disinfect for removing pathogenic bacteria, and aeration removes hydrogen sulphide and reduce the amount of carbon dioxide and make water healthy and fit for aquatic organisms. This treatment of waste water or sewage is carried out in effluent treatment plants especially built for this purpose. The residue obtainedfrom primary treatment one known as sludge.

Water recycling

With increasing population the requirement for water is increasing rapidly. However, the availability of water is limited but an ever increasing water withdrawal from different sources such as rivers, lakes and ground water is

depleting these sources and deteriorating their water quality. Therefore, it is essential to utilize the available water with maximum economy.

This involves recycling of waste water for certain uses with or without treatment. Recycling refers to the use of waste-water by the original user prior to the discharge either to a treatment system or to a receiving water body. Thus the waste water is recovered and repetitively recycled with or without treatment by the same user.

Control of water pollution

The following measures can be adopted to control water pollution:

(a) The water requirement should be minimized by altering the techniques involved.

(b) Water should be reused with or without treatment.

(c) Recycling of water after treatment should be practiced to the maximum extent possible.

(d) The quantity of waste water discharge should be minimized.