RESIDENTIAL SEWAGE TREATMENT PLANT

INTRODUCTION

Now a day’s availability of water gets reduced due to the increased population and the pollution created in environment. To meet scarcity of water we going for 4R (reduce, reuse, reclamation, recycle) technique. The census says only 24% of wastewater utilized by the treatment method and remaining remains unused. In order to overcome the scarcity of water wastewater should be treated properly. The individual houses can adopt "The residential wastewater treatment system" which can be most appropriate method to reduce the use of freshwater. The anaerobic digestion chamber is attached with the residential wastewater treatment system in order to manage the septage and 80% of water from treatment plant is used for floor washing, gardening, flushing, etc.

**OBJECTIVES**

* To reduce scarcity of water
* To reduce the use if freshwater
* To reduce the problem while disposal of sewage
* To increases use of green manure

**METHODOLOGY**

**wastewater**

**Biogas collector**

**Anaerobic digestion chamber**

**Treated water storage**

**Sand filter**

**PROCESS**

**Process 1: Collection of wastewater**

* The wastewater (except urinary) produced in every individual house is collected through a single main pipe.
* The main pipe is connected with anaerobic digestion chamber which is placed under the ground surface.

**Process 2: Anaerobic Digestion Chamber (ADC) process**

* This chamber need anaerobic bacterial growth, so we cultured the anaerobic bacteria by means of cow dung dumped into the chamber before a month of treatment process is to be carried out.
* For the proper growth of bacteria it is to be feed with starch at regular interval.
* The collected wastewater will enter into ADC chamber.
* The solid waste gets deposited at the bottom of the ADC chamber.
* The deposited solid waste will be digested by the anaerobic bacteria. While digestion, the biogas produced in the ADC tank will be collected and used as the substitute for LPG.
* The digested solid waste is used as manure.
* The outlet of ADC tank connected with the sand filter.

**Process 3: sand filtration**

* The filter media consist of broken bricks (brick bats) at bottom layer, over it aggregate layer and at top layer sand is present.
* The water from the ADC tank is passed over the filter media and get filtered.
* The outlet from the filter media is connected with motor and stored in a overhead tank.

**ADVANTAGES**

* This method is cheap.
* It is suitable for land junction places.
* It reduces the water scarcity.

**APPLICATION**

* This method is implemented in every residential building and in the commercial buildings in order to reduce the water scarcity and also the overloading of sewer.

**CONCLUSION**

From this I conclude 80% of the water scarcity is reduced by using the residential sewage treatment plant. This water is free from 90% to 95% of BOD and COD. This water is used for all the purpose except drinking.