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Water Waste Management By Sewage Treatment

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Abstract: *Water is vital for any life. There is no world without water. Wasting such water is to reduce our lifespan. It is man who wastes many resources in this nature. Water Waste Management is the field of handling wastewater, to make it suitable to either be recycled into a water system or to be disposed of in an environmentally conscious manner. Wastewater is used water from any combination of domestic, industrial, commercial or agricultural activities. One of the major fields in water waste management is that of sewage treatment. Sewage treatment covers domestic sewage, commercial runoff, environmental runoff, and more. In this review paper we are discussing Domestic Sewage methods. Sewage treatment is the process of removing contaminants from wastewater, primarily from household sewage. The Sewage Methods can be utilized to improve the waste water from home and grow plants, for use the vehicle cleanings etc. There are several microbial processes, and the microbial processes can be categorized into aerobic and anaerobic. This method has already been used in many states and countries. This little effort is to get this method available for everyone.*

Keywords: *Waste water management, Sewage Treatment, Microbes, aerobic, anaerobic*

I. INTRODUCTION

Water Waste Management is the field of handling wastewater, to make it suitable to either be recycled into a water system or to be disposed of in an environmentally conscious manner. Water waste management is one of the larger problems facing most major cities in the modern world, with overflow causing severe pollution problems and increasing population densities stretching existing infrastructure to the breaking point. Households produce sewage as waste from their toilets, showers, sinks, and baths, which is generally either pumped into a specific field on the premises. From this field we can construct sewage tanks. Sewage treatment is a process in which the pollutants are removed. The ultimate goal of sewage treatment is to produce an effluent that will not impact the environment. In the absence of sewage treatment, the results can be devastating as sewage can disrupt the environment.

The general processes of sewage treatment are primary, secondary and . Primary treatment involves physical separation of sewage into solids and liquid by using a settling basin. The liquid sewage is then transferred to secondary treatment which focuses on removing the dissolved biological compound by the use of micro-organisms. The micro-organisms usually use aerobic metabolism to degrade the biological matter in the liquid sludge. Then tertiary treatment is required to disinfect the sewage so that it can be released into the environment. The solid sewage separated from primary treatment is transferred to a tank for sludge digestion which involves anaerobic degradation using micro-organisms.

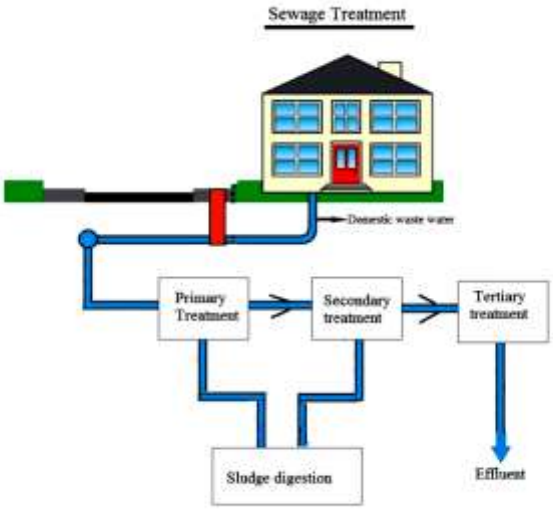
All living things, including ourselves and microbes, need food to grow, maintain and repair their cells, and to provide a source of energy for life. However, we cannot digest all of the food we eat and what remain undigested ends up in the sewage system. The main component of sewage is organic matter (undigested food) but there are other substances such as oil, heavy metals, nitrogen and phosphorous compounds (from artificial fertilizers and detergents) which also have to be removed. Here you will consider the important role of microbes in the sewage treatment process.

Bacteria and drinking water are not two things that usually go together very well, but according to a new study, certain species of microbes may help remove trace minerals such as zinc, selenium and even arsenic from your drinking water in the future. In nature, sulfate-reducing bacteria (SRB) play an important role in binding sulfate in water. But scientists have disputed their role in binding trace minerals. Among other reasons, it was thought that SRBs could exist only in oxygen-free environments.

II. There are three steps to the sewage treatment process:

a. Screening:

Screening is the first stage of the wastewater treatment process. Screening removes large objects like, diapers, nappies, sanitary items, cotton buds, face wipes and even broken bottles, bottle tops, plastics and rags that may block or damage equipment. Special equipment is also used to remove grit that gets washed into the sewer.



b. Primary Treatment:

Solid ingredients can be distinguished by using old methods in primary treatment. In the early days, coal and pebbles were laid in a large pot. It was filled with water. At the bottom of the pot there was a kennel. They collected water through it. This method can remove the remaining solid waste.

c. Secondary Treatment:

The water, at this stage, is put into large rectangular tanks. These are called aeration lanes. Air is pumped into the water to encourage bacteria to break down the tiny bits of sludge that escaped the sludge scrapping process.

d. Tertiary Treatment:

The wastewater is passed through a settlement tank. Here, more sludge is formed at the bottom of the tank from the settling of the bacterial action. Again, the sludge is scraped and collected for treatment. The water at this stage is almost free from harmful substances and chemicals. The water is allowed to flow over a wall where it is filtered through a bed of sand to remove any additional particles.

Finally the filtered water is collected and used for plantation, vehicle cleaning and any other domestic needs. This sewage method is very economy and can be used by any one. If we use this process we may come out of water shortage problems.

III. CONCLUSION

Water Waste Management is the field of handling wastewater, to make it suitable to either be recycled into a water system or to be disposed of in an environmentally conscious manner. Sewage treatment is the process of removing contaminants from wastewater, primarily from household sewage .In this review paper, our intention is to use waste water without waste. By this method we can avoid water shortages.

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