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Research Paper on Grey Water Treatment by using Coconut Shell

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Abstract: *Water being one of the largest resources for the everyday lifestyle, still currently the whole country is facing the scarcity of water. Though it is available in plenty but still it is very less to use and take in application and practicality. To fulfill the major and minor and every requirements of the society there is a great need of saving the water and also the main thing to do is making the water to apply in the everyday lifestyle. The amount of waste water in the country is very large. So not much but at least treating the waste water can greatly help in helping with the current situation.*

Key Words: **Grey water, Waste Water.**

1. INTRODUCTION:

Wastewater is any water that has been contaminated by human use and activities. Wastewater is used water from any combination of domestic, industrial, commercial or agricultural activities and any sewer inflow or sewer infiltration. Therefore, wastewater is a after product of domestic, industrial, commercial or agricultural activities and use. Also there is scarcity of water situation going on since ages in the entire country. Therefore there is a need to make into use the waste water by treating it by such means that another system should not get disturb and also those means should be affordable and easy to apply in practical work.

1.1 Definition:

Grey water is the waste water that is produced from the households stuff or office buildings from the channels without feces i.e. the water not from the toilets. Grey water contains less pathogen compared to the toilet water. The water collected is free from all types of feces and excretion process.

1.2 Main Sources:

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Fig no. 1 : Sources for grey water.

1.3 Properties of Grey water:

It contains traces of excreta and contains pathogens. Every household produces 65 percent of the grey water of the total waste water.

2. Literature Review:

(i) Karnapa Ajit (2016) Plain filtration was achieved in discharge standards by disinfectant .Removal of phosphates and surfactant can be achieved.

(ii) Nargessh Amabadi, Hasan Bakhtiari, Nafise Kochakian, Mahamood Farahani (2015) The quality of wastewater generated in different units ,including the administration and training units, the dormitories and the kitchen was determined.

(iii) Sandhya Pushkar Singh, Nusrat Ali, Sabih Ahmad, Dr. J.K. Singh, Manoj Kumar(2015) The reuse of grey water in certain countries will solve many problems related to water scarcity, and will lead to the saving of financial resources.

(iv) Vijaya V Shegokar (2015). The sample was analyzed for the physical and chemical parameters to check the quality of grey water and subsequently used the data for the selection of treatment process.

(v) Amr M. Abdel-Kader(2013) Sand filtration unit prior to the disinfection for the RBC system is virtually recommended to comply with the reuse criteria.

(vi) J. S. Lambe, R. S. Choughule(2015) The optimization of resources can be achieved.

2.1 Materials used:

Coarse aggregate, fine aggregate, sand, soil, coconut shells.

2.2 Properties of Coconut shell:

Coconut shells when burnt, shows one of the best form of the carbon. In the recent history study it has shown that it poses the best effect for removing the contaminated particles, tastes and odor from the impure water. Carbon gained from the coconut shell has a very much higher volume of micro pores for filtration than coal, wood. Activated carbon is the filtering agent that removes the contaminants from the water. Carbon pulls the unwanted particles, first of all to the surface and then deep within its pores leaving only the purest water possible.

Fig no. 2 : Coconut shell in Carbon form.

3. Methodology:

(i) The first step consist of collecting the grey water sample from the sources.

(ii) Calculate the impurities in the sample.

(iii) The turbidity, TSS and the pH value Test for the sample before treating the water sample would be taken.

(iv) Pass the sample from the filter for treating the grey water.

(v) Collect the resulting sample and testing its pH, turbidity and TSS value tests.

(vi) By comparing both the results, we can conclude the resulting form of the treated grey water.

4. Uses and benefits of treated grey water:

The treated water can be used for flushing purpose.

(i) Irrigation process can be done without any disturbance to the other bodies.

(ii) To every other place wherever there is use of non-potable uses.

(iii) It reduces the freshwater extraction from the water sources.

(iv) Less environment impact from septic tanks.

(v) Reduced chemical pollution from water treatment.

(vi) Ground water recharge and reclamation of nutrients.

5. Conclusion:

After the whole process i.e. after collecting the treated water from the grey water filter and testing its results from the various test taken it is concluded that the results taken before filtering and after filtering has differences and actually have more approximate value for the potable water. The water collected can be used further for many outdoor purposes and also can be very much beneficial to the other surrounding and the environment. It is also economical and easy to use the process and ecofriendly in nature.

6. References:

(i) Karnapa Ajit (2016) A Review on Grey Water Treatment and Reuse.

(ii) Nargessh Amabadi, Hasan Bakhtiari, Nafise Kochakian, Mahamood Farahani (2015) The Investment and designing of an on site grey water treatment system at Hazrat e Masoumeh university.

(iii) Sandhya Pushkar Singh, Nusrat Ali, Sabih Ahmad, Dr. J.K. Singh, Manoj Kumar(2015) A study on grey water treatment process. A Review.

(iv) Vijaya V Shegokar (2015) Design and treatatbly

(v) Amr M. Abdel-Kader(2013) Studying the efficiency of greywater treatment by using rotating biological contactors system

(vi) J. S. Lambe, R. S. Choughule(2015) Reduce, Reuse and Recycle of Greywater