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Reclamation of Waste Water from Mosque

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Abstract: *It is a treatment of water to provide adequate quantity with appropriate water quality for gardening and Irrigations from grey water of mosque. It reduce the manufacturing cost of using high quality reclaimed water. It also enhances the environmental protection by the recycle of the wastewater by using the Novel and Economic method for water reclamation. The greywater reuse practice is becoming increasingly common in many households around the country, but there are no in-depth studies that provide a clear understanding of how the greywater reuse impacts on soil, plant and human health in the long-term*
Keywords: *Words-Grey water, ablution water, Irrigation water quality*

I. Introduction

It is the term given to all used water discharge from house includes shower dishwater, washing machine, laundry tube and toilet water. Grey water is also includes ablution water. Because Muslims wash five times a day for prayer in Mosque. Much water wash being wasted during ablution. The avg. water use for ablution is 5.37lit for one person at a time. The quality of grey water varies daily depending on activities of the occupants. In addition the quality of grey water varies depending on the source of the water. Grey water also contains bacteria, parasites and viruses washed from the body and clothes. Some people (especially children) urinate in bath and showers .urine is considered a sterile solution and, therefore, if it enters the grey water, will not contribute to health problems but only increase the nutrient load, which could be beneficial to plants if used appropriately.

Grey water is best suited to the irrigation of plants, trees and shrubs. Irrigation of vegetables that will be cooked before they are eaten is also permitted, provided that the grey water makes no contact with the vegetables. For untreated grey water, the possibility of human contact should be avoided. Grey water should be used in quantities that can be taken up by the plants and the soil with particular properties. Excess grey water will flow to the ground water and may cause contamination.

It is experiencing water restrictions due to current drought conditions and the critically low levels of surface water storage in Saudi Arabia. It is calculated those in times such as these Mosques like to conserve water by reusing their grey water. We all are need to treat and recycle waste water resulted from ablution to prevent pollution, and to conserve and re-use our limited resources. As the estimated production of desalination plants exceeded 3.5 million m3 /day. This represents 59% of total urban water in the year of 2010. Such a high amount of water consumption produces a huge amount of sewage water which needs to be treated. Lowering the amount of urban water demand has become a necessity

II. Materials And Methods

A greywater reuse system was designed for the purification of water consumed in ablution. The system cosseted of: (A) four PVC sand filters (15 cm internal diameter and 1.5 m long each), (B) one activated charcoal filter (20 cm internal diameter and 1.0 m long), (C) ultra violet unite, and (D) tanks for collecting grey water and final purified water, (E) valves and regulators. as shown in (Figs.1-2). We used gravel infiltration galleys and filter the grey water through the septic system so the pipe doesn't clog. A greywater reuse system receive the effluent from one big Mosque (Othman bin Affan Mosque), as the out put of water passed through the system was analsized all year round. Due care was in the system to protect public health, protect the environment, meet community aspirations and be less costeffective. Current on-site treatment systems have generally adopted the technology of the conventional sand filters, activated Charcoal filters and U.V filter for large treatment systems (Table,1). Different stages of water treatment were analyzed to identify its physical chemical and chemical characteristics such as the amount of suspended matter; turbidity, ECw ; pH and their content of (Ca2+, Mg2+,Na+ , K+ , HCO3 - , CO3 2-, Cl- , and SO4 2-), the number of colon bacteria (E. coli.), COD, TOC and Turbidity

2.1.1 Greywater from mosque:

This gray water is generally clean & this water is used for praying Namaz. In this gray water, Water used in hand washing, face washing, & foot washing generates around 55-60% of total grey water and is considered to

be the least contaminated type of grey water. In this gray water some amount of chemicals are includes for washing or cleaning the gutter, the common chemicals are include soap, shampoo, hair dye, toothpaste and cleaning products. Washing. In the mosque peoples & students also washed their cloths & caps, water is used for washing cloths generates about 30-35% of total graywater.
In this water some amount of chemicals also includes such as bacteria. Because cloths are washed from soap, nirma, surf excels etc. so chemicals are present in this water. Detergent is also including in this water about 10 to 12%.

2.1.2. Greywater from bathroom

In all the mosque number of bathrooms or at least one to two bathrooms are available for washing. Water used for bathing & washing is about 60-70. In this gray water various amount of chemicals are includes such as shampoo & soap. In this water various amount of hairs are also present.

Table: Gray water

SR NO	TYPE	GRAY WATER
1	BOD	24.21
2	COD	150.99
3	DO	3.5
4	TDS	520
5	TSS	22.45
6	TURBIDIY	4
7	PH	7.5

1.1.3. How much greywater do you produce?

According to state and local authorities we each use about 140 litres of water per day for cleaning and washing -greywater. The table below lists the expected volume in litres from each greywater source.According to state and local authorities we each use about 140 litres of water per day for cleaning and washing -greywater. The table below lists the expected volume in litres from each greywater source.

source of graywater	Quantity in percentage
Gray water from mosque	55
Gray water from cloth washing	25
Gray water from bathroom	20

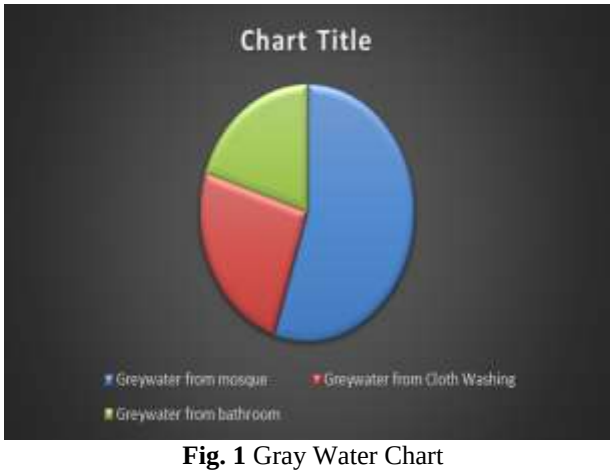

Fig. 1 Gray Water Chart

III. Conclusion

This paper is an introduction to greywater re-use. Generally tertiary quality effluent can be achieved through the use of constructed sand filters, activated charcoal, and UV unit. Using this simple system can save about 30-40 percent of fresh water to be used in toilets and irrigate the landscape area. Its introduction needs to

be seen in terms of its contribution to sustainable development and resource conservation without compromising public health or environmental quality.

References

[1] Halwani, bouchra, et. Al. A review of the most popular systems for grey water treatment. No hal-0192716. 2018.
[2] Zaied, roubi a. 'water use and time analysis in ablution from taps.' Applied water science 7.5 (2017): 2329-2336.
[3] Aguilar, Yolanda, Edwin Tadiosa, and Josephine Tondo. " A comparative study on wastewater Treatment Methods of selected Multinational and local Beverage Companies in the
[4] Rizvi, Hina, et al. "start-up of UASB reactors treating municipal wastewater
[5] Aguilar, Yolanda, Edwin Tadiosa, and Josephine Tondo. "A Comparative Study on Wastewater Treatment Method of Selected Multinational and Local Beverage Cmpanies in the Philippines and Their Effects on the Environment." International Journal of Environmental Science and Development 5.6 (2014): 570.
[6] Ammari, Tarek G., et al."An evaluation of the re-circulated vertical flow bioreactor to rural greywater for irrigation under arid Mediterranean bioclamate." Ecological engineering70 (2014): 16-24.
[7] Pascual-Aguilar, Juan, Vicente Andreu, and Yolanda pico. "An environmental forensic procedure to analyse anthropogenic pressures of urbun origin on surface water of protected coastal agro-environmental wetland (L'Albufera de Valencia Natural park,spain)." Jornal of hazardous materials 263 (2013): 214-223.