



## STUDY OF DOMESTIC WASTEWATER RECYCLING

Sneha N. Rathod, Shraddha H. Bhende, Neha A. Durge, Mrs. R. N. Pantawane

*UG student J.D.I.E.T.Yavatmal, Maharashtra, India, rathodsneha198@gmail.com**UG student J.D.I.E.T.Yavatmal, Maharashtra, India, bhendeshraddha98@gmail.com**UG student J.D.I.E.T.Yavatmal, Maharashtra, India, durgeneha19@gmail.com**Assistant prof. J.D.I.E.T.Yavatmal, Maharashtra, India, preena2812@gmail.com***Abstract**

Wastewater recycling is emerging as an integral part of water demand management promoting as it does a presentation of high quality fresh water supply and potentially reducing the pollutant in the environment. The major benefits associated with waste water recycling includes preserving high quality supply, alleviating current stress on portable resources as well as offering environmental and ecological advantages. Water emerged as an important issue now-a-days. Centralized systems of wastewater that have been implemented by various public authorities have failed to ensure equal distribution of water. As the centralized system of wastewater collection and treatment system are costly to build and operate especially in the areas with low population density and dispersed households. But a Decentralized system is not only a long term process solution for small communities but is more reliable and cost effective. And the Decentralized systems of waste water treatment seem promising in fulfilling the demands in rural as well as urban areas. This articles summaries the guidelines for the water recycling in the domestic sector.

**Key words:** Wastewater, centralized systems, decentralized systems, alleviating.

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**WASTEWATER RECYCLING****1. INTRODUCTION**

Water is utmost important in our daily lives, hence, the need to improve and preserve its quality is growing continuously. Point and non-point sources are contaminating our valuable water resources. Our water resources are limited and, hence, water treatment and recycling methods are the only alternatives for getting fresh water in the coming decades. Therefore, there is a great need for the development of a suitable, inexpensive and rapid wastewater treatment techniques and reuse or conservation methods in the present century. as the systematic approach of the water treatment and recycling technologies involves the understanding of the technology that includes construction and operational cost, along with the maintenance and management of removed pollutants.

Water treatment and recycling technologies: wastewater treatment and reuse is an important issue and scientist are looking for inexpensive and suitable technologies. water treatment technologies are used for the three purposes i.e. water source reduction, wastewater treatment and recycling. As the human population continues to grow and urbanize, the need for securing water resources and disposing the wastewater will become increasingly more difficult. so for reducing

water consumption we must invent new technologies and treatment plants.

**2. METHODOLOGY**

For recycling of wastewater from domestic waste many techniques can be adopted to reduce the water consumption and save the water as much as possible one of which technique is as we can see our washing uses a lots of water and detergents to extract a small amount of dirt from the fabrics, all of which is then sent down the drain together with each wash and rinse cycle again being commingled with other liquids on the way to the wastewater treatment plants. as we can see the washing machines uses 20 gallons of a water to clean just a tablespoon of dirt. So if we construct the underground tanks where the dirty water will be collected so from that it will be pumped to another tanks for storage after storing that the water goes to a system of aeration then activated carbon bed and then the cleaned and recycled water is obtained which is use for flushing or washroom uses. So by using this technique out off 95% we can recycle 80% water from the domestic waste which can be used for many purposes..

Or the second method can be adopted by constructing the underground tanks where the waste is collected in one tank and dirty water is connected in the another tank

and by proper treatment the wastewater can be used for gardening purpose.

### 1.2 ADVANTAGES OF WASTEWATER RECYCLING

1. Recycling minimises the pollution.
2. Protects the environment.
3. It saves the potable water.
4. Water conservation and recycled water is cheaper than fresh water..
5. Low operating cost techniques to save water.

### 1.3 DISADVANTAGES OF WASTERWATER RECYCLING

1. Though it is recycled but it contains some pollutants.
2. Not fit for drinking because of toxic pollutants present in it.
3. Some systems can be very expensive.
4. Wastewater should not be kept more than 24 hours otherwise it will start to smell up.

### 3. DOMESTIC WASTEWATER USAGE

According to the survey collected by the Central Public Health and Engineering Organization it concludes that according to the needs of people and different purposes what are the per capita water requirements.

**Table-1: per capita water requirement**

Purpose	Litres/ person/day
Drinking	03
Cooking	04
Bathing	20
Flushing	40
Washing clothes	25
Washing utensils	20
Gardening	23
<b>Total</b>	<b>135</b>

### 4. CONCLUSION

1. Appropriate wastewater treatment and the water management practice will have to be followed to allow the reuse of untreated domestic wastewater.
2. The feasibility of any water recycling technique at a commercial level depends on the cost of construction, maintenance and operation.
3. Hence, proper measures should be taken to ensure for the recycling of waste water from domestic waste.

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