



## **Development of a Bio-reactor septic tank for Domestic waste water treatment**

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**Abstract:** In India 70 percent of households are using septic tank systems for the sewage treatment. The septic tanks in India are not maintained to recommended levels and most of the septic tanks in urban areas are failed due to various reasons and causing severe pollution due to improper disposal of sewage from the septic tank. These types of septic tanks contaminate ground water and create nuisance to the environment.

Present investigation deals to plan, design and develop a low cost new septic tank system namely “Bio-Reactor Septic Tank” to solve the pollution problem of effluents from septic tank and also to fulfill the requirement of water demand.

The term “septic” refers to the anaerobic bacterial environment that develops in the tank which decomposes or mineralizes the waste discharged into the tank. In Bio-Reactor Septic tank, instead of soak pit three filter media is used namely Coir filter, Surkhi adsorbent and Sandfilter. The raw sewage directly enters into the filter media which comes out as potable water which can be used for toilet flush, Gardening and other domestic purposes.

Experimental verification and result analysis has been made to prove the improvement of physical, chemical and biological parameters. The recommended project reduced the pollution of sewage and fulfils the needs of future generation.

**Key words:** Sewage, Septic Tank, Filter Media, Bioreactor Septic Tank.

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