

# Performance Evaluation of Bioretention System in Chalakudy River Water

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**Abstract:** Bio-retention is a simple bio filtration method. It is a terrestrial based, water quality control practice using the chemical, biological and physical properties of plants, microbes and soil for removal of pollutants from water. In this paper we are evaluating whether this method is suitable for river water. River is the main source of water for several purposes such as drinking water, irrigation etc. However, river is also used as a point where to dump wastes too. Source of pollution in river water is generally categorized to agricultural runoff, industrial effluents and domestic waste from residential areas. Using pesticides and fertilizers in agricultural lands contributes to the pollutant runoff to rivers. Most of the industries are releasing their treated effluents to rivers. Hence it is treated effluent; still it creates pollution problems in some cases. Chalakudy River is the main source of water for several panchayats. However, the presence of agricultural land, residential areas and industrial areas increases the chance of pollution. So, we selected Kathikudam Region, which consists of agricultural lands, residential areas and industries as our source of water. We collect water from near to KCPL Kadavu in Kathikudam village and it is used as raw water for our filtration unit. The quality analysis for raw water and filtered water will be conducted and it will be compared with IS standards and analyze whether the filtration unit is suitable or applicable to river water

**Keywords:** Bioretention; Pollutant Removal; Mechanism; Vegetation

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