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on

**Water Resource: Innovation in Quality and Quantity,
Sustainable Development Challenges and Management**

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Evaluation on the benthic environment of Sasthamkotta lake in relation to microbial stress

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Sasthamkotta Lake is the largest rain fed fresh water lake in Kerala. It is losing its water balance and is drying up at an alarming rate in the recent years. Deterioration of water resource will lead to the elimination of benthic fauna. The study of microbial contamination in lake revealed that the purity of water is regulated by the benthic fauna. Analysis was done at different compartments such as water, sediment and benthic fauna. It showed that the benthic fauna harbors maximum bacterial load. The total coliforms in water exceeded the permissible limit. Comparison of total coliforms at the three levels addresses microbial contamination and it was controlled by the combined action of sediment dwelling benthic organisms. *Escherichia coli* status indicated that it was almost absent during monsoon and postmonsoon. Present investigation exposed the role of benthic organisms in the control of pollution level in lake. Therefore protection of lake, amid of anthropogenic stress, is almost done in a natural way by the mutual activity of benthic organisms. Sasthamkotta lake is blessed with a good benthic environment which in turn creating the water fresh for drinking purpose. Revamp of aquifers in lake is important in protecting the benthic background. The restoration of lake with the combined effort of society can bring back the lake to its past fullness.

Keywords: microbial, contamination, water, sediment, benthic fauna