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Designation :

Title : *Feasibility Study of Recharging Buckingham Canal with Flood Water*

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Background:

Rapid and unplanned urbanization of south Chennai city has brought in its wake a number of environmental problems, the most important of which are over exploitation of groundwater in the fragile coastal aquifer causing sea water intrusion on a number of places, groundwater pollution due to sewage disposal and solid waste dumping in the water bodies, encroachment of public lands and flooding of low lying city areas. Among the many measures contemplated, artificial recharging flood water through Buckingham canal in one suggestion.

Study area:

This thesis explores the feasibility of recharging the coastal aquifer located between Adyar and Muttukadu with flood water of south Chennai city through Buckingham canal.

Objectives:

Among the many factors that need to be looked into, the hydraulic connection between the Buckingham canal and the surrounding aquifer is an important one which this thesis looked into and establishes the connection through detailed analysis between groundwater in the aquifer and the Buckingham canal water.

Conclusion:

The main conclusion of this work is that it is technically feasible to recharge the coastal aquifer with flood water stored in Pallikaranai Marsh. However, to achieve this considerable spadework is to be undertaken the most important which are:

1. Preventing dumping, effluent discharge and encroachment in the Pallikaranai Marsh and converting it into a fresh water lake.
2. Preventing domestic effluent discharge and industrial liquid waste dumping in the Buckingham canal.
3. Providing necessary physical infrastructure charge to Buckingham canal and Pallikaranai Marsh to push the flood water into the Marsh store it and release it during the non rainy season for recharge through Buckingham canal.
4. Remediation of the saline water aquifer lying near the Buckingham canal.