



## **Artificial Recharge Studies in Mani and Muktha Nadhi, Manimuktha Subbasin, Vilupuram, Tamilnadu, India**

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### **Abstract:**

The integral approach was adopted with rain fall, water level, drainage, soil and aquifer thickness for site selection of percolation pond and abounded well for artificial recharge studies in GIS environment. The annual average rainfall in the study area was above 1000 mm observed for the last 20 years rainfall data interpretation which reveals the water availability for recharging the aquifer. For the years 1998 to 2006, water level data interpretation shows that the depth of groundwater level is in declining trend. The water levels measured in 50 open well during summer period 2006 shows variation of 1.1 m to 11.3 m. Such an alarming fall of more than 11m indicates that a study is necessary to identify the suitable methods of recharge. The more aquifer thickness was selected for the construction of the percolation pond method recharge and recharging in the abounded bore well. The best location for artificial recharge with respect to aquifer thickness covers an area of 12.22 km<sup>2</sup> was demarcated through geophysics in GIS software. The high infiltration capacities of soil series were demarcated. Weightage was assigned and overlay analysis was carried out for all thematic maps in GIS. The village map was overlaid with the final result map to select the best location with land survey number.

Keywords: Artificial recharge, Overlay analysis, Aquifer thickness and GIS

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