



## **Delineation of Recharge Zones for Panapatti Watershed of Coimbatore District**

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**Abstract:** The present study was undertaken to identify the favorable areas for artificial recharge and suggest suitable recharge structures to augment the aquifer system. The analysis was carried out in Kinathukadavu block of Coimbatore District using Remote Sensing data and GIS techniques. The various thematic maps such as geomorphology, geology, soil, slope, land use, drainage, drainage density, lineament density, runoff isolines, depth to weathered zone, depth to basement, groundwater level fluctuations and water quality were used in the analysis. The above maps were prepared using IRS-1C LISS III satellite data and other collateral information collected from the field and digitized. Criterion tables were generated considering the importance of different themes and necessary ranks and weights were assigned to each theme. Using ARC/INFO GIS software, the above themes have been integrated and the areas suitable for artificial recharge have been identified for Panapatti watershed of Kinathukadavu block of Coimbatore district. From the recharge zone map it was found that the entire area belongs to moderate zone of recharge. Considering the terrain conditions and favourable zonation, the suitable artificial recharge structures such as percolation pond, check dam, recharge pit, recharge shaft and recharge tube wells were recommended.

**Keywords:** Recharge zones, Thematic layers, Remote Sensing and GIS, Artificial recharge

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