

## Characterization of Typical Complex Hydrogeological Condition of Structurally Disturbed Shear Zone Areas of Palakkad District in Western Ghats Region, Central Kerala

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### Abstract

Aquifer characteristics and hydrogeological condition of structurally disturbed shear zone areas of Palakkad district in Western Ghats Region of Palakkad district have been studied. The study of sub-surface hydrogeological framework of aquifers up to 200 meters below ground level (m bgl) was carried out to quantify groundwater resources, water quality, hydraulic properties with an aim to evolve a sustainable aquifer management plan in consideration with the water level monitoring and exploratory drilling. The hard rock terrains have been structurally controlled by shear a zone, which facilitate to develop numerous fractures and becomes potential repositories of groundwater. The thickness of lateritization changes between 1.02 and 24.1 m. The premonsoon depth to water level varies from 1.58 to 14.20mbgl, but that of PSM in between 0.60 and 21.50 m mbgl with a fluctuation about 6m. The quantification of groundwater potential in the aquifers of consolidated formation within the shear zones and establishment of a futuristic model of aquifer management plan for the area are the highlights of the work.

**Keywords:** Laterite, Aquifer, Potential, Management, GIS, SWOT

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