Identifying Suitable Smaller Study Area from a Relatively Larger Area for Groundwater Studies

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ABSTRACT

In general, larger study areas lack sufficient data for modelling. Collecting field data becomes a laborious and time-consuming process. Thus, spatial area is critical in terms of groundwater modelling. Reducing the spatial area will be difficult because it must accurately represent the modelling objective. A method is proposed in this study for obtaining a representative smaller area for modelling studies in the Cheyyar River Basin, Tamil Nadu, India. Two critical maps are included in this study: a map of the Groundwater Potential Zone and a map of the Block-by-Block Stage of Groundwater Development. The Groundwater Potential Zone map depicts the critical areas with Poor to Good groundwater potential. The Central Groundwater Board report was used to create a block-by-block category map of the Stages of Groundwater Development. The zones that exhibit anomaly are selected as the hotspot areas for detailed follow-up studies. The Cheyyar River Basin covers an area of 4358 km2, which is a large area, and the lack of data makes it difficult to identify smaller zones.

Keywords: *Stage of Groundwater Development, Groundwater Potential Zone, Groundwater Modelling, Area Identification.*