

## Groundwater Utilization and Sustainability: A Case Study of Pydibhemavaram Industrial Area, India

**Authors :** G. Venkata Rao, R. Srinivasa Rao, B. Neelima Sri Priya

**Abstract :** The over extraction of groundwater from the coastal aquifers, result in reduction of groundwater resource and lowering of water level. In general, the depletion of groundwater level enhances the landward migration of saltwater wedge. Now a days the ground water extraction increases by year to year because increased population and industrialization. The ground water is the only source of irrigation, domestic and Industrial purposes at Pydibhemavaram industrial area, which is located in the coastal belt of Srikakulam district, India of Latitudes 18.145N 83.627E and Longitudes 18.099N 83.674E. The present study has been attempted to calculate amount of water getting recharged into this aquifer, status of rainfall pattern for the past two decades and the runoff is calculated by using Khosla's formula with available rainfall and temperature in the study area. A decision support model has been developed on the basis of Monthly Extractions of the water from the ground through bore wells and the Net Recharge of the aquifer. It is concluded that the amount of extractions is exceeding the amount of recharge from May to October in a given year which will in turn damage the water balance in the subsurface layers.

**Keywords :** aquifer, decision support model, groundwater extraction, run off estimation and rainfall

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