Ground Water Evaluation in Tensile and Shear Fractures of Crystalline Rocks of Palghat, Kerala State - a Geophysical Approach

S. Balaji
Coastal Disaster Management Centre
Department of Ocean Studies & Marine Biology
Pondicherry University,
Andaman Islands
India
Contact: Email : drbalaji64@gmail.com
Mobile: 9933299064

In Crystalline rocks, the weaker planes such as fractures/faults and joints hold ground water. The volume of fractures determine the amount of ground water it can hold, but the physical nature of the fractures of an area determine the degree of openings of cracks/fractures in rocks and the holding capacity of ground water in it.
An attempt in this context was made to pinpoint the low resistivity zone using geophysical methods and to evaluate the ground water potential in E-W tensile fractures and Bhavani shears of Palghat district. Subsequently, the identified/located fractures were tested by drilling to confirm the potentiality of the fractures and/or the aquifer characteristics. The study revealed that the yield was varying and maximum in E-W tensile fractures and the yield in shear fractures was comparatively less. The yield characteristics has enabled to understand the nature of the fracture system, terrain condition, aquifer characteristics of the region which has therefore enabled to properly plan ground water development schemes and management practices for this region.