

ASSESSMENT OF AQUIFER CHARACTERISTICS IN ALLUVIAL SANDY AQUIFER IN HEDA OYA FOR FUTURE DEVELOPMENT

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As the only water supply scheme for fulfilling the water requirement of Ulla Pothuvil area, Pothuvil Water Supply Scheme has established in the year 2008 constructing five (05) shallow bore wells in the identified alluvial sandy aquifer near Pothuvil - Panama main road at the left bank of Heda Oya being the one and only source found in the region. Along with the rapid development and large population growth in the Potuvil area, the water requirement has also been increased in leaps and bounds demarcating the importance of identification of new sources and assessment of existing alluvial sandy aquifer for future groundwater development. Therefore the geometry of the aquifer and aquifer parameter such as Transmissivity have to be assessed. Resistivity method is applied in order to find out the potential zones of groundwater within the land area Geological logging can be done for the detection and confirmation of the aquifer geometry. Long duration pumping tests are carried out to determine the Transmissivity of the aquifer using Theis's curve matching technique.

Accordingly, weathered formation ranges from 02 metres to 14 metres where brownish sandy soil is available. The alluvial sandy aquifer is distributed only in small distance from the Heda Oya approximately 5 to 10 meters along the left bank. Approximate depth of the sandy aquifer is 11 meters. In the right bank of the Heda Oya, aquifer distribution is comparatively less in the selected study area. Average Transmissivity for the aquifer is 150 – 200 m²/day.

In terms of shallow well constructions, the left bank of the Heda Oya is effective. There is a possibility to construct a well field in the left bank with identification of sand bars and safe yields. According to the Transmissivity values the available water quantity will satisfy the recently recorded future demand.