ABSTRACT

Deep water-supply boreholes are a common drinking water source in Buttala area. The geoelectrical resistivity method has been used by the relevant organization to locate sites for these deep boreholes and to understand the aquifer properties of the geological formations.

In the present study, geo-electrical resistivity sounding and profiling were carried-out within the Buttala campus premises of Sabaragamuwa University. This study describes the horizontal and vertical variation of the physical properties, and occurrences of hydro-geologically favorable and unfavorable zones and some recommendation for future ground water development within the campus premises.

Hydrologically important tectonic lineaments and /or deeply weathered zones could be identified as comparatively low resistivity zones in the resistivity profiles and they could be further conformed by sounding. Present investigation showed that about 60% of the study area is suitable for dug well construction. About one third of this zone also suitable for constructing tube wells. The remaining 40 present of the area is suitable for tube wells but not for dug wells mainly because of shallow overburden conditions or because the fracture horizons are situated very deep in the hard rock in those zones.