

ABSTRACT

The South western sector of Sri Lanka, and particularly the Colombo metropolis has been rapidly developing compared to other regions of the country. Today the building developers have resorted to construction of multi-storey structures without much understanding of the geotechnical characteristics of the subsurface and quaternary evolution of Colombo metropolitan. Therefore in such buildings structural failures are common, due to differential settlements with time.

The near surface materials of the region are mainly found be quaternary formations. Some of these unconsolidated formations tend to cause geotechnical problems. So a combined geological and geotechnical study becomes a necessity for future development in the Colombo area.

The study reveals that region can be subdivided into four main unconsolidated formations down to the basement crystalline rocks. Both shallow and deep foundations are possible in future building designs depending on the sub surface profile characteristics. Frictional type of pile foundation are preferable when bearing layers are dense sand found to be deep. End bearing type foundations are suitable when a bearing layer with higher SPT “N” value is available at shallow levels. As far as quaternary paleo climatic events occurred corresponding to two sea level rising events.