SETTLEMENT BEHAVIOUR OF STRUCTURES IN THE LOW LYING AREA

N. Balgunan, B. Vigneswaran
National Building Research Organisation, Colombo 5.

Major development programmes were embarked on by the government in the industrial, commercial, and housing sectors in Sri Lanka, since the latter-part of the last decade. This created a greater demand for buildable land in and around the city of Colombo, which meant reclaiming a large area of how lying marshy land.

In order to optimise foundation design one has to study the behaviour of existing and new buildings. An important task in this study is the observation of settlements. These observed settlements are recorded by means of surveyor's levelling instrument. Significant difficulties were encountered in obtaining continous elevation measurements on the settlement markers. These observed settlements are correlated with a well documented survey of distress patterns to arive at a parameter called "angle of distortion". These parameters at various sites are compared with values obtained by Skempton and MacDonald (1956) Polish and Tokar (1957).

Another important activity besides the "monitoring" is the analysis of "predicted settlement". Undisturbed samples are collected at the locations where considerable settlements are observed. These samples are tested in the laboratory to evaluate the predicted settlements. Based on the predicted settlements, theoretical models are formulated and compared with the observed settlement.

The settlement bahaviour of the transit accomodation site at Hultsdorf was analysed as one of the case studies. It was found that the observed settlement seems to be in general arrangement with the predicted settlement except at a few locations. Bjerrum factor at this site was found to be 0.6.