

Interplay of mat foundations and piles with a failing slope

Landslides may perhaps be characterized as the most astonishing mode of failure absolutely associated with geotechnical engineering. Their effects are to a greater or lesser extent familiar all around the globe, since the phenomenon might be triggered by a plethora of factors, be it an earthquake, rainfall, tunnel excavation or embankment construction, or even simply loading of a slope crest. All these can be thought of either as unavoidable natural processes or just as common human activities which can appear anywhere: from the most developed countries to the most secluded regions. For the latter case, their effects are auspiciously beyond our interest. In all other scenarios, landsliding will only by fortune not result in the engineers' main concern: losses. Their sort, distribution and magnitude will define the scale of the calamity. Experience has dictated that losses may range from the most appalling scenario which includes human casualties, to the most encouraging one, which includes structures holding surprisingly still, amid widespread soil failure around them. Notwithstanding the fact that the total avoidance of the former tragic experiences will always be the engineer's most challenging goal, it is the replication of the latter blissful behavior that has motivated this study.