

Abstrak

Likuifaksi dapat terjadi ketika tanah jenuh atau sebagian jenuh secara substansial kehilangan kekuatan dan kekakuan akibat adanya gempa bumi atau guncangan mendadak, disertai perubahan material yang bersifat padat (solid) menjadi seperti cairan (liquid). Pada insiden di Palu tanah secara tiba-tiba tengelam menjadi larutan air kemudian bergeser seakan-akan berjalan sendiri. Berdasarkan data yang diperoleh korban bencana likuifaksi di Palu, ada 2.256 orang yang meninggal, 1.309 orang hilang, 4.612 orang terluka (Kepala Pusat Data Informasi dan Humas BNPB, Sutopo Purwo Nugroho, tirto.id). Banyak korban jiwa yang meninggal akibat peristiwa tersebut. Jumlah korban yang signifikan, menimbulkan pertanyaan apakah mungkin likuifaksi adalah hal baru di dunia teknik sipil. Ternyata sudah banyak yang melakukan penelitian mengenai likuifaksi. Apa mungkin likuifaksi tidak memiliki solusi? Karena masalah ini terus menerus terjadi terutama di Indonesia.. Skripsi ini akan menjelaskan mengenai likuifaksi dan bagaimana cara memperbaiki tanah likuifaksi dengan cara yang sederhana. Apakah masyarakat umum mengaplikasikannya? Tentu saja bisa, karena likuifaksi bukanlah sesuatu hal yang membahayakan dan dapat diatasi dengan cara yang tepat. Beberapa solusi sederhana yang bisa diaplikasikan masyarakat adalah: Micropile Bambu, Tanaman Baobab, Piezometer, sumur Biopori.

Kata kunci: *Likuifaksi, Micropile Bambu, Tanaman Baobab, Piezometer, Sumur Biopori*

Abstract

Soil liquefaction occurs when a saturated or partially saturated soil substantially loses strength and stiffness in response to an applied stress such as shaking during an earthquake or other sudden change in stress condition, in which material that is ordinarily a solid behaves like a liquid. Like a recent devastating incident in Palu, Many who attempted to find shelter were trapped by waves of earth that churned like water, result of a liquefaction. Based on data obtained by victims of the liquefaction disaster in Palu, there were 2.256 people who died, 1.309 people were missing, 4.612 people were injured. (Head of BNPB Public Information and Data Center, Sutopo Purwo Nugroho, tirto.id) The amount of casualties are significant, raises the question is it possible that liquefaction is a new thing in the world of civil engineering. Turns out that not many have done research on liquefaction, yet. Because this problem seemingly continues to occur localised in Indonesia. This final paper is going to enlighten about liquefaction and how to improve soil liquefaction in a coherent, and accessible way so that public can be much prepared if only it returns. Some simple solutions that can be applied by the civilians are: Bamboo Micropile, Baobab Plant, Piezometer, Biopori well.

Keywords: *Liquifaction, Bamboo Micropile, Baobab Plant, Piezometer, Biopore Infiltration*