

CERAMAH TEKNIK TECHNICAL TALK

Debris flow and the mud flood disaster in Sugud-Maang, Penampang, Sabah: Its impact and possible cause

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Date: 16 August 2023
Platform: Zoom

The above talk was delivered by P.Geol. Prof. Dr Felix Tongkul (UMS) on 16th August, 2023 via Zoom. Some 100 members participated. An abstract of the talk is given below:

Abstract: On 15 September 2021, a debris flow and mud flood disaster occurred in Sugud-Maang in the Penampang district. Although no lives were lost, this debris flow and mud flood disaster is one of the worst that have occurred in Sabah whereby it destroyed an enormous amount of public and private properties. It is estimated that three hundred families were affected by the flood. Fifteen houses and fifty cars were swept by the mud flood. Electric supply was cut, and gravity-fed pipe water supply of several villages were also destroyed. After 4 weeks several villages are still without water and electricity. Although no lives were lost, this mud flood disaster is one of the worst that have occurred in Sabah whereby it destroyed an enormous amount of public and private properties. The mud flood or debris flow in Sugud-Maang areas was caused by heavy rainfall and widespread landslides. The extremely high intensity rainfall was associated with a mini typhoon on the west coast of Sabah. The intense rainfall made the soil super saturated with water, reduced its shear strength and caused widespread landslides. The landslides brought enormous amount of rock, soil and wood debris into the streams that was subsequently washed down by flood water to produce the mud flood. The landslide materials also caused blockages of streams at several sites upstream that produced temporary mini dams and mini lakes. A sudden released of the water stored in these mini lakes occurred when these temporary dams burst, resulting in the series of mud floods. The huge debris brought by the devastating mud flood was contributed by the widespread occurrence of landslides. A large proportion of these landslides occurred on unstable slope areas associated with terraced slopes for rubber plantation and fruit orchards.

We thank Prof Felix for his support and contribution to the Society's activities.

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17th August, 2023

