CONTROLLING OF COLD LAVA FLOOD WITH SABO DAM BUILDING IN BAGO VILLAGE SUB OF PASIRIAN LUMAJANG EAST JAVA

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Abstract

Planning Rejali Sabo Dam in the river basin area that has ± 159.93 km $^2$, is located in the village of Bago, Pasirian Lumajang district of East Java, with a length of 33.55 km main river, the location of watersheds on the slopes of Mount Semeru, current alert status which means it has the potential dangers of cold lava is greater than when the normal status. Possibility of cold lava flood on the river is very large, leading to a buildup of sediment in the river downstream and threaten the safety of local villagers. It is necessary to build a building or sabo dam sediment control.

The discussion includes the study of hydrology, hydraulics studies, capacity analysis of sediment, the planning dimension of Sabo Dam, stability control and Sub Main Dam Dam, Making Sabo Dam in one of the downstream river Rejali is expected to reduce the slope of the riverbed due to sediment, and reduce the erosion that occurs.

Based on the calculations have been carried out, both the analysis of hydrology and hydraulics analysis of river discharge is obtained for 969.51 m$^3$/s, with a width of 275 m over flow Sabo dam, height 8.9 m total Main dam, Main dam foundation depth of 2.5 m, apron length is 17.25 m, thick apron is 2 m, thick top of main dam and sub dam is 3 m, total height of sub dam is 2.97 m.

Keywords : Sabo Dam