ANALISIS GERAKAN SEDIMEN PADA SISTEM PERCABANGAN SUNGAI

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ABSTRACT

Sediment related disaster especially debris flow occur frequently in various places in Indonesia. It has been well known in general that debris flow contents big size of materials which huge power to destroy the river and surrounding area. Comprehensive measures and rising awareness to prevent the toll of human lives against sediment disaster is considered necessary. Diversion flows to proximate river in order to lessen river burden considering its capacities and sediment prevention facilities when the occurrence of sediment flood is an alternative of measures.

Information of river dive rsion capability and its associated phenomena due to sediment flows is a fundamental desired fo r establishing reasonable sediment control plans. Physical model comparing simply mathematical model are conducted to know river diversion capability able to flow th e sediment and its phenomena. The channel used for the experiments was formed of masonry 80 cm wide in average and 400 cm length, and the gradient is 10 %. The sedime nt control facilities installed two types, open type dam with 33 cm wide, 16cm high (a t +1.245m elevation of crest) and four slits in main stream and close type dam 41 cm wide, 15 cm high (at +1.255m elevation of spillway) for river diversion. The distance of these facilities is 110 cm. The result of study is expected to explain the sedi ment flow behavior in the field.

The study shows that the performance of river diversion and open type dam control volume depend on quantity and mech anism of sediment flow from upstream, and also elevation of crest of the open type dam. The largest amount of sediment flow to the river diversion is about 7 % of incoming sediment inflow for the elevation crest of open type dam of +1245 m and elevation crest of river diversion of +1255 m respectively.

Keywords : *sediment flow, river diversion, control plans*