KAJIAN PENANGANAN SEDIMENTASI DENGAN WADUK PENAMPUNG SEDIMEN PADA BENDUNGAN SERBAGUNA WONOGIRI

SARDI
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Telah dipertahankan di depan Dewan Penguji
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ABSTRACT

High sedimentation rate in Wonogiri Multipurpose Dam may cause service period of this dam shorter than the prior plan. The discharge of Wonogiri Multipurpose Dam is an accumulation of inflow from several main rivers, including Keduang River located the east side of the dam. Keduang River supplies very high sedimentation input to the reservoir. One of the steps studied to be implemented in the sediment countermeasure was the building of sediment pocket dam in Keduang River mouth before it enters the reservoir.

The research was conducted to determine the reservoir sedimentation before and after countermeasure through a mathematical model approach. It was done by doing flow and sediment transport simulation using the NCCHE-GUI Program to calculate deposition in the reservoir. Simulation was carried out in existing condition and the condition after the sediment pocket dam was built, with the assumption that discharge was evently distributed for each month. This simplification method was applied in wich montly simulation was done for one hour. Simulation result was then multiplied by the number of hours allocated per month to generate the result for one year period.

Simulation result indicates that sedimentation reduction or net deposition of an average of 30.41% annually after the treatment by sediment pocket dam. It is also figured out from simulation result that the reduction is relatively small, since simulation was not done until the condition of pocket dam was already filled up by sediment that the flushing process could not yet be simulated optimally.

Keywords : *Sediment Pocket Dam, Deposition.*