ANALISIS KESEIMBANGAN DAN MIGRASI SEDIMEN DI SEPANJANG KALI PABELAN KABUPATEN MAGELANG

S u g e n g
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ABSTRACT

Pabelan River is located in Magelang regency, with river basin of 110 km2 wide and 29 km long. On the south side, there are three tributtary rivers i.e., Kali Apu, Kali Trising, and Kali Senowo, which flows from Merapi Mountain; while the upstream of Pabelan River is at Merbabu Mountain on the north side. In 2001, Merapi Mountain erupted and spitted out 1.3 million m3 sediment that flew to Senowo River. The sediment volume may flow downward with rain flood causes hazard for people and infrastructures around Pabelan River. To deal with such disastrous sediment, check dam was created to reduce the downward sediment volume. The condition of check dam appears nowadays is has reached full capacitys, furthermore, section of Pabelan River has been shallowed. To know the sediment transportation process on Pabelan River, it is necessary to analyze the process erotion and deposition on the observed point.

The analysis of sediment balance (erotion and deposition) along Pabelan River in Magelang regency utilize the result of DAMBRK hydraulic calculation that are water level, flow velocity and slope of energy line. The process of erotion, deposition and armouring were analyzed by using some empirical formulas of sediment transport considering the river bed materials.

The result of analysis could not show the occurence of armouring process, because the river bed materials are uniform and the largest diameter is behind the minimum diameter that support the armouring process. The result of analysis also show the agradation and degradation of river bed along the considered section.

Keyword: *Sediment Transport Capacity, Erotion, Deposition, Armouring*.