SEDIMENTATION STUDY IN THE SECONDARY IRRIGATION CHANNEL USING THE *HEC-RAS* PROGRAM

(Hydrologic Engineering Center – River Analysis System) Version 4.1

(Case Study of Secondary Irrigation in Pontang Village, Ambulu District)

Devi Ahmad Tantowi
Advisor
Dr. Ir. Noor Salim, M. Eng ; Ir. Totok Dwi Kuryanto, MT.
Progam Studi Teknik Sipil, Fakultas Teknik, Universitas Muhammadiyah Jember
Jl. Karimata 49, Jember 68121, Indonesia
Email : dev.ahmad20@gmail.com

ABSTRACT

Sedimentation is the process of deposition of a material - a material that is transported by a river or irrigation canal and can cause delta, while sediment is a rock formed due to weathering, erosion, transportation, and deposition (hardening) that occurs in a river basin. River deltas that occur because of the sedimentation process can reduce the amount of water flow carried, so that irrigation needs in the downstream area cannot be maximally fulfilled because it is blocked by delta buildup. The downstream sedimentation characteristics occur slowly and last as long as the supply of high sediment loads continues. Sedimentation predictions that occur in irrigation canals are carried out by taking into account the sedimentation rate based on analytical calculation methods, but to simplify the depiction of sedimentation that occurs in secondary irrigation channels PO 9 is carried out by modeling methods using the HEC-RAS application program. The HEC-RAS program itself is one of the sediment transport analysis modeling programs on channels and rivers. River deltas that occur because of the sedimentation process can reduce the amount of water flow carried, so that irrigation needs in the downstream area cannot be maximally fulfilled because it is blocked by delta buildup. The downstream sedimentation characteristics occur slowly and last as long as the supply of high sediment loads continues.

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