KAJIAN PENGENDALIAN SEDIMENTASI WADUK PANGLIMA BESAR SOEDIRMAN DENGAN TEKNOLOGI SABO

Fauzi Bachtiar Achmad
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Pembimbing Utama
Ir. Joko Sujono, M.Eng., Ph.D

Pembimbing Pendamping
Ir. Agus Sumaryono, Dipl.HE

Anggota Dewan Penguji Lain
Dr. Ir. Bambang Agus Kironoto

ABSTRACT

Panglima Besar Soedirman Reservoir (PB Soedirman) in Banjarnegara Regency was built in 1983 and started to operate in October 1988. Its catchment area covers 1,022 km 2 . The sediment volume yielded after 16 years operation (2004) is 67.10 million m 3 . The Annual sedimentation rate of 4.193 million m 3 has reduced the reservoir operational life time down to 34 years, from 60 years as it was designed. Therefore, it is needed to conduct study of PB Soedirman Reservoir sedimentation control by applying sabo technology.

This research uses field observation method to recognize the causes of reservoir sedimentation and to determine location and number of sabo dams. Furthermore, evaluation of the impact of sabo technology, both land conservation and sabo dams, is conducted to analize reservoir operational lifetime.

Research result shows that the sedimentation of PB Soedirman Reservoir is mainly caused by soil erosion and landslide. The soil erosion control is carried out by changing old pattern terrace to bench terrace, without any vegetation or trees along the border of bench terrace. The amounts of 9 big capacity Sabo dams located at Serayu Basin are planned with sediment control capacity of 4.617 million m 3 . In order to support conservation on the critical land, 33 small capacity Sabo dams are planned to be constructed. One Sabo dam located at Sijeruk Valley is also planned to be constructed in order to control sediment yielded from landslide or slope failure. Land conservation as well as combination of Sabo Dam and sand mining exploration might extend reservoir operational life time to 39 years. Meanwhile, the combination of land conservation and Sabo Dam might extend reservoir operational life time to 47 years.

Keywords : *Land conservation, Sabo dams, Life time*