KAJIAN PENANGANAN BANJIR KALI CILIWUNG DKI JAKARTA DITINJAU DARI ASPEK HIDRO-EKONOMI (STUDI KASUS PADA RUAS CAWANG – PINTU AIR MANGGARAI)

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ABSTRACT

Every year in a rainy season, flood in undates several areas along Ciliwung River, especially in the Cawang – Manggara i reach. Flood in this reach is caused by land use changing in upstream area and narrower the river width in the downstream area. Several planning will be implemented to reduce the flood, there are normalization with wide ning river, revetment and dike construction also diversion channel from Ciliwung River to East Banjir Kanal. To determine the benefit of every flood control struct ure is required the integrated and comprehensive considerations.

The study of performance of flood management planning with hydro-economy approach that considers hydrology aspect, hydraulic aspect and economic aspect is conducted in this research. The aim of this study is to determine the benefit of every flood cont rol structure. Before determine the benefit of flood control struct ure, the expected annual da mage must be calculated, the calculation is based on discharge-probability of exceedence curve, discharge-stage curve and stage-damage curve. The re lation from three curves above will be acquired damage-probability of exceedence curve, as a result from this curve the expected annual damage and the benef it of flood control structure can be determined.

The results of analysis are that expected annual damage for existing, normalization, dive rsion channel with 2,5 m in width gate, dive rsion channel with 3,0 m in width gate and diversion channe l with 3,5 m in width gate are Rp. 24.6 billion, Rp. 4.5 billion, Rp. 8.4 billi on, Rp. 5.6 billion and Rp. 4.4 billion respectively. After expected annual da mage was determined, benefit of flood control structure is calculated, benefit of flood control structure for normalization, diversion channel with 2,5 m in width gate, diversi on channel with 3,0 m in width gate and diversion channel with 3,5 m in width gate are Rp. 20 billion, Rp. 16.1 billion, Rp. 18.9 billion and R p. 20.1 billion respectively.

Key words : *normalization, integrated and comprehensiv e, benefit of flood control structure.*