

Studi model alokasi air waduk Ir. P.M. Noor di Kalimantan Selatan

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Abstrak

Ir. P. M. Noor reservoir, located in Riam Kanan Catchment (RKC), Banjar Regency-South Kalimantan Province, supplies water including for agricultural, energy, fishery, and domestic need. Due to increasing population and social welfare as well as development of all sectors, water demand has increasing. Meanwhile, the water availability remains constant and varies between dry and wet season. Those situations may create a conflict of interest among the water users. To avoid the problem, water allocation model for the reservoir is needed to manage the water availability.

Water Allocation Model (WAM) development requires some inputs such as water requirement for all the users and water availability that comes from Riam Kanan river that flows to the reservoir. Generated inflow is also calculated by using Thomas and Fiering and its modification method. Standard Operating Rule (SOR) for the reservoir is developed based on water balance concept between water requirement and water availability. By using WAM, some scenarios for water simulation could be done. Evaluation of release discharge of the reservoir during 2000-2004 that related to its water requirement is also conducted.

The results show that the WAM of the reservoir yields an efficient water allocation. The capacities of existing irrigation network can only serve for 11.000 hectare paddy field with reliability 96%. Meanwhile, the reservoir may serve for 35.000 hectare. Maximum electricity power generation is about 137.32 GWH/year. The evaluation of release discharge release with the reliability $< 95\%$. However, by using water requirement for all the potential irrigation, the simulation shows that the release with the reliability , 95% occur times.