

Optimization Utilization of Tilong Reservoir, Kupang District, East Nusa Tenggara for Capture Fisheries Development

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Abstrak

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The Tilong Reservoir located in Kupang District, has 154.97 ha surface area with an average depth of 12.5 m, water volume is 19 million m³ and water discharge around 86.4-106.3 m³/day. The main function of this reservoir is for irrigation. Capture fisheries activity has not been optimally developed. The development of capture fisheries can be done through culture-based fisheries (CBF), namely milkfish (*Channos channos*) or tilapia (*Oreochromis niloticus*) stocking. The aims of this study is to determine the potential of fisheries production and the seed needs for CBF development in the Tilong reservoir. The study was conducted in March and September 2016 at three observation stations. Water sample was taken at 0.5 and 2.0 m from the surface which is the euphotic depth. The results showed that CBF activities in the Tilong Reservoir could successful because supported by the limnology conditions was suitable for fish life, the availability of seeds produced from hatchery was sufficient for stocking and support of local communities through local wisdom. Fish seeds are produced by 13 hatchery which are capable of producing milkfish and tilapia seeds of 7,040,770 and 7,023,400 per year. Based on these aspects, capture fisheries through CBF are feasible to be developed in the Tilong Reservoir. The fisheries production potential in the Tilong Reservoir ranges from 75.9 to 77.5 kg/ha/year or 11.9-12.0 tons/year. The optimal number of milkfish and tilapia seeds that can be stocked ranges from 71,000-73,500 individuals/year and 72,000-75,000 individuals/year respectively. The fish production estimated from stocking was about 40% of the potential production with economic value of Rp 20,500,000 and Rp 21,500,000.