

Growth and Mortality Models of Mozambique Tilapia (*Oreochromis mossambicus*; Peters, 1852) Wildly Enter Inside the Fish Farming Ponds in Tarakan City, North Kalimantan

Title	Growth and Mortality Models of Mozambique Tilapia (<i>Oreochromis mossambicus</i> ; Peters, 1852) Wildly Enter Inside the Fish Farming Ponds in Tarakan City, North Kalimantan
Author Order	9 of 17
Accreditation	
Abstract	<p>Graphical Abstract Highlight Research The results of this research showed that allometric growth in males and females had negative allometric growth characteristics. The growth condition index in male and female fish is dominated by thin and fat body shapes. The maximum length growth (L_{∞}) and growth speed of males is higher than that of females. Total mortality and fishing mortality for males is higher than for females, but natural mortality for females is higher than for males. The exploitation rate of males and females is in the Under-exploitation category because the E value is <0.5. Abstract Exploring the length-weight relationship of fish and characterising growth parameters is essential in fisheries as they offer fundamental biology and population dynamics data to establish good management strategies for fisheries resources. This study examines the growth and mortality patterns of <i>Oreochromis mossambicus</i>. Data was collected between September and December 2022 using quantitative descriptive survey sampling. The study involved 20 repeats and deliberate random sampling of 30-50 fish per sample, emphasising total length, weight, and sex parameters. Based on 726 samples of <i>O. mossambicus</i> (352 fish identified as male and 374 fish identified as female). The growth model study revealed the typical negative allometric growth for both sexes (male and female). Male individuals attained a length of 33.449 cm after 37 days has a growth trend $\hat{L}_t \pm 0.3265 \text{ year}^{-1}$, and females reached 21.150 cm in 34 days with a growth rate around 0.3135 year^{-1}, as per the von Bertalanffy growth model. There were complex mortality patterns, with males contributing to most total deaths. This study emphasises the complex biology of tilapia and its untapped potential in the aquaculture pond system ecology in Tarakan.</p>
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