

BIOECONOMIC OPTIONS FOR EXPLOITATION OF Engraulicypris sardella (USIPA) IN THE SOUTHEAST ARM OF LAKE MALAWI

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Engraulicypris sardella (Usipa) fishery forms the basis earning source for living as it contributes over 70 % to total annual catches in Malawi. Following the decline of large economically species in national waters, fishing pressure is now directed towards less commercially valuable fish such as Usipa. Unfortunately, there are no management measures for sustainable exploitation of this species, therefore making them venerable to overexploitation. Therefore, the study develops a Static Gordon Schaefer Bioeconomic Model for E. sardella fishery in south east arm of Lake Malawi focusing on the level of exploitation, estimation of target reference points of MSY and MEY and analysis of fisheries rents of MSY and MEY from 2001 to 2017 using secondary data on catch, effort, beach price and cost obtained from Mangochi District Fisheries Office (DFO) and Fisheries Research Station (FRS).

The study observed an increase of CPUE from 2001 to 2015 then a decrease from 2015 to 2017 and the level of effort in 2017 was above the effort at MSY. The estimated catch at MSY is 15 277 MT per year. with the corresponding Effort of 43 429 hauls per year, the catch at MEY is 13 801 MT per year with corresponding Effort of 29 930 hauls per year. The Rents at MSY is MK 4.232 Billion and at MEY is MK 5.216 Billion. The study concludes that there was overfishing over the years 2013 and 2016 to 2017, there are differences between the target reference points of MSY and MEY and there are differences in annual economic rents of MSY and MEY for the fishery of E. sardella in the south east arm of Lake Malawi. Therefore, the study recommends the reduction of effort by 22 894 hauls per year and adoption of MEY management option in order to maintain sustainability and to maximise profits obtained from the fishery of E. sardella in the south east arm of Lake Malawi.

Biography

Happy Stafford Mvula has completed his BSc. At the age of 24 from Mzuzu University. He has a strong passion in research and statistics. Currently he is assisting BSc. students tackling research at Mzuzu University. As one way of assisting the student community, he registered a company ‘Uel Consulting Services’ which provides trainings in statistical packages helping in research data analysis.

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