Assessment of fisheries index of small pelagic fishes (sardine and anchovy) in Hormozgan province, Iran

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Abstract

Analysis of small pelagic fishes (sardine and anchovy) time series logbook data from Hormozgan province in the Persian Gulf and Oman Sea were showed a rising trend from 1500 tonnes in 1995 to 85000 tonnes (36% sardine and 64% anchovy) in 2019. Recently, the portion of small pelagic landings raised to 28% of total catches in Hormozgan province. The fishing efforts were raised to 385 double boat purse seiner in 2019. A relatively positive regression model ($y = 210.94x + 292.11$, $R^2 = 84$) was found between efforts and catch of small pelagic fishes. Analysis shows that a dramatically collapse in CPUE with increasing of efforts, Y/R analysis showed the optimum F_{MSY} was 233 fleets, Results showed that the current fishing effort in Jask and Lengeh area were close to calculated F_{MSY}, but in Qeshm area it is necessary to reduce F_{MSY} to 137 fleets. The results of this study showed that small pelagic fishing was in the growth phase, if current fishing efforts are not controlled, the probable consequence is the collapse phase, with economic, social, and biological results.

Keywords: Sardine, Anchovy, CPUE, Effort, F_{MSY}, Persian Gulf, Oman Sea