Spatial And Temporal Variation In The Catch Rates And Size Of Octopus Cyanea In Tanzania

Authors: Said Mgeleka¹, Mathew Silas¹, Bigeyo Kuboja¹, Masumbuko Semba⁴, Benjamin Ngatunga¹, Mary Kishe¹
¹Tanzania Fisheries Research Institute, ²Nelson Mandela African Institution Of Science And Technology

E-mail Address: smgeleka@gmail.com

ID: 12550

Submission:

Background
The Octopus cyanea fishery ranks third as mainland Tanzania's most economically important marine fishery in terms of metric tons exported. High exploitation has led to growing concerns over its sustainability, hence conservation efforts to encourage its management.

Method
The study was conducted in three zones that are geographically isolated along the coast of Mainland Tanzania. Kwale and Mtambwe represent the northern zone in Tanga. The Middle zone includes Jojo, Bwejuu, and Jibondo, located on the island of Mafia, and the Southern Zone includes Songosongo (in Kilwa) and Mgao and Msangamkuu, both located in Mtwara. An 18-month catch and size data were analyzed to identify spatial and temporal variations in catch rates and octopus mean sizes.

Results
Results indicate seasonal variability in catch rates and temporal changes in individual mean octopus size. Catch rates are higher but decline from October to December and are fairly low and constant from November to April during the northeast monsoon. It is increasing and higher during the southeast monsoon from May to October. Individual mean sizes are generally smaller but increase in SE monsoon from June to October and higher but vary in NE monsoon from October to May. Higher catch rates between July and August correspond to small octopus individual mean sizes, while high catches during September to November correspond to big individual mean sizes.

Conclusion
This catch pattern may indicate growth overfishing between July to August and recruitment overfishing from September to November. Therefore, these results may reflect that the artisanal fishery at Jibongo, Mgao, Msangamkuu, and Mtambwe may be currently exploiting smaller individual stock beyond the reach of the fishery.