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Technical Suitability and Static Stability of Sungkur Fishing Boats for Fish and Shrimp Catching

Rusmilyansari¹, E Rosadi¹, Iriansyah¹

¹Fisheries and Marine Faculty, Lambung Mangkurat University, Banjarmasin, Indonesia.

Email: r_melyan@unlam.ac.id

Abstract.

Sungkur fishing gear is operated actively on one the side of fishing boat, which requires technical suitability and fishing gear stability to ensure success in fish catching. This is a case study which aimed to analyze some technical issues related to the boat, boat's hydrostatic parameters, and the boat's stability. The data were collected through observation, measuring the boat to obtain the offset table. The data were analyzed numerically and descriptively. The data were processed with technical formula, Microsoft Office's Excel software, graphic display, minitab, statistical data processing, and maxsurf program. The research results showed that: (1) the sungkur fishing boat dimensional ratio L/B (6.47 – 7.00); L/D (10.90 – 11.20) and B/D (1.60 – 1.668) is within the range value of Indonesian fishing boats suitable to operate the fishing gear by towing or dragging. However, during fish catching operation, there have been problems in a hydrodynamic force due to the fishing gear movement, which affect the fish catching efficiency. (2) The boat's coefficient of fineness is in the fine type shape; the displacement on each waterline has increased; the loads of the boat are getting larger following the increase of waterline from one to five; this is also shown from the increasing midship area value. Ton per centimeter immersion to change wl 1 by 1 cm needs 0.04 tons of weight. (3) Sungkur fishing boat have a good static stability, which is proven by the positive value of angle of maximum GZ by 79.1 – 83.6. In other words, the boat has the ability to return to its original position after tilting; however, stability dynamics happens because fishing gear operation are located on just one side of boat.