

Zhulmaydin Chairil Fachrussyah. 1023205004. Technical and Longitudinal Movement Aspect of Small Purse Seiner (Pajeko) In Manado City, Bitung City and South Bolaang Mongondow Regency. (Prof. Ir. K.W.A. Masengi, M.Sc, Ph.D as Major Supervisor and Ir. F. E. Kaparang, M.Sc, Ph.D as Committee Member).

SUMMARY

Change in Indonesia food policy direction from agriculture to marine and fisheries has caused this sector be extensively developed. One of the important factors in fish resources exploitation is the availability of fishing vessel. Most fishing vessels operated by traditional fishermen are wooden-made. Nevertheless, the boat has not been built under a scientific building design process. Hence, a study needs to be carried out on major dimension and shape coefficient and longitudinal movement of the small purse seiner typed-fishing vessel.

This study was conducted in the coastal area of Kota Bitung, Manado Bay, and South Bolaang Mongondow Regency, North Sulawesi Province, each of which two samples of vessels were observed. Data collection comprised the size of boat major dimension and the longitudinal movement angles of the boat. The data were, then, analyzed using Ms. Excel, Freeship and Wavelet software.

Results showed that major dimension of the purse seiner in these three locations relatively varied: mean length was 17.75 m ranging from 15.4 m to 20.5 m, mean width was 3.9 m ranging from 2.85 m to 4.75 m, and mean depth was 1.53 m ranging from 1.2 m to 1.815 m. Variations in major dimension of the boat resulted from different positions of the fishing ground for these vessels. A multiple linear regression analysis on the relationship among the major dimensions resulted in equations as follows: $B = -1.9406 + 0.3324 L$; $D = 0.237 + 0.073L$; $D = 0.1965B + 0.7544$. Wavelet test indicated that the longitudinal movement strength of KM. Nafiri was higher than that of other boat samples, and the speed of KM. Jessie was more constant than that of other boats. The vessel possessing the highest block coefficient value (pole coefficient, prismatic coefficient, central section coefficient, water border line coefficient) will result in the smallest intermediate angle with the largest mean pitching angle.

This study concluded that each augmentation of boat major dimension size will decrease average pitching angle. It will also occurred that any block coefficient increment will reduce the average pitching angle.