

## EFFICIENCY AND CAPACITY OF TRAWLERS IN WEST COAST PENINSULAR MALAYSIA

(Kecekapan dan Kapasiti Pukat Tunda di Pantai Barat Semenanjung Malaysia)

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### ABSTRACT

This study discusses the efficiency, capacity and capacity utilization of fish trawlers of various zones in the west coast of Peninsular Malaysia in 2011. Data for this study were obtained from the Department of Fisheries Malaysia. An input-oriented Data Envelopment Analysis (DEA) model assuming the constant return to scale (CRS) technology was used to measure the technical efficiency and an output-oriented DEA model based on variable returns to scale (VRS) was implemented for the efficiency of capacity and capacity utilization. The study found that nearly 80% of trawlers fishing on the West Coast of Peninsular Malaysia is efficient and have an average 0.90 capacity utilization. Only fish trawlers in Perlis C2 Zone, B Zone and C Zone in Kedah were inefficient and has excess capacity to be reduced respectively by 58%, 29% and 38%. Overall current capacity can be increased by 6.14% if the excess capacity have been overcome.

*Keywords:* efficiency; capacity; capacity utilization; trawlers

### ABSTRAK

Kajian ini membincangkan kecekapan, kapasiti dan penggunaan kapasiti pukat tunda ikan pelbagai zon di pantai barat Semenanjung Malaysia pada tahun 2011. Data bagi kajian ini diperoleh daripada Jabatan Perikanan Malaysia. Model Analisis Penyampulan Data (APD) berorientasikan input dengan mengandaikan pulangan malar mengikut skala (PMS) digunakan untuk mengukur kecekapan teknikal dan model APD berorientasikan output berdasarkan pulangan berubah mengikut skala (PBS) telah dilaksanakan untuk memperoleh kecekapan kapasiti dan penggunaan kapasiti. Kajian mendapati hampir 80% pukat tunda menangkap ikan di Pantai Barat Semenanjung Malaysia adalah cekap dan mempunyai purata penggunaan kapasiti 0.90. Hanya pukat tunda ikan di Zon C2 Perlis, Zon B dan Zon C di Kedah yang tidak cekap dan mempunyai lebih kapasiti untuk dikurangkan masing-masing sebanyak 58%, 29% dan 38%. Kapasiti arus keseluruhan boleh ditingkatkan sebanyak 6.14% sekiranya lebih kapasiti telah diatasi.

*Kata kunci:* kecekapan; kapasiti; penggunaan kapasiti; pukat tunda

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