



UNIVERSITI PUTRA MALAYSIA

***PRODUCTIVITY CHANGES FOR TRAWLERS AND PURSE SEINER IN
TWO REGIONS AND FISHING ZONES IN PENINSULAR MALAYSIA***

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DEDICATION

This thesis is dedicated to my beloved husband, ummi, sisters, brothers, parents in-law, friends and who have supported and encouraged me throughout this study



Abstract of thesis presented to the Senate of University Putra Malaysia in fulfilment of the requirement for the degree of Master of Science

PRODUCTIVITY CHANGES FOR TRAWLERS AND PURSE SEINER IN TWO REGIONS AND FISHING ZONES IN PENINSULAR MALAYSIA

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Marine fish landings in Peninsular Malaysia have shown increasing pattern starting from year 1996 to 2009. Most of the total landings in Peninsular Malaysia had come from inshore fisheries. The objective of this study is to examine technical efficiency and productivity fishing gear (trawl and purse seines) in different region and fishing zone. Data for the study was collected from Malaysia Fisheries Department between 2000 until 2009.

Information on number of fishing units, number of days, number of trips, number of hauls and number of hours were gathered and analysed using the Data Envelopment Analysis (DEA) and Malmquist Index. Results of the study shows that, most of purse

seines operating in the frontier line in inshore location while majority of trawl net operating below the frontier line for both fishing zone. Overall, technical efficiency of trawl in Peninsular Malaysia is 26% and 100% for purse seines. This implies inputs were not used efficiently and systematically by trawl net. Inputs used in this study are, number of fishing gear, number of days, number of trips, number of hauls and number of hours. Total Factor Productivity (TFP) for trawl increased in west coast for both sea locations and decreased in east coast for both sea locations. Meanwhile Total Factor Productivity for purse seines increased in east coast for both sea locations and decreased in west coast for both sea locations. Overall, Total Factor Productivity for trawl in Peninsular Malaysia is 23.4% and 28.7% for purse seines. These findings suggest that there is much room for improvement for trawl and purse seines in deep-sea and inshore in term of technical efficiency and productivity with appropriate training, regular monitoring and usage of more advanced technologies. In conclusion the analyzed period of time we found that the increased in marine fish catches in line with the increased use of technology to suit the zone location.

Abstrak tesis yang dikemukakan kepada senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Master Sains

PERUBAHAN PRODUKTIVITI PUKAT TUNDA DAN PUKAT JERUT DI RANTAU DAN LOKASI PERAIRAN DI SEMENANJUNG MALAYSIA

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Pendaratan ikan laut di Semenanjung Malaysia mengalami peningkatan dari tahun 1996 sehingga 2009. Kebanyakan hasil pendaratan ikan marin adalah daripada perikanan laut pantai. Objektif utama kajian ini adalah untuk menentukan kecekapan teknikal dan produktiviti pukat tunda dan pukat jerut di kedua-dua rantau dan lokasi perairan. Data untuk kajian ini diperolehi daripada Jabatan Perikanan Malaysia dari tahun 2000 sehingga 2009. Segala maklumat yang diperolehi seperti bilangan pukat tunda dan pukat jerut, bilangan perjalanan kapal, bilangan hari, bilangan kali memukat dan bilangan jam di analisis menggunakan kaedah *Data Envelopment Analysis (DEA)* and *Malmquist Index*. Hasil kajian mendapati bahawa, kebanyakan pukat jerut yang beroperasi di perairan laut pantai berada di atas garisan kecekapan yang maksima

berbanding pukut tunda yang hanya beroperasi di bawah garisan kecekapan sahaja di kedua-dua perairan. Secara keseluruhan, kecekapan teknikal bagi pukut tunda ialah 26% dan 100% bagi pukut jerut yang beroperasi di Semenanjung Malaysia. Ini menunjukkan bahawa nelayan pukut tunda tidak menggunakan input dengan cekap dan sistematik. Input yang digunakan dalam kajian ini adalah seperti bilangan pukut tunda dan pukut jerut, bilangan perjalanan kapal, bilangan hari, bilangan kali memukat dan bilangan jam. Keputusan kajian ini menunjukkan bahawa pertumbuhan produktiviti faktor keseluruhan (TFP) untuk pukut tunda meningkat di pantai barat bagi kedua-dua perairan laut dan menurun di pantai timur bagi kedua-dua perairan laut. Sementara pertumbuhan produktiviti faktor keseluruhan (TFP) bagi pukut jerut meningkat di pantai timur dan menurun di pantai barat bagi kedua-dua perairan laut. Secara keseluruhannya, pertumbuhan produktiviti faktor keseluruhan (TFP) pukut tunda di Semenanjung Malaysia adalah sebanyak 23.4% berbanding pukut jerut iaitu 28.70%. Kajian ini menunjukkan bahawa terdapat banyak ruang untuk penambahbaikan dalam penggunaan pukut tunda dan pukut jerut melalui latihan yang sesuai, pemantauan yang berterusan dan dengan menggunakan teknologi yang terkini supaya dapat meningkatkan kecekapan teknikal dan pertumbuhan produktiviti faktor keseluruhan (TFP). Secara kesimpulannya, dalam tempoh masa yang dianalisis kita dapati bahawa peningkatan hasil tangkapan ikan laut sejajar dengan peningkatan teknologi yang digunakan mengikut kesesuaian zon perairan.

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APPROVAL

I certify that a Examination Committee has met on 6th November 2012 to conduct the final examination of Sharifah Erin Binti Syed Seman on his Master thesis entitled “Productivity Changes For Trawlers and Purse Seiner In Two Regions and Fishing Zones In Peninsular Malaysia.” in accordance with Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the

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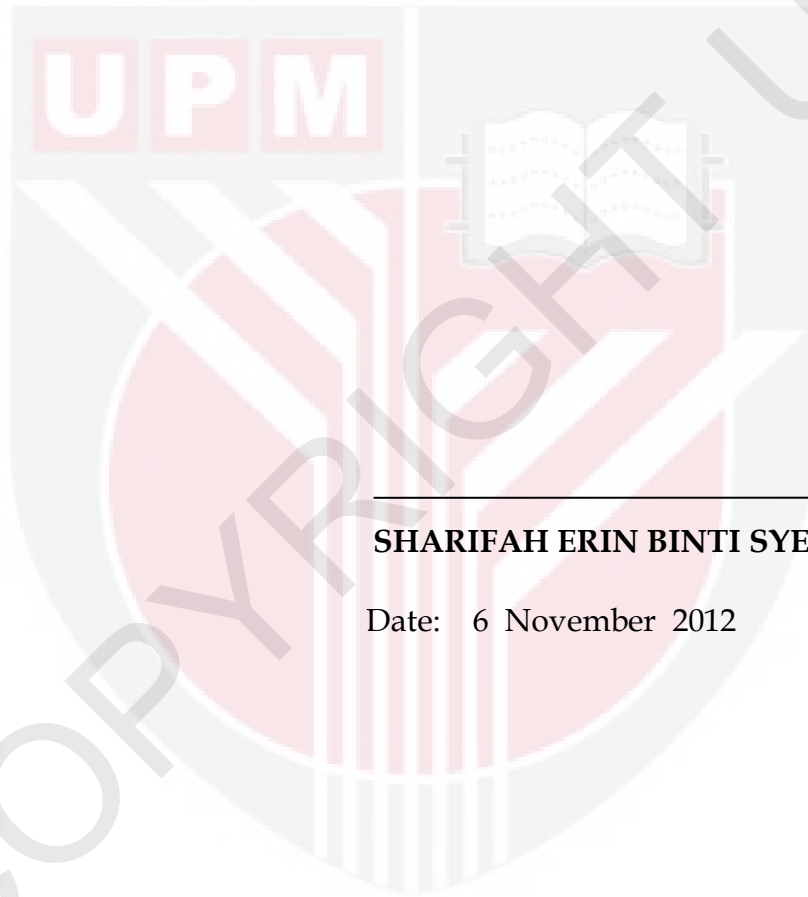
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DECLARATION

I here by declare that this thesis is my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Putra Malaysia or other institutions.



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