

**COMPETITIVENESS OF PADDY IN MAJOR GRANARY AREAS OF
PENINSULAR MALAYSIA**

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**DOCTOR OF PHILOSOPHY
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**COMPETITIVENESS OF PADDY IN MAJOR GRANARY AREAS OF
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NORHIDAYAH BINTI CHE SOH

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COMPETITIVENESS OF PADDY IN MAJOR GRANARY AREAS OF PENINSULAR MALAYSIA

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Rice is the staple food for most of the people in the world and also basic food for Malaysian. Currently, Malaysia imports 30% of the total rice from foreign countries to meet self-sufficient level of Malaysian. The issue of food safety is a very important issue and needs to be emphasized all the time. After the global food crisis which occurred in 2008, the government had taken a drastic action to boost the country's rice production and a new paddy incentives scheme was introduced. The objectives of this study were to produce the profile of farmers, to evaluate the financial status, to access the profitability, comparative advantage and effect of government intervention and to measure the technical efficiency of four major granary areas in Peninsular Malaysia which are MADA, KADA, IADA Penang and IADA KETARA in year the 2012/2013. In order to fulfill the objectives, a few analyses were involved. To produce the farmer's profile, descriptive analysis was performed. For financial status, analysis of Net Present Value (NPV), Internal Rate Return (IRR) and Benefit-Cost ratio (B/C ratio) was applied and assimilated with three large-scale agricultural incentive schemes, namely Pioneer Status (PI), Investment Tax Allowance (ITA) and Accelerated Capital Allowance (ACA). For the third objective, the Policy Analysis Matrix method (PAM) was applied.

To obtain the technical efficiency the Data Envelopment Analysis (DEA) and Stochastic Frontier Analysis (SFA) were applied. Results of a descriptive analysis showed that rice farmers are dominated by men and many of them are Malay. 30% of them are between 50 to 59 years old and married. The average number of family members who lived with farmers is about four to six people. Most of the farmers had attended secondary school as their highest education level and mostly cultivated paddy in rental land. For financial analysis, the value of NPV, IRR and B/C ratio for all areas are positive except for KADA and the assimilation based on large scale incentive, every granary stated positive value except KADA while IADA KETARA showed the highest value of NPV, IRR and B/C Ratio. Based on the analysis of private profit it was found that all granary areas have positive value and MADA recorded as the highest. The analysis of social benefit also gives a positive value for every granary with IADA KETARA placed as the highest. Analysis of comparative advantages based on Domestic Resource Cost (DRC) and Social Cost Benefit (SCB) indicator showed that all areas has the comparative advantage and IADA KETARA recorded the highest value. For the study on government intervention, the result showed that the KADA and IADA KETARA recorded the Nominal Protection Coefficient of Output (NPCO) less than one which means that the farmers in this area is taxed on rice production. MADA and IADA Penang noted value more than one which means that the rice production in this area is protected by the government intervention. For Nominal Protection Coefficient of Tradable Inputs (NPCI) analysis, it was found that all granary area have value more than one, which means that farmers will be taxed when they bought tradable inputs. Based on Effective Protection Coefficient (EPC) indicator, the result showed that government

intervention only gives a positive impact on farmers in IADA Penang, while for farmers in other granary areas are not protected by the intervention as they were subjected to tax expenditures. Based on technical efficiency analysis with DEA indicator, IADA KETARA recorded the highest followed by MADA, IADA Penang and KADA. Based on SFA indicator, IADA Penang recorded as the highest followed by MADA, IADA KETARA and lastly KADA. It can be concluded that IADA KETARA are the best granary for almost all of indicator studied while KADA can be concluded as the worst granary area where it always placed as the last for many indicator.

Abstrak tesis yang dikemukakan kepada Senat Universiti Malaysia Terengganu sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

**DAYA SAING PENANAMAN PADI DI KAWASAN JELAPANG UTAMA
SEMENANJUNG MALAYSIA**

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Oktober 2016

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Beras adalah makanan asasi bagi kebanyakan penduduk dunia dan merupakan makanan asas bagi rakyat Malaysia. Pada masa kini Malaysia mengimport 30% daripada jumlah beras dari negara luar bagi menampung keperluan sara diri rakyat Malaysia. Isu keselamatan makanan adalah satu isu yang amat penting dan perlu dititik beratkan pada setiap masa. Selepas krisis makanan di peringkat dunia berlaku pada tahun 2008, kerajaan telah mengambil langkah drastik untuk meningkatkan pengeluaran padi negara dan skim insentif padi yang baru diperkenalkan. Objektif kajian ini ialah bagi menyediakan maklumat profil petani padi, bagi mengira status kewangan, bagi mengukur keuntungan, kelebihan bandingan serta kesan campurtangan kerajaan dan bagi mengira tahap kecekapan teknikal bagi empat kawasan jelapang utama di Semenanjung Malaysia iaitu MADA, KADA, IADA Pulau Pinang dan IADA KETARA pada tahun 2012/2013. Bagi memenuhi objektif, beberapa analisis telah terlibat. Untuk menyediakan profil petani, analisis deskriptif telah dilakukan. Bagi status kewangan, analisis nilai bersih terkini (NPV), kadar pulangan dalaman (IRR) dan nisbah kos faedah (B/C Ratio) telah digunakan dan diasimilasikan dengan tiga skim insentif pertanian

berskala besar iaitu Taraf Perintis (PI), Elaun Cukai Pelaburan (ITA) dan Elaun Modal Didahulukan (ACA). Bagi objektif ketiga, kaedah Analisis Dasar Matrik (PAM) telah digunakan. Bagi mendapatkan tahap kecekapan teknikal, Analisis Data Tertutup (DEA) dan Analisis Stochastic Frontier (SFA) telah diaplikasikan. Keputusan analisis diskriptif menunjukkan bahawa petani padi didominasi oleh kaum lelaki dan kebanyakan mereka berbangsa Melayu. 30% daripada mereka berumur antara 50 ke 59 tahun dan telah berkahwin. Purata bilangan ahli keluarga yang tinggal bersama petani adalah empat ke enam orang. Kebanyakan petani mempunyai tahap pendidikan tertinggi sehingga sekolah menengah dan kebanyakannya mengusahakan tanah yang disewa. Bagi analisis kewangan, nilai NPV, IRR dan B/C Ratio bagi kesemua kawasan adalah positif kecuali bagi KADA dan asimilasi berdasarkan insentif berskala besar, semua jelapang menunjukkan nilai positif kecuali KADA manakala IADA KETARA menunjukkan nilai NPV, IRR dan B/C ratio tertinggi. Berdasarkan analisis keuntungan persendirian, didapati bahawa kesemua kawasan mempunyai nilai positif dan MADA mencatatkan nilai tertinggi. Analisis keuntungan sosial juga memberikan nilai positif bagi setiap jelapang dengan IADA KETARA berada di kedudukan tertinggi. Analisis kelebihan bandingan berdasarkan petunjuk Kos Sumber Domestik (DRC) dan Manfaat Kos Sosial (SCB) menunjukkan kesemua kawasan mempunyai kelebihan bandingan dan IADA KETARA mencatatkan nilai tertinggi. Bagi kajian ke atas campurtangan kerajaan, keputusan menunjukkan KADA and IADA KETARA mencatatkan nilai Perlindungan Nominal Pekali Output (NPCO) kurang daripada satu yang bermakna petani di kawasan jelapang ini dikenakan cukai ke atas pengeluaran padi. MADA dan IADA Penang mencatatkan nilai lebih daripada satu yang bermakna pengeluaran padi di kawasan ini

dilindungi oleh campurtangan kerajaan. Bagi analisis Perlindungan Nominal Pekali Input diniagakan (NPCI), di dapati kesemua kawasan jelapang mempunyai nilai lebih daripada satu yang bermakna petani akan dikenakan cukai apabila mereka membeli input yang boleh diniagakan. Berdasarkan penunjuk Perlindungan Pekali Berkesan (EPC), keputusan menunjukkan campur tangan kerajaan hanya memberikan kesan positif kepada petani di IADA Penang manakala bagi petani di kawasan jelapang lain mereka tidak dilindungi oleh campurtangan polisi kerana mereka telah dikenakan cukai pengeluaran. Berdasarkan analisis kecekapan teknikal dengan penunjuk DEA, IADA KETARA mencatatkan nilai tertinggi diikuti dengan MADA, IADA Penang dan KADA. Berdasarkan penunjuk SFA, IADA Penang mencatatkan nilai tertinggi diikuti MADA, IADA KETARA dan akhir sekali KADA. Dapat disimpulkan bahawa IADA KETARA adalah jelapang yang terbaik pada hampir setiap indikator yang dikaji manakala KADA pula disimpulkan sebagai kawasan jelapang yang paling corot kerana selalu berada di kedudukan terbawah bagi kebanyakan indikator.