



**UNIVERSITI PUTRA MALAYSIA**

***INFLUENCE OF DECISION-MAKING FACTORS ON PADDY  
PRODUCTION OF FARMERS IN SELECTED INTEGRATED  
AGRICULTURE DEVELOPMENT AREAS, MALAYSIA***

**NUR BAHIAH MOHAMED HARIS**

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**By**

**NUR BAHIAH MOHAMED HARIS**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,  
in Fulfillment of the Requirement of the Requirements for the Degree of  
Master of Science**

**November 2013**

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfillment of the requirement for the degree of Master of Science

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**November 2013**

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**Faculty: Educational Studies**

Malaysian rice industry is carefully monitored by several relevant agencies as it is a major concern in relation to the nation's food security agenda. The Department of Agriculture Selangor (DOA) in 2009 had classified the granary areas or Integrated Agriculture Development Area (IADA) under three categories, namely; poor yield (KADA, Krian Sungai Manik, and Kemasin Semerak), average yield (MADA, KETARA, and Seberang Perak) and high yield (North West Selangor and Penang IADA). Meanwhile, during the Tenth Malaysian Plan (2011 – 2015) period, the government had set a target for every paddy farmer of 10 mt/ha, to ensure that the availability and accessibility of rice are maintained and sufficient. However, the latest numbers from 2011 revealed that the average production per farmer from the main granary areas was still 4.77 mt/ha, not much different from 2008 as resulted as 4.02 mt/ha, whereas in certain parts of the country such as in Sekinchan Selangor, farmers had achieved up to 12 mt/ha.

What is the cause of this disparity in production? Despite similarities in facilities, land area, and resources, major differences remain in production. Although there are a multitude of factors that could be relevant to this situation, this study focuses on the factors governing the rice growers' decision-making ability that contribute to their readiness to employ the appropriate crop husbandry practices leading to increase in productivity. Structured questionnaires were administered to 320 respondents from six IADA in Malaysia.

Demographically, majority of the respondents was aging farmers and not interested in attending structured training sessions. In fact, they were keen towards hands-on training, like the extension clinic. In terms of productivity level, based on the classification that was fixed by DOA, revealed that only 17.2% farmers achieved higher productivity, where the production range from 7 mt/ha and above

while majority of farmers were at the moderate level because they achieved the production between 4.1 to 7 mt/ha, with a mean of 5.35 mt/ha. This situation indicates that our farmers fall under the moderate level of productivity.

Nine factors were identified as the decision-making variables, through mental model of farming that was introduced previously by Eckert & Bell (2005) and Krauss et. al (2009). From the results, two variables (farming knowledge and motivational values) denoted a significant and positive relationship towards farmers' productivity. Although they are weak contributions, but still it can be express that the productivity is more likely to increase when farming knowledge and motivation also increase.

The study also revealed that only two predictor variables were found to be significance in explaining farmers' productivity, which are farming knowledge and motivational value and the two predictor variables explained about 6% of the variance in the farmers' productivity. On top of that, farming knowledge makes the strongest unique contribution followed by motivational value in explaining the farmers' productivity, when the variance explained by all other predictor variables in the model is controlled for.

From the study, it can be suggested that knowledge play an important role in farming practices, as well as motivation since both of these factors may contribute on farmers' decision-making, which directly will reflect on productivity. Besides, there is a dire need to get the best approaches to make rice farming more attractive to the youth, since the majority of the rice farmers are aging farmers. It is also necessary to strengthen the extension strategies especially on the extension agent competencies in order to equip farmers with the right approaches. The ability to integrate the elements of decision-making would help the government and related stakeholders to revitalize the agriculture sector to become more effective and efficient in years to come.

Abstrak tesis untuk dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk ijazah Master Sains

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Agensi-agensi yang berkaitan dengan industri padi dan beras Malaysia sentiasa memantau dengan teliti perkembangannya agar ia sentiasa mencukupi. Ia telah menjadi agenda utama dalam ekonomi negara, khususnya dalam agenda jaminan keselamatan makanan negara. Jabatan Pertanian Negeri Selangor (JPNS) pada tahun 2009 telah mengklasifikasikan kawasan jelapang padi atau Kawasan Pembangunan Pertanian Bersepadu (IADA) kepada tiga kategori iaitu hasil padi yang rendah (KADA, Krian Sungai Manik, dan Kemasin Semerak), hasil padi yang sederhana (MADA, KETARA, dan Seberang Perak) dan hasil padi yang tinggi (IADA Northwest Selangor dan Pulau Pinang). Sementara itu, dalam Rancangan Malaysia Kesepuluh (RMK-10), (2011 - 2015), kerajaan telah menetapkan sasaran bagi setiap petani untuk menghasilkan 10 mt/ha padi, bagi memastikan bekalan dan penggunaan beras yang mencukupi dapat dikekalkan. Walaubagaimanapun, perangkaan terkini pada tahun 2011 menunjukkan bahawa purata hasil pengeluaran padi bagi setiap petani dari kawasan jelapang padi utama adalah 4.77 mt/ha, yang mana ianya tidak menunjukkan perubahan yang ketara berbanding tahun 2008 iaitu 4.02 mt/ha. Situasi ini jauh berbeza dengan kawasan tertentu seperti di Sekinchan Selangor, yang mana petani telah mencapai hasil purata padi yang tinggi sehingga 12 mt/ha.

Apakah punca perbezaan ini berlaku? Walaupun terdapat persamaan dalam penerimaan kemudahan, infrastruktur, keluasan tanah, dan juga sumber, perbezaan purata pengeluaran hasil masih menunjukkan perbezaan yang ketara. Terdapat pelbagai faktor yang menyumbang kepada situasi ini. Walau bagaimanapun, kajian ini memberi tumpuan kepada faktor kemanusiaan yang secara khususnya mengawal keupayaan dalam membuat keputusan yang menyumbang kepada peningkatan hasil dalam produktiviti mereka. Soal selidik

berstruktur telah diedarkan kepada 320 responden yang terdiri daripada enam IADA yang terpilih.

Secara demografi, majoriti daripada responden terdiri daripada petani yang sudah berumur dan kurang berminat untuk menghadiri sesi latihan secara berstruktur atau formal. Malahan, mereka lebih cenderung untuk menghadiri latihan secara tidak formal seperti klinik pengembangan. Dari segi tahap produktiviti seperti yang telah ditetapkan JPNS, hanya 17.2% sahaja petani yang tergolong dalam tahap produktiviti tinggi, yang mana hasil pengeluaran mereka adalah melebihi 7 mt/ha manakala majoriti petani dalam kajian ini menghasilkan purata padi antara 4 hingga 7 mt/ha sahaja, dengan min 5.35 mt/ha dimana ia berada dalam kategori produktiviti yang sederhana. Situasi ini menunjukkan bahawa produktiviti petani masih lagi di peringkat sederhana.

Melalui gaya berfikir pesawah padi yang telah dikaji oleh Eckert & Bell (2005) dan Krauss et. al. (2009), sembilan faktor telah dikenal pasti sebagai pemboleh ubah kepada petani untuk membuat keputusan. Dua pemboleh ubah iaitu pengetahuan dan motivasi menunjukkan korelasi yang signifikan terhadap produktiviti. Walaupun faktor penyumbang adalah rendah, ia masih dapat menunjukkan bahawa nilai produktiviti akan meningkat sekiranya pengetahuan dan motivasi turut ditingkatkan.

Dua faktor utama yang telah dikenal pasti oleh kajian ini (pengetahuan dan motivasi) menjelaskan 6% daripada varians keseluruhan dalam produktiviti petani. Faktor pengetahuan tentang ilmu pertanian didapati sebagai penyumbang utama kepada tahap produktiviti petani diikuti dengan motivasi yang mana ketika kesemua faktor dikawal.

Kajian ini mencadangkan bahawa kombinasi ilmu pengetahuan berkaitan pertanian dan motivasi dapat meningkatkan tahap produktiviti petani melalui kaedah dan faktor pembuat keputusan. Pendekatan yang strategik perlu diambil untuk mendekati golongan belia dengan aktiviti penanaman padi dan mengkaji semula langkah-langkah selanjutnya yang perlu dititikberatkan dalam membangunkan agen pengembangan yang berwibawa dan kompeten dalam segala hal demi menggalakkan serta membantu petani dalam penanaman padi. Keupayaan untuk mengintegrasikan elemen pembuat keputusan ini diharap dapat membantu agensi-agensi kerajaan dan pihak yang berkaitan untuk menggiatkan serta mengaktifkan semula sektor pertanian untuk menjadi lebih cemerlang pada tahun yang mendatang.

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I certify that a Thesis Examination Committee has met on date of viva voce to conduct the final examination of Nur Bahiah Mohamed Haris on her Degree of Master of Science thesis entitled “Factors Influencing Productivity and Decision-Making among Paddy Farmers in Integrated Agriculture Development Area (IADA) in Malaysia” in accordance with the 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 Master of Science.

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