



UNIVERSITI PUTRA MALAYSIA

**FARMERS' ATTITUDES TOWARDS RISK AND THEIR WILLINGNESS TO PAY
FOR CROP INSURANCE IN KETARA, TERENGGANU, MALAYSIA**

NURUL ASRIN ROSLAN

FP 2013 35



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By

NURUL ASRIN ROSLAN

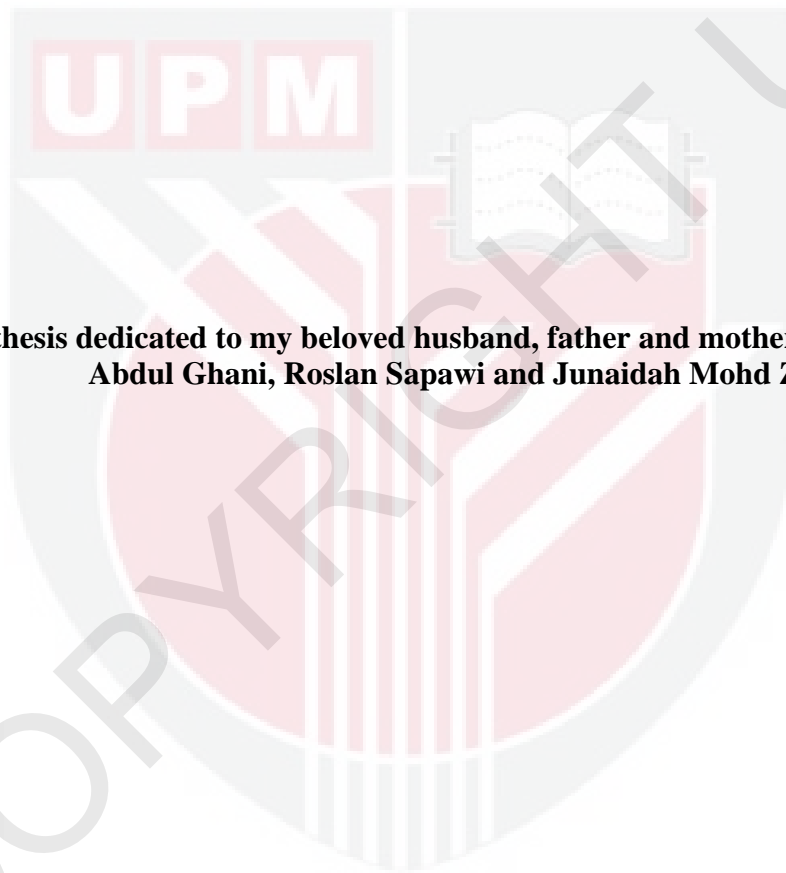
**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia,
in Fulfilment of the Requirements for the Degree of Master of Science**

November 2013

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**This thesis dedicated to my beloved husband, father and mother, Mohd Fairus
Abdul Ghani, Roslan Sapawi and Junaidah Mohd Zin**

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

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By

NURUL ASRIN ROSLAN

November 2013

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Paddy or rice industry is as important as other agricultural industry in the effort to attain the food security goals. Despite heavy intervention by the government, paddy production undoubtedly faces numerous risks include weather, the exposure of farmers to risky events such as drought, pest and disease. Exploring attitude of farmers toward risk is important in understanding their managerial decisions. The objectives of this study are to (1) To determine the level of risk attitudes of the paddy farmers; (2) To investigate the relationship between risk attitude and factors that influence farmer's attitude according to their socio-economic profiles, and (3) To estimate the insurance premiums farmers are willing to pay (WTP) for crop insurance in IADA Ketara.

The analysis shows that average age of paddy farmers was 48 years old, had six dependents including farmer himself. The average years of paddy farming experience was about 20 years. An average farm size was 3.34 hectares with the average net income per season was RM 15, 872.20. The sample average score for risk attitude was 3.10 indicate the farmers are willing to accept a little more risk than a risk neutral person.

Reliability analysis indicates which statements contribute in explaining the risk attitudes. A set of 47-statements on how farmers are managing risks was analyzed. A set of 24-statements scale which offered the best explanation of the variance with the overall coefficient alpha of 0.728. This indicated the communal variation of 73% is caused by risk attitudes.

The refined 24-statements scale developed was used to determine the risk attitudes of paddy farmers in Ketara. The 24-items attitudinal score revealed farmers in Ketara were slightly risk seekers than risk neutral persons, the sample average score for risk attitude statements was 3.49.

This exploratory factor analysis used to identify the loading factors does not show a clear effect of more than one underlying construct best represents the factor. The analysis indicated eight-factor solution was factors that have eigenvalues over 1. Kaiser-Meyer-Olkin (KMO) value was 0.666 with the range of communalities from 0.458 to 0.722. Varimax- rotated component analysis factor matrix illustrating the factor loading range of 0.417 to 0.783.

The factors affecting the risk attitudes of paddy farmers were analyzed using regression analysis. Four variables- age, level of education, number of times attended seminars/courses and paddy planting as main occupation significant in determining the risk attitudes.

The contingent valuation method analysis found the percentage of a “Yes” response increasing as the bid amount decreases. Logistic regression analysis identified four factors- age, gross income, subsidy and bid price significantly related to the farmers’ willingness to pay for crop insurance. The mean willingness to pay (WTP) for crop insurance is found to be RM 56 per season, equivalent to 5.6% of RM 1000 sum insured or coverage.

Finding of risk attitudes suggests that Malaysia’s government should focus on developing farm policies that help farmers reduce risk. The feasibility of crop insurance is currently being investigated. Attitude toward risk is an important factor influencing farmer’s demand for crop insurance.

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

**SIKAP-SIKAP PETANI TERHADAP RISIKO DAN KESANGGUPAN
MEMBAYAR TERHADAP INSURAN TANAMAN DI KETARA,
TERENGGANU, MALAYSIA**

Oleh

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Padi atau industri beras adalah sama pentingnya industri pertanian yang lain dalam usaha mencapai matlamat keselamatan makanan. Walaupun campur tangan diberikan oleh kerajaan, pengeluaran padi menghadapi pelbagai risiko termasuk cuaca, pendedahan petani kepada situasi berisiko seperti kemarau, perosak dan penyakit. Mengkaji sikap petani terhadap risiko adalah penting dalam memahami keputusan pengurusan mereka. Kajian ini bertujuan untuk menentukan tahap sikap risiko pesawah; (2) Untuk mengkaji hubungan antara sikap risiko dan faktor yang mempengaruhi sikap petani mengikut profil sosio-ekonomi, dan (3) untuk mengenalpasti kesanggupan petani membayar premium insurans (WTP) untuk insurans tanaman di IADA Ketara.

Analisis menunjukkan purata umur pesawah padi adalah 48 tahun, mempunyai enam tanggungan termasuk petani sendiri. Purata tahun petani berpengalaman dalam penanaman padi kira-kira 20 tahun. Purata saiz jelapang padi adalah 3.34 hektar. Purata pendapatan bersih setiap musim adalah RM 15, 872.20. Purata skor sikap petani terhadap risiko adalah 3.10 menunjukkan petani bersedia menerima lebih sedikit risiko berbanding individu bersikap neutral terhadap risiko.

Analisis kebolehpercayaan menunjukkan pernyataan yang menjelaskan sikap petani terhadap risiko. Set 47-pernyataan bagaimana petani mengurus risiko dianalisis. 24-pernyataan skala yang ditawarkan menjelaskan nilai varians terbaik dengan pekali alfa keseluruhan 0.728, menunjukkan perubahan jumlah varians adalah 73% disebabkan oleh sikap risiko. 24-pernyataan skala yang dibangunkan digunakan untuk menentukan sikap risiko pesawah padi di Ketara. Item 24-skala sikap menunjukkan petani di Ketara bersikap sedikit terhadap menyukai risiko berbanding individu bersikap neutral terhadap risiko, sampel skor purata bagi pernyataan sikap terhadap risiko adalah 3.49.

Analisis faktor menunjukkan kesan yang tidak jelas antara satu faktor mewakili faktor yang lain. Analisis menunjukkan lapan faktor penyelesaian mempunyai nilai eigen melebihi 1. Nilai KMO adalah 0.666 dan julat kommunaliti ialah 0.458 – 0.722. Putaran komponen Varimax analisis faktor matriks memuatkan lapan faktor dari pelbagai julat 0.417 – 0.783. Faktor-faktor yang mempengaruhi sikap pesawah padi terhadap risiko dikenalpasti melalui analisis regresi. Empat pembolehubah, umur, tahap pendidikan, bilangan menghadiri seminar/kursus dan penanaman padi sebagai pekerjaan utama menunjukkan hubungan signifikan dengan sikap petani padi terhadap risiko.

Keputusan kajian kaedah analisis penilaian kontingen mendapati peratusan petani menjawab "Ya" meningkat apabila nilai tawaran dikurangkan. Analisis regresi logistik mengenalpasti empat faktor umur, pendapatan kasar, subsidi dan nilai tawaran menunjukkan hubungan signifikan dengan kesanggupan petani membayar insurans tanaman. Min kesanggupan untuk membayar (WTP) insurans tanaman ialah RM 56 semusim bersamaan 5.6% daripada jumlah RM 1000 yang dilindungi.

Dapatan sikap risiko mencadangkan kerajaan Malaysia perlu memberi fokus kepada pembangunan dasar ladang yang dapat membantu petani mengurangkan risiko. Kemungkinan insurans tanaman sedang dikaji. Sikap terhadap risiko adalah faktor penting yang mempengaruhi permintaan petani untuk insurans tanaman.

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I certify that a Thesis Examination Committee has met on 1 November 2013 to conduct the final examination of Nurul Asrin binti Roslan on her thesis entitled "Farmers' Attitudes Towards Risk and Their Willingness to Pay for Crop Insurance In Ketara, Terengganu, 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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DECLARATION

Declaration by graduate student

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