

Factors Affecting Economic Performance and Willingness to Pay of Agricultural Entrepreneurs in Betong District, Sarawak

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ABSTRACT

The agricultural sector in Malaysia exists in a dualism, shared between large conglomerates and smallholders who operate on small parcels of land. Unlike large conglomerates who own numerous plantations throughout Malaysia, smallholders, especially rural farmers are among the poor and they face various issues in maintaining and operating their business operations. Rising costs, low prices for agriculture produce, disease, lack of infrastructure and many others are among some of the challenges that are borne by smallholders. What are the factors that affect the economic performance of rural entrepreneurs? And would the entrepreneurs be willing to pay to improve the facilities surrounding their business operations? This study attempts to investigate not only the background of rural entrepreneurs in Sarawak's Betong district, it also examined the factors that would affect the performance of the entrepreneurs and identify the amount that they are willing to pay to contribute to the improvement of the facilities surrounding their business operations. Primary data collection and cluster sampling method were used and questionnaire survey were distributed to targeted respondents i.e. agricultural entrepreneurs around the Betong District. The final analysis utilized 420 questionnaires which are analyzed using descriptive analysis, principal component analysis and rotated component matrix, This study found that majority of agricultural entrepreneurs are female, and are above 40 years old. Almost 90 per cent of them are local Bumiputera and 75 per



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cent are non-Muslim. Business operation and internal and external business relationship were found to be significant factors that affect the economic attainment of the entrepreneurs. Besides that, the entrepreneurs' willingness to pay is found to be up to RM20.54 per month to the local council for the purpose of maintaining and improving the facilities surrounding their business operations. The findings from this study can be used as an estimate or benchmark figure by the local authority for collection/ fees from agricultural entrepreneurs and can be utilized for improvement and development of the Betong town centre and business area.

Keywords: *Rural farmer, economic performance, willingness to pay, agricultural entrepreneur, Betong*

INTRODUCTION

Agriculture is commonly the major source of income in many poor and developing countries. Agricultural trade has long been recognized as an important tool to address poverty and reduce income inequality as well as stimulate growth and development in many countries such as Nigeria, Pakistan, Vietnam (Bertoni *et al.*, (2018); De Janvry & Sadoulet (2010); Hamid & Tims (1990); Matthew & Mordecai (2016); Segura (2010)). Previous literature highlighted the existence of positive significant relationship between agriculture and economic growth; there is strong evidence in support of causality flow from agriculture to economic growth (Kuznets (1961); Ohkawa & Rosovsky (1960); Tiffin & Irz (2006)) as well as the presence of reverse causality, a vibrant economy could also be a catalyst for expansion in the agricultural sector (Awokuse & Xie, 2015).

Malaysia began as an agricultural intensive country. In the early years of post-independence, the agricultural sector in Malaysia contributed 39.3 per cent to GDP (gross domestic product), generated 58.3 per cent of the total employment and contributed 50 per cent to export earnings of the economy. However due to the multiple initiatives taken by the government to reduce dependency on agriculture and increase the economic and financial contribution from the manufacturing sector, in 1980, the contribution of the agricultural sector shrank to 22.9 per cent of total GDP, providing only 39.7 per cent of employment and less than 25 percent to export earnings (World Bank, 2014). The agricultural sector is an important

sector in Malaysia, it not only contributes to GDP and foreign exchange earnings, it also creates employment for the people especially for those in the rural areas, as well as an important provider of food/ produce for domestic consumption. However, despite an increase in absolute value, the share of the agricultural sector in GDP has declined throughout the years (Dardak, 2015). At present, the agricultural sector only contributed 7.3 per cent (RM99.5 billion) to the Malaysian GDP in 2018, providing 10.63 per cent of the total employment in Malaysia and contributed towards RM114,451 million to Malaysian exports (Department of Statistics Malaysia, 2019).

According to Cheng (2017), despite Malaysia's growth and economic development, the degree of improvement in the life of people in rural areas is still minimal. Shaharudin and Sundaram (2019) concur, farmers, especially those who are growing paddy, are still among the poorest in Malaysia, and regional inequalities as well as urban – rural gap remain a serious concern in Malaysia. This was also echoed by the former Chief Minister of Sarawak, Adenan Satem who claimed that despite the country's overall development, one of the most challenging tasks in developing the economy of Sarawak and eradicating rural poverty is the economic transformation of rural Sarawak and the improvement of the socioeconomic status of the rural community.

Sarawak is the largest state in Malaysia, yet it lags behind in terms of infrastructure development and economic growth compared to other Malaysian states. A recent report by the Department of Statistics Malaysia (2020), revealed Sarawak as the second worst performing state in terms of economic growth in 2018 with only 2 per cent of GDP growth. Another report by the United Nations further revealed Sarawak poverty rate to be higher than the national average. At the national level, only 8.8 per cent of Malaysian households have a monthly income of less than RM2,000 while in Sarawak, 15.5 per cent of households have a monthly income of less than RM2,000 (Then, 2019). Agricultural entrepreneurship activities may hold the key towards improving Sarawak's economic performance, reducing the poverty rate while simultaneously reducing the income inequality gap between the rural and urban areas in the state.

Studies have found a positive and significant relationship between agriculture as a tool for poverty reduction and the reduction in income

inequality. Agricultural entrepreneurs not only benefit from selling their produce, but the crops that they grow can also be used for personal consumption. However, despite numerous research being conducted on a macroeconomic perspective investigating the relationship between agriculture and economic performance, very little is known on factors that influence the economic performance of small farmers or agricultural entrepreneurs, especially in the rural areas. Agricultural entrepreneurs such as those located in the rural areas in Sarawak encounter many challenges in growing their business, doing business in the rural areas is different from urban areas; the market is small, products sold are generically the same, agricultural produce has a short shelf life compared to manufactured goods, a lack of infrastructure that supports their business operation and connects them to other parts of Sarawak and many others. Hence, it is important to investigate factors that may lead to better and probably sustainable economic performance for rural agricultural entrepreneurs.

Background of the Study

Betong division was established on 26th March 2002 and is one of the twelve administrative divisions in Sarawak. Located near to three main rivers, Batang Lupar, Batang Saribas and Batang Kelaka, Betong has a total area of 4,181 km². Consisting of four districts which are Betong, Saratok, Pusa and Kabong, and five sub-districts which are Spaoh, Debak, Budu, Maludam and Roban, Betong is the smallest of the administrative divisions of Sarawak. As of 2018, the total population estimated in Betong division is 124,100. Iban and Melayu form the major local groups in this division, which constitute 50.82 per cent and 41.92 per cent of total population in the area respectively (Sarawak Government Official Portal, 2020).

As Betong is blessed with vast natural resources, agricultural trade is one of the major engines of economic growth for the area. The local community in Betong mostly engage in agricultural activities such as farming, rubber tapping, pepper cultivation, palm oil and crops plantation which include paddy, fruits and vegetables. In 2011, 28 per cent or 22,114.8 tonnes out of the total rubber in Sarawak were produced in Betong, the highest among all districts in Sarawak. As for pepper cultivation, Betong contributes 11 per cent or 53,625,085 tonnes of the total pepper production

of the state, the fourth largest behind Samarahan, Sarikei and Sri Aman (Entebang & Lau, 2012).

Over the last decade, Betong has grown from a moderate district into one of the most progressive divisions in Sarawak as a result of the implementation of productivity led-growth initiatives as documented in the Malaysian government's strategic development plan. The initiatives taken by the Malaysian government to unleash productivity and innovation across the country's economy has enabled Betong to progress into one of the most developed divisions in Sarawak. One of the initiatives taken by the government is through the establishment of the Klaka-Saribas-Betong Integrated Agricultural Development Area (IADA), with the objective to develop the agricultural activities through the implementation of integrated agricultural development projects (Ministry of Agriculture and Food-based Industry, 2017). The agricultural area has also been expanded up to 79.2 per cent of the total land area in Betong (Betong Resident Office, 2013), with primary focus given to rubber plantation.

Despite being the main engine of growth for Betong economy, there is an absence of study on the factors affecting the economic performance of agricultural entrepreneurs in Betong. A recent report by Department of Statistics Malaysia (2020) revealed the average gross household income for Betong residents in 2016 as RM3,495 with a median value of RM2,624, indicating that almost half of Betong residents' income level is near or below the poverty rate in Malaysia. It is imperative that a study be conducted to identify the factors leading towards improving the economic attainment of agricultural entrepreneurs in Betong and their willingness to pay to improve their business performance. The primary focus is in gathering all the necessary in-depth information in order to provide solid outcomes and derive reliable and representative results to portray our assessment on the economic performance in agricultural entrepreneurs of the local community in Betong. With that in mind, this study attempts to investigate the demographic profile of the agricultural entrepreneurs in Betong, factors that affect their business performance and identify the amount or monetary value in which the respondents are willing to pay to improve their business environment from the current state.

LITERATURE REVIEW

Generally, the quality and outcomes from agricultural activities are highly dependent on the state of environment such as the status of the natural resource base, climate change, the extent of land degradation, advances in science and technology, urbanization, and trade liberalization and commercialization (Bakar, 2009). Agriculture remains one of the biggest contributors to Sarawak's economic performance, contributing RM16.5 billion or 12.4 per cent to the state's GDP in 2018. 73 per cent of agricultural produce comes from crop production and the remaining from livestock, forestry and logging and fisheries (Department of Statistics Malaysia, 2020).

The agriculture industry in Malaysia can be divided into two categories, smallholders with an average farm size of 1 – 2 ha and plantation-based estates with farm sizes larger than 500 ha. According to Bakar (2009), agricultural development in Malaysia faces several problems, among them are: (1) persistence of poverty among the rural farming community; (2) low returns from agricultural investment; (3) stagnating prices of commodities; (4) high costs of land; and (5) often volatile market forces. This is echoed by Izzah and Wan Asrina (2019), rural farmers face several problems that make agricultural activities less profitable, such as limited land availability, high cost of production and limited knowledge. Nevertheless, rural farmers continue to participate in agricultural activities because not only it provides sustenance to their families, income from agricultural activities is also used to support household consumption and improve their welfare (Onakuse, 2012; Zhong, Chen & Xiao, 2013; Sibhatu & Qaim, 2017).

As far as we are aware, there is limited research on factors affecting the performance of agricultural entrepreneurs in the rural areas in Sarawak. Among the few is a study by Izzah and Wan Asrina (2019) on the level of involvement and understanding of rural farmers in Bintulu. Their study found that majority of the farmers are male (59.9 per cent) and have completed high school with SPM education (30.7 per cent). Majority of the respondents (64.4 per cent) fall under the smallholder category with cultivation areas limited to available land near their dwellings. It is also found that most of the farmers' agricultural produce is for personal

consumption and has reported earnings of less than RM1,000 from their agricultural activities.

An earlier study by Bakar (2009) found that labour shortage and low labour productivity of only 60 per cent compared to the manufacturing sector as among the impediment towards growth in the agricultural sector for smallholders. This results in low domestic production and inconsistent supply – causing small and medium scale agriculture-based firms to operate below optimal capacity. This is supported by Echoh, Nor, Gapor and Masron (2017) who found other than the lack of labour supply, poor subsidy distribution system, inadequate availability of agricultural land, distance to the nearest urban area as well as transportation affect the production of paddy farmers in Kuala Tatau, Sarawak.

According to Echoh *et al.* (2017), labour shortage among smallholders is caused by outmigration from rural to urban areas. Rural farmers are subjected to high costs of agricultural products such as pesticides, fertilizers, machineries, and many others, and low selling price of agricultural produce resulting in an increase in poverty among the rural farmers. This causes the farmers to abandon their agricultural activities in search of higher paying jobs in densely populated urban areas. Hence, it is crucial to identify all the factors that could possibly affect the variation in the agricultural sector to ensure its sustainability.

To improve the level of output and economic performance of the entrepreneurs, investments must be made. Entrepreneurs must be willing to spend in order to improve their business. Willingness to pay (WTP) under attitude-behaviour paradigm and the theory of planned behaviour are adopted in this study to determine the extent to which the entrepreneurs are willing to spend in order to ensure growth in output and business performance. According to Liebe, Preisendörfer and Meyerhoff (2011), WTP is expected to increase with a more favourable attitude toward paying for such goods, with increasing social pressure toward paying, and with an increasing perceived behavioural control regarding paying for such goods. In their study, the authors found that WTP is affected by two separate decisions; (1) whether an individual is willing to pay at all; and (2) the amount of WTP given that the individual is willing to pay in principle.

WTP is found to be more affected by demographic and individual factors compared to sociological factors and technology. A study by Seifouri, Babalhavaeji, Nooshin and Matlabi (2018), found variables such as education, monthly income, job, and gender had the most impact on willingness to pay. Similarly, Xiong *et al.* (2018) discovered factors that affect the WTP include educational background and work type while pay-out levels are affected by education background, work type, and household annual disposable income.

RESEARCH METHODOLOGY

Similar to previous studies (Das, 2015; Echoh *et al.*, 2017; Izzah and Wan Asrina, (2019)), this research also utilises a primary data collection method. The first step involves gathering demographic information of Betong in terms of the latest total population, proportion of the local community and residential areas of the targeted respondents. Cluster sampling method is endorsed given the nature of the study (Nyariki, 2009). Using this approach, the targeted population is divided into subgroups based on geographical areas covered within the Betong district. Random samples will then be selected based on each group for further screening process, until the targeted respondents who engage in major agricultural activities particularly rubber tapping, pepper cultivation, palm oil and crops plantation including paddy, fruits and vegetables are found and accounted to proceed with questionnaire survey distribution. For this study, respondents are selected from smallholders or rural entrepreneurs who conduct their business around Betong market selling vegetables, pepper, rubber, and other local produce.

As for the sample, this research utilizes a set of principles outlined in the published table by Israel (1992) based on the combination of precision, confidence level and variability, where it is decided that a total of 400 respondents is apt to derive representative results for the size of population of more than 100,000 people (Singh & Masuku, 2014). Hence, to account specifically for the population within Betong, a sample size of 400 respondents is chosen in this research with 20 added as preliminary study or pilot test.

Unlike studies by Echoh *et al.*, (2017) which utilise interview and observation analysis or Izzah and Wan Asrina (2019) which analyses their

questionnaire survey data with descriptive analysis, this study applies exploratory factor analysis. According to Suhr (2006), this technique extracts as much common variances as possible out of the first and following factors within the framework of study. The process is done continuously up until the maximum number of common variances is captured and there is no common variance remaining. A number of subsequent procedures is applied following this particular technique, starting with looking at the intercorrelation between variables. If any of the correlations are too high (say above 0.9), it is therefore required to remove one of the variables from the analysis, as the two variables seem to be measuring the same thing.

Next, the reliability of questionnaire is then tested by adopting the Cronbach Consistency Reliability test. Gandhi (2012) outlines the rule of thumb in describing the internal consistency using Cronbach's Alpha, where the coefficient between 0.5 and 0.8 will render the specific under investigation as reliable for the study. Afterwards, an indexing method will be performed in the regression analysis to measure the variable of perception of respondents. The following formula will be used to derive the perception index:

$$Index_i = \frac{\sum X_i}{n}$$

where,

X	=	Likert scale (1, 2, 3, 4, 5)
i	=	Question's number
n	=	No. of questions

This is followed by identifying the number of the components based on the results from SPSS, where factors with eigenvalue higher than 1 is considered as significant. This will be supported by the screen plot which has a point of inflexion after the factors that will be extracted during the stage of analysis. Finally, the principal component analysis is performed to identify which question belongs to particular factors within the framework of study. It consists of the rotated component matrix which is a matrix of the factor loadings for each variable onto each factor.

A pilot test was employed as a preliminary stage to data collection. This is very important to refine all aspects in the questionnaire survey and identify issues related to the content of survey. Among them is to test that the respondent understands each question, the wordings used as well as the

format of the questionnaires. It is essential to find the firmness and patience of respondents in answering all the questions included in the survey. This pilot test was conducted and involved a number of 20 respondents. It was found that the questionnaire survey instrument is sufficient in capturing the objective of this study. Thus, the same questionnaire was distributed to another 400 respondents. Hence the results of this study comprise a total of 420 respondents.

The variables adopted in this study are divided into two types, demographic and factor variables. All variables are described in Table 1.

Table 1: Socio-demographic Variables for the Analysis

Variable	Definition	Description
GEN	Gender	Male or Female
AGE	Age	Age of respondent
MStatus	Marital Status	Marital status of respondent
RACE	Race	Race of respondent
REL	Religion	Religion of respondent
EDU	Education	Years of respondent formal education
WExp	Working Experience	Working experience of respondent
YExp	Year Experience	Years of respondent working experience
BO	Business Operation	Cleanliness, location, leadership, record-keeping and competition
Rs	Relationship	Staff welfare, relationship, qualification, and assistance

Socioeconomic variables are adopted from previous studies on agricultural entrepreneurs such as Das (2015), Izzah and Wan Asrina, (2019) and Nyariki (2009). A number of variables such as gender, marital status, race, and religion are nominal data and are assigned numerical values. The variables are tabulated in Table 2.

Table 2: Variables Used in the Study

Variable	Description	Expected sign
GEN	Gender: 1=Female, 0=Male	n/a
AGE	Age of respondent	+
MStatus	Marital status of respondent	n/a
RACE	Race of respondent	n/a
REL	Religion of respondent	n/a
EDU	Years of respondent formal education	+
WExp	Employment status: 1=Employed or retired, 0=Otherwise	n/a
YExp	Years of respondent working experience	+

The questionnaire instrument is divided into three sections: Section A encompasses the demographic profile of the respondents. Section B investigates the factors that affect the economic attainment of the entrepreneurs and Section C identifies the amount or monetary value in which the respondent is willing to pay to improve his business environment from the current state.

Two factors are derived from Section B of the questionnaire. We look towards similar studies such as Chittithaworn, Islam, Keawchana and Muhd Yusuf (2011) and Philip (2010) which observed factors such as SMEs characteristics, customer and market, the way of doing business, resources and finance, and external environment to be significant in affecting the success of small and medium sized enterprises. For the purpose of this study, the factors are grouped into two: the first factor is the current state of the entrepreneur’s business operation and the second factor refers to the entrepreneur’s internal and external business relationship. The variables and factor are tabulated in Table 3.

Table 3: Statements Reflecting Factors Affecting Economic Attainment

No.	Variables	Factor loadings
1	Clean and comfortable business premise	Business Operation
2	Strategic location	
3	Effective managerial skills	
4	Sales record updated daily	
5	Sales affected by competition	
6	Staff welfare is well taken care of	Relationship
7	Close relationship with employees	
8	Easily mingle with employees	
9	Staff is employed based on qualifications	
10	Good relationship with suppliers, customers and government agencies	
11	Receive assistance from government agencies	

FINDINGS AND DISCUSSION

This section elaborates on the results of the study. Demographic results allow us to ascertain the background and demographic information of the respondents. Demographic results are tabulated in Table 4.

Table 4: Socio-demographic Characteristics of Respondents

Variable	Frequency	Percentage (%)	Mean	Standard Deviation
<i>Gender</i>				
Male	150	35.7	0.643	0.479
Female	270	64.3		
<i>Age</i>				
< 21	0	0.0	4.605	1.136
21 – 30	26	6.2		
31 – 40	48	11.4		
41 – 50	86	20.5		
51 – 60	166	39.5		
> 60	94	22.4		
<i>Marital Status</i>				
Single	24	5.7	2.083	0.498
Married	349	83.1		
Divorced	35	8.3		
Widowed	12	2.9		
<i>Race</i>				
Malay	118	28.1	1.821	0.593
Iban	259	61.7		
Chinese	43	10.2		
Others	0	0		
<i>Religion</i>				
Muslim	120	28.6	0.719	0.455
Non-Muslim	300	71.4		
<i>Education</i>				
No formal education	99	23.6	2.091	0.776
Primary school	192	45.7		
Secondary school	123	29.3		
Diploma	4	1.0		
Bachelor degree	2	0.5		
Master degree	0	0		
Ph. D	0	0		
<i>Prior Working Experience</i>				
No	329	78.3	0.217	0.412
Yes	91	21.7		
<i>Experience as Entrepreneur</i>				
< 5 years	219	52.1	8.088	7.993
6 – 10 years	89	21.1		
11 – 15 years	65	15.5		
16 – 20 years	21	5.0		
> 20 years	26	6.2		

Based on the results in Table 4, it can be said that majority of the respondents are female, with more than half aged 40 years old and above. Almost 90 per cent of them are local Bumiputera with 25 per cent of them professing the religion of Islam. In terms of education, majority of them have basic primary education schooling and only a handful have obtained tertiary education. More than three-quarter of the respondents admitted to having no prior working experience before doing business and about half of the respondents have only been in business for less than 5 years.

Section B of the questionnaires discern factors affecting the economic attainment among the local agriculture hawker community in Betong. The descriptive attributes can be divided into several categories: (1) it describes the quality of the respondent as an entrepreneur and business owner; (2) the business operation; and (3) external factors. For example, statements such as (1) effective managerial skills, (2) close relationship with employees, (3) friendly to customers, and (4) easily mingle with employees are intended to ascertain the character of the respondent as well as its relationship with its staff. Statements such as (1) clean and comfortable premise, (2) strategic location, (3) parking facilities, (4) price of goods are affordable, (5) goods are well displayed and organize, (6) sales record updated daily (7) staff is employed based on qualifications and (8) good relationship with suppliers, customers and government agencies look at how the business is operated. Meanwhile, statements such as (1) good relationship with suppliers, customers and government agencies, (2) receive assistance from government relationship and (3) sales affected by competition look at the external factors related to the enterprise. The results are tabulated in Table 5.

Table 5: Descriptive Analysis of Factors Affecting Economic Attainment

Attribute	Variable	Percentage (%)	Mean
Clean and comfortable premise	Extremely disagree	0.0	3.73
	Disagree	4.5	
	Neutral	24.3	
	Agree	65.0	
	Extremely agree	6.2	
Strategic location	Extremely disagree	0.0	3.83
	Disagree	1.2	
	Neutral	29.3	
	Agree	54.5	
	Extremely agree	15.0	

Parking facilities	Extremely disagree	0.0	3.85
	Disagree	3.8	
	Neutral	18.8	
	Agree	66.2	
	Extremely agree	11.2	
Friendly to customers	Extremely disagree	0.2	4.26
	Disagree	0.2	
	Neutral	5.7	
	Agree	61.2	
	Extremely agree	32.6	
Staff welfare is well taken care of	Extremely disagree	3.6	2.95
	Disagree	40.2	
	Neutral	16.7	
	Agree	36.4	
	Extremely agree	3.1	
Close relationship with employees	Extremely disagree	16.0	2.94
	Disagree	28.1	
	Neutral	10.0	
	Agree	38.1	
	Extremely agree	7.9	
Price of goods are affordable	Extremely disagree	0.2	3.75
	Disagree	1.9	
	Neutral	21.9	
	Agree	74.3	
	Extremely agree	1.7	
Effective managerial skills	Extremely disagree	0.0	3.62
	Disagree	0.7	
	Neutral	42.6	
	Agree	50.2	
	Extremely agree	6.4	
Goods are well displayed and organized	Extremely disagree	0.0	4.31
	Disagree	0.0	
	Neutral	6.4	
	Agree	56.2	
	Extremely agree	37.4	
Sales record updated daily	Extremely disagree	3.1	3.31
	Disagree	21.2	
	Neutral	24.3	
	Agree	44.3	
	Extremely agree	7.1	
Easily mingle with employees	Extremely disagree	4.8	3.04
	Disagree	39.8	
	Neutral	9.5	
	Agree	38.6	
	Extremely agree	7.4	
Staff is employed based on qualifications	Extremely disagree	23.1	2.40
	Disagree	26.9	
	Neutral	36.7	
	Agree	13.1	
	Extremely agree	0.2	

Good relationship with suppliers, customers and government agencies	Extremely disagree	10.2	2.40
	Disagree	48.3	
	Neutral	32.4	
	Agree	9.0	
	Extremely agree	0.0	
Receive assistance from government agencies	Extremely disagree	14.0	2.13
	Disagree	67.9	
	Neutral	9.3	
	Agree	8.6	
	Extremely agree	0.2	
Sales affected by competition	Extremely disagree	4.5	2.86
	Disagree	29.8	
	Neutral	40.7	
	Agree	24.8	
	Extremely agree	0.2	

From the results in Table 5, it can be seen that majority of the respondents (i.e. more than 50 per cent) agree that factors such as a clean and comfortable premise, strategic location, availability of parking facilities, being friendly to customers, affordably priced goods, entrepreneur having effective managerial skills, and goods are well displayed and organized are important in affecting their economic attainment. However, there are also some negative findings, a large number of respondents have also admitted that staff welfare is not well taken care of, and the entrepreneurs do not mingle well with the employees. In addition, the entrepreneur was found to not have a good relationship with suppliers, customers and government agencies and does not receive assistance from government agencies. A large number of the respondents were also found to be neutral on two items in the questionnaire, indicating that staff is not employed based on qualifications and sales are not affected by the competition.

The descriptive attributes are then analysed in SPSS where the inter-correlation between the descriptive attributes are extracted with principal component analysis. Rotation method using Varimax with Kaiser Normalization was selected and results are displayed in a rotated component matrix in Table 6 below.

Table 6: Rotated Component Matrix

	Component	
	1	2
Effective managerial skills	0.783	
Strategic location	0.745	
Sales record updated daily	0.713	
Clean and comfortable premise	0.624	
Good relationship with suppliers, customers and government agencies		0.841
Receive assistance from government agencies		0.744
Close relationship with employees		0.692
Staff welfare is well taken care of		0.686
Easily mingle with employees		0.681
Staff is employed based on qualifications		0.627

Items in component 1 are found to be strongly inter-correlated and found to explain the construct of Business Operation (BO). These items are: (1) effective managerial skills, (2) strategic location, (3) sales record updated daily, and (4) clean and comfortable premise. While items in component 2 were found to be strongly inter-correlated and found to explain the construct of internal and external business relationships (Rs). These items are: (1) good relationship with suppliers, customers and government agencies, (2) receive assistance from government agencies, (3) close relationship with employees, (4) staff welfare is well taken care of, (5) easily mingle with employees, and (6) staff is employed based on qualifications.

To answer the question of whether the entrepreneurs are willing to pay to improve the condition of their premise, demographic data was regressed against the respondents’ willingness to pay from Section C of the questionnaire. The following regression was estimated:

$$WTP = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \beta_7X_7 + \beta_8X_8 + \epsilon$$

Where, willingness to pay (WTP) is the dependent variable, and is a function of β_1 to β_8 . Where β_1 to β_8 indicate the coefficient of independent variables and X_1 to X_8 indicate the independent variables and ϵ is the error term. The independent variables are gender, age, marital status, year of education, working experience, year of experience, business operation and relationship. Results from the regression are tabulated in Table 7. The dependent variable is Willingness to Pay (WTP).

Table 7: Regression Result of WTP

Variable	Coefficient	Std. Error	t-statistic	p-value
Constant	11.426	3.650	-3.130	0.002
GEN	-1.528	0.621	-2.461**	0.014
AGE	0.056	0.298	0.188	0.851
MStatus	-0.255	0.581	-0.439	0.661
EDU	0.817	0.447	1.827*	0.068
WExp	-2.564	0.752	-3.411***	0.001
YExp	0.113	0.037	3.071***	0.002
BO	0.810	0.164	4.942***	0.000
Rs	0.367	0.079	4.665***	0.000
R-square	0.351			
Adjusted R-square	0.306			
F-statistic	8.059***			

Note: ***Significant at 1%, **5% and *10% level

The model is found to be significant at 1 per cent. The R² indicate that our model is able to explain 35.1 per cent of the variation in the respondents' willingness to pay. The above result is converted to form an equation as presented below:

$$\text{WTP} = 11.426 - 1.528 \text{ GEN} + 0.056 \text{ AGE} - 0.255 \text{ MStatus} + 0.817 \text{ EDU} - 2.56 \text{ WExp} + 0.113 \text{ YExp} + 0.810 \text{ BO} + 0.367 \text{ Rs} + \varepsilon$$

Where five (5) variables, (1) gender, (2) prior working experience, (3) years of experience as an entrepreneur, (4) business operation and (5) relationship are significant at 1 per cent level of significance while one variable, education background is significant at 10 per cent level of significance in affecting the entrepreneur's willingness to pay. Variables such as gender and prior working experience have a significant negative influence on the entrepreneur's willingness to pay meaning that females are more willing to pay and those who have prior working experience are more willing to pay compared to those who have not worked before becoming an entrepreneur. Variables such as education background, years of experience, business operation and relationship have a positive influence on the respondents' willingness to pay.

DISCUSSION

This study intended to identify the factors affecting the economic attainment among local community in the Betong District. Firstly, this study profiled of the local community who are involved in agricultural entrepreneurship activities in Betong District. Unlike the study by Izzah and Wan Asrina, (2019), this study finds that majority of the agricultural entrepreneurs are female, and majority are above 40 years old. Almost 90 per cent of them are local Bumiputera and 75 per cent of them are non-Muslim. In terms of education, majority of them have basic primary education schooling and only a handful have obtained tertiary education. More than three-quarter of the respondents admitted to having no prior working experience before doing business and about half of the respondents have only been in business for less than 5 years.

Secondly, it was found that majority of the entrepreneurs are in agreement that factors such as: (1) clean and comfortable premise; (2) strategic location; (3) parking facilities; (4) being friendly to customers; (5) having a close relationship with employees; (6) affordable price of goods; (7) having effective managerial skills; (8) goods are well displayed and organized; and (9) updating their sales record daily would affect their economic attainment. And majority also disagree on factors such as: (1) taking good care of staff welfare; (2) mingling with employees; (3) having a good relationship with suppliers, customers and government agencies; and (4) receiving assistance from government agencies. The respondents are also neutral on factors such as (1) having staff employed based on qualifications; and (2) sales being affected by competition in affecting their economic attainment.

Based on the rotated component matrix, Business Operation (BO) was found to be derived of items such as effective managerial skills, strategic location, sales record updated daily, and clean and comfortable premise. While internal and external business Relationship (Rs) is found to be derived from the following items such as good relationship with suppliers, customers and government agencies, receive assistance from government agencies, close relationship with employees, staff welfare is well taken care of, easily mingle with employees and staff is employed based on qualifications. This is congruent with studies by Chittithaworn *et al.* (2011) and Philip (2010) which observed factors such as SMEs

characteristics, customer and market, the way of doing business, resources and finance, and external environment as significant in affecting the success of small and medium sized enterprises.

For the third objective, which is to identify the agricultural entrepreneur's willingness to pay to improve their economic performance, this study has also found strong evidence that entrepreneurs are willing to pay to improve their business operation. Among the factors that are found to be significant in influencing the entrepreneur's willingness are: gender, prior working experience, years of experience as an entrepreneur, business operation, relationship and education background. Similar to Seifouri *et al.* (2018) and Xiong *et al.* (2018), it was found that education level, and years of experience as an entrepreneur are significant in affecting the entrepreneurs' WTP. Additionally, business operation and relationship are also found significantly positive in influencing an entrepreneur's WTP while gender and working experience are found to be significantly negative in influencing an entrepreneur's WTP in improving his business area. It can be established that due to the negative sign in front of the coefficient for gender and working experience, female entrepreneurs would be more willing to pay compared to male entrepreneurs and those with prior working experience before venturing out as an entrepreneur would be more willing to pay compared to those without prior working experience.

The regression model is then used to calculate an estimated value in Ringgit Malaysia (RM) that entrepreneurs in Betong is willing to pay to improve the economic performance of their enterprise. The estimated value for an entrepreneur's willingness to pay is derived from the coefficient of all variables multiplied by the mean value of each variable to calculate (Table 8).

Based on the results in Table 8, it can be estimated that entrepreneurs in Betong are willing to pay RM20.54 per month in order to improve their economic attainment. This value, if multiplied by the number of respondents in this study, $N = 420$ would result in a collection of RM8,626.80 per month. And in a year when multiplied by 12 months would result in a collection of RM103,521.60. This is a substantial amount which can be used to further improve the amenities surrounding the business operations of the entrepreneurs.

Table 8: Estimate Willingness to Pay for Betong Agricultural Entrepreneurs

Variable	Coefficient	Mean
Constant	11.426	-
GEN	-1.528	0.643
AGE	0.056	4.605
MStatus	-0.255	2.083
EDU	0.817	2.091
WExp	-2.564	0.217
YExp	0.113	8.088
BO	0.810	3.62
Rs	0.367	2.64
WTP		RM 20.54

This study has provided different findings from previous studies such as Izzah and Wan Asrina, (2019) which we attribute to difference in location and method of conducting business. In their study, they found that majority of the agricultural entrepreneurs in Bintulu are male, with minimal education of SPM and are limited to produce that are cultivated near their house. For agricultural entrepreneurs in Betong, majority are female, have attained primary schooling and are conducting their business at the designated market provided by the local municipal council in Betong. Besides that, these entrepreneurs also do not face the issues of lack of infrastructure, poor subsidy distribution system, inadequate availability of agricultural land, distance to the nearest urban area as well as transportation issues as experienced by paddy farmers in Kuala Tatau (Echoh *et al.*, 2017).

Findings from this study contribute in two ways. Firstly, it adds on to the body of literature on agricultural entrepreneurs in Sarawak by highlighting the different demographic background of Betong rural farmers compared to other districts in Sarawak. In this way, the local governing body can tailor activities that are suited to the demographic background of entrepreneurs in Betong which is different compared to entrepreneurs in other districts. Secondly, the information derived from the willingness to pay of Betong agricultural entrepreneurs can be used by the local authorities as a gauge on the fee that can be imposed on the entrepreneurs to improve and upgrade the facilities surrounding the Betong market. The local authorities can seek to address the issues faced by the agricultural entrepreneurs such as to provide better parking facilities and better infrastructure for the entrepreneurs to display their goods.

The results of this study can be used as an estimate or benchmark figure by the district office or municipal council for collection/ fees from local resident entrepreneurs. The collected amount can be used to improve the area. For example, the local municipal council can charge a small fee to pay for improvements, maintenance and cleanliness of the surrounding business area. This result can also be used by the local district office and/ or municipal council to create awareness programs to local entrepreneurs on the benefit of increasing their willingness to pay to improve the entrepreneur's economic performance.

CONCLUSION

In conclusion, this study finds that majority of agricultural entrepreneurs in Betong (Sarawak) are female and above 40 years old. Almost 90 per cent of them are local Bumiputera and 75 per cent of them are non-Muslim. This study also finds business operation and internal and external business relationship as significant factors that affect the economic attainment of the entrepreneurs for better sustainability.

It can also be seen that despite Betong's population having a median income close to the Malaysian poverty level, small agricultural entrepreneurs from rural areas such as Betong are willing to pay a small amount to improve their economic performance. However, this willingness to pay is influenced by several factors such as gender, prior working experience, years of experience as an entrepreneur, business operation, relationship and education background. The model reported in this paper helps to explain the factors that influence an agricultural entrepreneur's willingness to pay in Betong. This model can be adopted in other districts to ascertain the willingness to pay of entrepreneurs in other districts to improve their economic attainment. However, this model is only able to explain 35.1 per cent of the variation in the agricultural entrepreneur's willingness to pay. Therefore, future researchers can include other variables and test the model to rural entrepreneurs in other districts of Sarawak in order to improve the results.

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REFERENCES

- Awokuse, T. O., & Xie, R. (2015). Does agriculture really matter for economic growth in developing countries? *Canadian Journal of Agricultural Economics/ Revue canadienne d'agroeconomie*, 63(1), 77-99.
- Bakar, B. B. (2009) *The Malaysian agricultural industry in the new millennium: issues and challenges*. In: International Conference on Malaysia: Malaysia in Global Perspective, 27-28 September 2009, Cairo University, Egypt.
- Bertoni, D., Cavicchioli, D., Donzelli, F., Ferrazzi, G., Frisio, D. G., Pretolani, R., Ricci, E. C., & Ventura, V. (2018). Recent contributions of agricultural economics research in the field of sustainable development. *Agriculture*, 8(12), 200.
- Betong Resident Office. (2013). Social development. The Story of Unity in Diversity: The Betong Experience. *Betong Resident Office, Sarawak*. Retrieved January 11, 2020, from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjNg_yNltbsAhWZV30KHUJWC-sQFjAAegQIBBAC&url=https%3A%2F%2Fbetong.sarawak.gov.my%2Fmodules%2Fweb%2Fpages.php%3Fmod%3Dpublication%26sub%3Dpublication_show%26id%3D3&usg=AOvVaw3R74Qxq2VVEHZm4oBIORjV
- Cheng, L. (2017). Adenan's Legacy of Agricultural Development to Transform Rural Areas. *Borneo Post Online*. 10 February 2017. Retrieved January 11, 2018 from <https://www.theborneopost.com/2017/02/10/adenans-legacy-of-agricultural-devt-to-transform-rural-areas/>

- Chittithaworn, C., Islam, M. A., Keawchana, T., & Muhd Yusuf, D. H. (2011). Factors Affecting Business Success of Small & Medium Enterprises (SMEs) in Thailand. *Asian Journal of Social Science*, 7(5), 180-190.
- Dardak, R. A. (2015) Transformation of Agricultural Sector in Malaysia Through Agricultural Policy. *Policy Articles*. Food and Fertilizer Technology for the Asian and Pacific Region. FFC Agricultural Policy Platform (FFTC-AP). Retrieved October 27, 2020, from <https://ap.ffmpeg.org.tw/>
- Das, P. (2015). Problems of Rural Farmer: A Case Study Based on the Lowphulabori Village under the Raha Block Development Area of Nagaon District, Assam. *IOSR Journal Of Humanities And Social Science*, 20(1), 40-43.
- De Janvry, A., & Sadoulet, E. (2010). Agricultural growth and poverty reduction: Additional evidence. *The World Bank Research Observer*, 25(1), 1-20.
- Department of Statistics Malaysia (2019). Selected Agricultural Indicators, Malaysia, 2019. 29 November 2019. Retrieved from <https://dosm.gov.my/v1/index.php> on 27 October 2020.
- Department of Statistics Malaysia (2020). Poket Stats Negeri Sarawak ST4 2019. *Jabatan Perangkaan Malaysia, Kementerian Hal Ehwal Ekonomi*. February 2020. Retrieved October 27, 2020 from https://www.dosm.gov.my/v1/uploads/files/7_Publication/Infographic/PocketStats/Negeri/Sarawak/Q4-2019/Poket_Stats_Sarawak_ST4_2019.pdf
- Echoh, D. U., Nor, N. M., Gapor, S. A., & Masron, T. (2017). Issues and Problems Faced by Rural Farmers in Paddy Cultivation: A Case Study of the Iban Paddy Cultivation in Kuala Tatau, Sarawak. *Journal of Regional and Rural Development Planning*, 1(2), 174-182.
- Entebang, H. & Lau, E. (2012). Divisional Economics Report 2011: In Conjunction with the 10th Anniversary of Betong Division. *Resident's Office Betong*.

- Gandhi, P. S. (2012). Calculating and Interpreting Reliability Estimates for Achievement Test in Graph Theory (A modern branch of Mathematics). *International Indexed & Referred Research Journal*, 5, 36-37.
- Hamid, N., & Tims, W. (1990). Agricultural Growth and Economic Development: The Case of Pakistan. *Research Programme on: Changing Comparative Advantage in Food and Agriculture*. Working Paper No. 13. OECD Development Centre. Retrieved October 27, 2020 from <http://invenio.unidep.org/invenio/record/714/files/tp13.pdf>
- Israel, G. D. (1992). Determining sample size. University of Florida, *Fact Sheet PEOD-6*, 1-5.
- Izzah, A. H., & Wan Asrina, W. Y. (2019). Levels of Involvement and Understanding in Agriculture: The Case of Bintulu, Sarawak, Malaysia. *International Journal of Humanities and Social Science Research*, 5(3), 201-206.
- Kuznets, S. (1961). Economic Growth and the Contribution of Agriculture: Notes on Measurement. *International Journal of Agrarian Affairs*, 3(2), 1-20.
- Liebe, U., Preisendörfer, P., & Meyerhoff, J. (2011). To Pay or Not to Pay: Competing Theories to Explain Individuals' Willingness to Pay for Public Environmental Goods. *Environment and Behavior*. 43(1), 106-130.
- Matthew, A., & Mordecai, D. B. (2016). The Impact of Agricultural Output on Economic Development in Nigeria (1986-2014). *Archives of Current Research International*, 1-10.
- Ministry of Agriculture and Food-based Industry (2017). IADA Kalaka Saribas Betong Sarawak. Kawasan Pembangunan Pertanian Bersepadu (IADA). Retrieved December 6, 2017 from <https://www.mafi.gov.my/iada-kalaka-saribas-betong-sarawak>
- Nyariki, D. M. (2009). Household data collection for socio-economic research in agriculture: approaches and challenges in developing countries. *Journal of Social Sciences*, 19(2), 91-99.

- Ohkawa, K., & Rosovsky, H. (1960). The Role of Agriculture in Modern Japanese Economic Development. *Economic Development and Cultural Change*, 9(1, Part 2), 43-67.
- Onakuse, S. (2012). The Future of Subsistence Agriculture in the Rural Community of Uzanu, Edo State, Nigeria. *Journal of Agriculture, Food Systems, and Community Development*, 3(1), 61-71.
- Philip, M. (2010). Factors affecting business success of small & medium enterprises (SMEs). *Asia Pacific Journal of Research in Business Management*, 1(2), 1-15.
- Sarawak Government Official Portal (2020). Administrative Division and Districts. Retrieved June 11, 2020, from https://www.sarawak.gov.my/web/home/article_view/358/298/
- Segura, J. A. (2010). The Contribution of Agriculture to Sustainable Development in Jamaica. Inter-American Institute for Cooperation on Agriculture (IICA) 2010. Retrieved October 27, 2020, from <http://repiica.iica.int/docs/b2082i/b2082i.pdf>
- Seifouri, V., Babalhavaeji, F., Nooshin, F., & Matlabi, D. (2018). Analysis of Factors that Influences Users' Willingness to Pay for the Services of Iranian Academic Libraries by Using the Contingent Valuation Method. *Library Philosophy and Practice*, 1755.
- Shaharudin, A., & Sundaram, J. K. (2019). Malaysian Agriculture Success Much to be Desired. *Forum, The Edge Malaysia Weekly*. 25 December 2019. Retrieved October 27, 2020 from <https://www.theedgemarkets.com/article/malaysian-agriculture-success-much-be-desired>
- Singh, A., & Masuku, M. (2014). Sampling techniques and determination of sample size in applied statistics research: an overview. *IjcemCoUk*, 2 (11), 1-22.
- Suhr, D. D. (2006). Exploratory or confirmatory factor analysis? *Statistics and Data Analysis*, 31, 66 – 76.

- Then, S. (2019). UN Report: Poverty in Sarawak Higher than National Average. *The Star*. 28 August 2019. Retrieved October 27, 2020, from <https://www.thestar.com.my/news/nation/2019/08/28/un-report-poverty-in-sarawak-higher-than-national-average>
- Tiffin, R., & Irz, X. (2006). Is Agriculture the Engine of Growth? *Agricultural Economics*, 35(1), 79-89.
- World Bank (2014). Malaysia Overview and Key Indicators. Retrieved June 10, 2020, from www.worldbank.org/en/country/malaysia/overview
- Xiong, K., Kong, F., Zhang, N., Lei, N., & Sun, C. (2018). Analysis of the Factors Influencing Willingness to Pay and Payout Level for Ecological Environment Improvement of the Ganjiang River Basin. *Sustainability*, 10, 2149.
- Zhong, C., Chen, S., & Xiao, Q. (2013). A Case Study of the Effectiveness of Agricultural Subsidies Policies: Theory and Evidence from Huangpi District, Hubei, China. *Journal of Economics and Development Studies*, 1(2), 1-18.