

Full Length Research Paper

The impact of female university students' acceptance towards agriculture contract farming on Malaysian economy

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The emergence of agriculture contract farming as one of the recent agriculture branches has promised a lot of potential for income generating. However do the youths, as the pillar of this country accept this contract farming as one of their potential occupations? The focus of this study is to determine specifically the female youth acceptance towards agriculture contract farming. Based on simple random sampling, a total of 283 female university students studying in universities in Malaysia were selected as respondents for this study. SPSS software was used to run analyses such as Pearson product-moment correlation and Multiple Linear Regression. Based on the results, all the independent variables studied namely belief, knowledge, support and attitude have positive and significant relationship with acceptance towards agriculture contract farming. In addition, attitude was found as the main contributor for acceptance towards agriculture contract farming among female youth. One of the strategies to further enhance the acceptance towards agriculture contract farming among female youth is to establish contract farming club at the university level. It is also recommended that agriculture contract farming club can be initiated as one of the clubs placed under the Rakan Muda Program. Besides, persistent exposure to courses and seminars on agriculture contract farming should be provided to the interested female youth.

Key words: Female youth, acceptance, contract farming, agriculture sustainability.

INTRODUCTION

Agriculture has emerged as an important income generating industry to the Malaysia economy. In addition, agriculture project has been proven to be one of the medium to overcome poverty problem (Hayrol et al., 2010). After the economic crisis in 2007, a number of Asian countries including Malaysia have turned to agriculture as one of their main income generators.

Contract farming can be considered as one of the new agriculture activities in Malaysia. Agriculture contract farming (ACF) has a lot of potential to be unleashed. ACF activities such as leech rearing, worm rearing, herbs and mushroom acculturation have a huge potential to be one of the major income generating activities. Based on what have been mentioned by Glover (1987), contract farming is a concept that includes institutional arrangement which unite the advantages of agriculture productivity such as quality control, coordination of production and marketing. It also involves small scale production which includes superior incentives and equity considerations.

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Abbreviations: ACF, Agriculture contract farming; MYC, Malaysian Youth Council; IPPBM, Malaysia Institute for Youth Development Research Centre; UPM, Universiti Putra Malaysia; UUM, Northern University of Malaysia; UMT, Universiti Malaysia Terengganu; RISDA, Rubber Industry and Smallholders Development Authority College; RMP, Rakan Muda Program.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

Positive acceptance towards agriculture is instrumental to agriculture industry success (Jeffrey et al., 2010; Jegak et

al., 2010). However, what are the factors that influence acceptance towards agriculture activities especially contract farming? There are a lot of previous studies that attempted to relate a number of factors with acceptance towards ACF. One of the factors that is consistently associated with acceptance towards ACF is attitude. Kumar (2007) emphasized what ACF has got to offer to the community possess the potential to enhance youth's acceptance of ACF. Conversely, findings by Kumar (2007) was supported by a study by Bahaman et al. (2010) which have revealed that attitude towards ACF and acceptance towards ACF are positively related. Bahaman et al. (2010) concluded that the more positive attitude that a person has towards ACF, the more he or she will accept ACF. Karami and Mansoorabadi (2008) and Alam et al. (2009) have come out with another interesting findings where they categorized people's attitude into four groups namely low attitude low behavior, high attitude low behavior, low attitude high behavior and high attitude high behavior and all of these groups have a direct influence on acceptance towards contract farming. Knowledge is another essential factor that has been found to influence acceptance towards ACF. A study done by Maria (1998) emphasized that acceptance can be driven by the access to the related knowledge while referring to James (2004), people's reluctance to accept what agriculture can offer including ACF can be caused by their lack of knowledge. To further clarify the influence of knowledge on acceptance towards ACF, Sriboonchinta and Wiboonpoongse (2008) in their study have concluded information and knowledge on appropriate fertilizer and chemicals, alternative crops, method to increase productivity and appropriate production method are essential to enhance people acceptance towards ACF. Dossing (2010) in his research has supported what have been clarified by Sriboonchinta and Wiboonpoongse (2008) by stating that knowledge and good practices are dominant factors for acceptance towards ACF.

Support is another element claimed by researchers to have a significant influence on acceptance towards ACF. Guo et al. (2005) claimed that government support in term of advice and finance is essential to help people to be involved in agriculture. Moreover, government support is important in motivating youths to accept ACF. Wheeler (2008) through his study has claimed that interested parties will accept ACF if they are provided with support in term of information provision, specialist extension support, farm demonstration and policy support. Another important factor that can affect acceptance towards ACF is belief. Adrian et al. (2005) have stressed that people who believe contract farming is beneficial to them will have higher acceptance towards ACF. Jeffrey et al. (2010) supported Adrian et al. (2005) when they claimed that belief and knowledge are integral for people to accept ACF. Moreover, findings by Jeffrey et al. (2010) concluded that belief is one the major contributors to

acceptance towards ACF.

The role of agriculture in national development

Agriculture has become an impetus for national development all over the world and Malaysia is included as one of them. Agriculture is instrumental in elevating the Malaysian economy as emphasized in all of the Malaysian Plans. In the Ninth Malaysian Plan for example, agriculture has been established to be the third income generator for the country. As a strategy to further boost the agriculture sectors, the Malaysian government has introduced High Impact Agriculture Program (HIP) such as Agropolitan Project, Zone Industry Aquaculture (ZIA) and Sustainable Food Production Park (TKPM). These programs strive to achieve the objectives of increasing farmers' income, alleviating poverty problems, providing employment opportunities and increasing their quality of life (Hayrol et al., 2010). Implementation of such agriculture programs is not a big problem for Malaysia as there are more than 20 departments and authorities that are placed under the Ministry of Agriculture and Agro Based Industry. Universiti Putra Malaysia as the agriculture focused university is also playing its significant role towards achieving these goals. Interestingly, contract farming has been identified as one of the catalysts to strengthen the HIP Programs initiatives. Agencies such as Federal Agriculture Marketing Authority (FAMA), Department of Agriculture Malaysia (DOA), Farmers Organization Authority (FOA), Agrobank, Malaysia Agriculture Research Development Institute (MARDI) and Malaysia Pineapple Industry Board (LPNM) for example have been entrusted with the responsibilities to ensure the successful implementation of such programs. Through the initiatives of the aforementioned agencies, the government has developed a total of 12,010 contract farmers involving areas of 20,208.5 ha.

The importance of youth participation in agriculture section

To ensure the success of this activity, the participation of youths is crucial (Alam et al., 2009). Youths is the future generation of the agriculture industry and must be encouraged to be part of the agriculture community (Atsan et al., 2009). The United Nation (UN) defined youths as those whose age range between 15 to 24 years old while the Malaysian Youth Council (MYC) defined youths as those whose age range between 15 to 40 years old. Based on the official website of the Malaysia Institute for Youth Development Research Centre (IPPBM), currently youths constitute slightly more than two fifths (42.0%) of the Malaysian citizens while the current rate of unemployment among youths in Malaysia is 4% (Malaysia Institute for Youth Development

Research Centre, 2010). In developing countries such as Malaysia, extensive emphasis on agriculture is essential due to its ability in reducing unemployment problem (Hayrol et al., 2010; Jeffrey et al., 2009). Agriculture employment will continue to play a key role in the livelihood of many and productivity-led agricultural growth is needed to provide a forward and backward linkages and more importantly sustainable employment opportunities for youths. Agriculture can be the main catalyst in assisting the government to provide employment opportunities for the youths (Hayrol et al., 2010; Jeffrey et al., 2009). Currently, a vast majority of those involved in agriculture constitutes of the older generation. As such, there is a dire need for youths as the substitute (Salleh et al., 2009; Ezhar et al., 2008). The positive acceptance among female youths especially among the university graduates is important to ensure the sustainability of agriculture industry. This positive acceptance towards ACF is essential to ensure the success of the government mission to initiate agriculture as the third income generator can be achieved.

Potential of youths in agriculture sector

Youths promises a lot of potential for the agriculture sectors. As mentioned earlier, youths constitute almost half of the Malaysian population and without doubt they can become the main workforce in developing the agriculture sectors. They are responsible to lead this sector and to mobilize the agriculture activities in this country. With their enthusiasm, youths have the ability to track all the changes in the agriculture world and it is hoped that they can raise issue and potential that can bring benefits to the agriculture sector. Furthermore, findings in World Development Report (2007) has concluded the advantages of youth involvement in agriculture by stating that youth is the group that have the ability to run the agriculture activities in a different and unique way. In order to encourage youths to be involved in agriculture, effective and unique strategies must be instituted to make agriculture an attractive option for youth (Jeffrey et al., 2009; Jeffrey et al., 2010). Attempt must be made to move away from subsistence agriculture and introduce commercialization and improvement productivity based on the transformation of technology and infrastructure supports. ICT also can be mobilized to attract youth to the agriculture sectors. Generally youths are always related to ICT literate while "senior" farmers are always related to ICT illiterate (Salleh et al., 2009; Hayrol et al., 2009). Youth are more skilled and knowledgeable about ICT than anyone else and face fewer problems in using ICT (Salleh et al., 2009; Musa et al., 2009). Here, the advantage can be applied to the agriculture sector. They can apply their computer and internet skills within the agriculture sectors and the application has a huge potential to enhance their

productivity, widening their products markets, ease communication process, encourage agriculture information sharing and lots more (Bahaman et al., 2009).

Challenges to youths participation in agriculture

There are a lot of challenges to encourage and persuade youths to be part of the agriculture community and the major challenge that needs to be overcome is their negative attitude towards agriculture (Jeffrey et al., 2010; Bahaman et al., 2010; Norsida, 2008). Norsida (2008) in her study concluded that youths have a negative attitude towards agriculture even though they believe that agriculture can generate a lot of income if it is conducted in a right way. Gidakou (1999) concluded that youths do not want to join agriculture community because they still consider agriculture as a second class job or they just consider agriculture as only a temporary works for them while they are waiting for a better job. The negative perception that agriculture is only for poor and needy must be removed from the youths. Furthermore, a study done by World Development Report (2007) concluded that youths do not want to be involved in agriculture as they see agriculture is not an attractive area to work.

MATERIALS AND METHODS

The present study used the quantitative research design which is deemed sound and appropriate to gather information from the respondents and then to extensively use the statistical tools available to arrive at particular findings and conclusions. The instrument featured questions pertaining to demographic information, level of acceptance towards CF, and factors affecting acceptance towards CF. The items in the questionnaire were derived from past literature and through a series of meetings with three experts (academic and practitioners) of youth and agriculture development. A pilot test was administered among 30 university students to determine the reliability of the study instrument.

Probability sampling, that is, simple random sampling was employed to collect data. The basic characteristics of simple random sampling are that each member of the population has an equal and independent chance of being included in the sample.

The population of this study consists of female youths aged between 18 to 24 years representing students from four higher institutions in Malaysia namely Universiti Putra Malaysia (UPM), Northern University of Malaysia (UUM), Universiti Malaysia Terengganu (UMT) and Rubber Industry and Smallholders Development Authority College (RISDA) and it was 980. According to Krejcie and Morgan (1970), the minimum recommended sample size for a population of 1000 is 278. However, in this study questionnaires were distributed to 300 respondents to overcome problems such as non-response and so on. Self-administered method was employed to gather the data required between February and March 2010 and the response rate in the data collection process was about 94%.

The dependent variable for this study was acceptance towards ACF while four independent variables comprised belief, knowledge, support and attitude. SPSS was applied for the data analysis. The Exploratory Data Analysis was carried out to check the presence of outliers and to test the assumption of normality; it was

Table 1. Socio-demographic of respondents.

Variable	Frequency	Percentage	Mean	Standard deviation
Age (years)				
18-19	80	28.3		
20-21	117	41.3	20.77	1.52
22-24	86	30.4		
Zone (location of institution)				
Northern	86	30.5		
Central	68	24.0		
East Coast	70	24.7		
Southern	59	20.8		
Monthly expenditure (In Ringgit Malaysia)				
<200	55	19.4		
201-300	80	28.3	371.34	228.10
301-400	86	30.4		
>401	62	21.9		
Field of study (major)				
Agriculture	121	42.8		
Economic	86	30.4		
Social science	76	26.9		
Locality				
Urban	108	38.2		
Rural	175	61.8		
Receive information regarding contract farming				
Yes	123	43.5		
No	160	56.5		

Table 2. Overall level of acceptance towards ACF.

Level of acceptance	Frequency	Percentage	Mean	S. D
Low (1.0-3.33)	0	0		
Moderate (3.34-6.67)	76	26.9	7.32	1.16
High (6.68- 10.0)	207	73.1		

accomplished through the Kolmogorov-Smirnov (K-S) test which resulted in conformity to the assumption which enabled the use of parametric statistics. Descriptive analyses such as frequency, percentage, mean and standard deviation were performed to describe the general data of the study while inferential analyses such as Pearson product-moment correlation and multiple linear regression were used to unveil any relationship between the independent variables and dependent variable.

FINDINGS

A large proportion of the respondents (41.3%) aged between 20 to 21 years old and another 30.4% aged between 22 to 24 years. The mean for age was 20.8 years. Almost one third of the respondents were studying in the northern zone. Slightly more than half of the respondents (52.3%) spent more than RM300 a month

while 19.4% spent less than RM200 per month. On the average, the respondents spent RM371.34 per month. A total of 42.8% of the respondents were majoring in agriculture while almost two thirds of the respondents were from rural areas. It was worth to know that nearly half of the respondents (43.5%) have received information regarding ACF (Table 1).

Acceptance towards ACF was measured using a ten-item instruments employing 10-point Likert-like scale. Mean summated score was computed resulted in a value ranging from 1 to 10. The mean score was categorized into three levels namely 1 to 3.33, 3.34 to 6.67 and 6.68 to 10.0 to represent low, moderate and high, respectively. As depicted in Table 2, based on the overall mean score of 7.32 (from the maximum mean score of 10.0), it can be concluded that the respondents posted a high level of

Table 3. Percentage distribution of items to measure acceptance towards ACF.

Statement	Scale										Mean	S.D
	1	2	3	4	5	6	7	8	9	10		
ACF is a potential industry			0.4	1.4	5.7	7.8	18.0	29.3	23.7	13.8	7.93	1.45
ACF has the ability to attract investors	-	-	0.7	2.5	9.5	8.8	19.1	27.2	21.2	11.0	7.64	1.58
ACF offers more benefits compared to other agriculture activities	-	-	0.4	2.5	6.0	11.0	21.2	30.7	20.8	7.4	7.63	1.43
ACF encourages technology transfer	0.4	-	0.4	2.8	7.4	11.0	19.4	29.3	19.1	10.2	7.60	1.57
ACF produces higher income	-	-	1.1	3.2	7.8	13.8	19.4	28.6	18.0	8.1	7.46	1.56
ACF is a sustainable industry	0.4	-	0.4	4.6	6.7	11.7	25.4	25.8	16.6	8.5	7.42	1.58
ACF is a prestige profession	-	0.4	0.7	1.8	9.2	13.1	26.5	29.0	13.4	6.0	7.33	1.46
ACF has guaranteed market for products produced	-	-	1.4	2.1	14.5	10.6	21.6	28.3	13.1	8.5	7.28	1.61
ACF ensures high quality and productivity	-	-	0.7	3.5	13.1	11.0	24.0	27.6	14.5	5.7	7.23	1.54
ACF involves low risks	1.1	0.7	4.9	10.6	23.0	18.0	15.9	12.0	10.2	3.5	6.18	1.89

respondents reported a low level of acceptance while a large majority of the respondents (73.1%) were recorded a high level of acceptance towards ACF. This positive phenomenon reflects an avenue for the female youths to be active players in agriculture community.

The ten-item instrument used to measure acceptance was tested for its reliability and was found to be reliable (Cronbach alpha = 0.976). List of the items is presented in Table 3. Based on the mean score recorded (from 6.18 to 7.93 from maximum mean score of 10.0), it can be concluded that the respondents studied have a high level of acceptance towards ACF. The highest mean score is recorded by the statement of "ACF is a potential industry" (M = 7.93), followed by the statement of "ACF has the ability to attract investors" (M = 7.64) and "ACF offers more benefits compared to other agriculture activities" (M = 7.63). The lowest mean score was recorded for the statement "ACF involves low risks" (M = 6.18).

Table 4 displays distribution of the four factors to acceptance towards ACF. The reliability coefficients for the instruments were 0.897, 0.910, 0.896 and 0.897 for belief, knowledge, support and attitude, respectively. Based on the results presented in Table 4, majority of the respondents were found to record high level of belief towards ACF (78.1%), a high level of knowledge towards ACF (74.9%), a high level of support towards ACF (74.9%) and a high level of attitude towards ACF (70.1%). The findings provided an early indicator that majority of the respondents had the interest and the potential to be the future agriculture community in Malaysia.

Pearson product-moment correlation was employed to determine relationship between the four factors on acceptance towards ACF. As portrayed in Table 5, all the four factors showed moderate and significant relationship on acceptance towards ACF (r ranged between 0.525 and 0.660, $p < 0.05$). Attitude scored the highest relationship ($r = 0.660$) followed by knowledge ($r = 0.651$), support ($r = 0.607$) and finally belief ($r = 0.525$).

All the four factors showed positive relationship on acceptance towards ACF.

Finally, stepwise regression analysis was used to determine factors that significantly contribute towards acceptance. Results showed the most significant contributor towards acceptance was attitude. In which it contributed 43.3% variance in acceptance ($R^2 = 0.433$). Knowledge was another significant contributor which contributed an additional 9.4% variance in acceptance ($\Delta R^2 = 0.094$). The last factor that contributed significantly towards acceptance was belief. This factor contributed an additional 1.2% variance in acceptance towards ACF ($\Delta R^2 = 0.012$). The analyses also revealed that these three factors explained 53.6% variance in acceptance towards ACF (Table 6).

DISCUSSION

To ensure the success of the agriculture industry, it is important to ensure the participation of youth as the backup generation (Alam et al., 2009). This study has highlighted the high acceptance among female youth towards ACF. In order to enhance this agriculture activity, ACF club should be established at the university level. Through the club, female youth can gain more knowledge, exposure and technique on contract farming. This exposure to agriculture activities including contract farming will encourage and motivate them to be part of agriculture community upon graduation (Alam et al., 2009). ACF has to be introduced as one of the elements in Rakan Muda Program (RMP). Through the club and RMP, agriculture education and exposure can be given to the members and consequently can provide a sustainable agriculture labor (Van Crowder et al., 1999). RMP is a program that is initiated especially for youths in Malaysia and have the objectives to (1) create a community which intercommunicate with other sub-communities and individuals through various activities

Table 4. Factors affecting acceptance towards ACF.

Factor	Frequency	Percentage	Mean	S.D
Belief towards ACF				
Low (1.0-3.33)	0	0		
Moderate (3.34-6.67)	62	21.9	7.58	1.29
High (6.68- 10.0)	221	78.1		
Knowledge on ACF				
Low (1.0-3.33)	1	0.4		
Moderate (3.34-6.67)	79	27.9	7.51	1.20
High (6.68-10.0)	203	71.7		
Support towards ACF				
Low (1.0-3.33)	1	0.4		
Moderate (3.34-6.67)	70	24.7	7.50	1.34
High (6.68- 10.0)	217	74.9		
Attitude towards ACF				
Low (1.0-3.33)	3	1.1		
Moderate (3.34-6.67)	82	29.8	7.28	1.38
High (6.68- 10.0)	198	70.1		

Table 5. Results of Pearson product-moment correlation between factors and acceptance towards ACF.

Variable	r	P
Attitude	0.660	0.0001
Knowledge	0.651	0.0001
Support	0.607	0.0001
Belief	0.525	0.0001

Table 6. Factors that contribute to acceptance towards ACF using multiple linear regression.

Independent variable	b	beta	R	R ²	ΔR ²
Constant	1.597				
Attitude	0.321	0.381	0.660	0.433	-
Knowledge	0.327	0.336	0.728	0.526	0.094
Belief	0.123	0.136	0.736	0.536	0.012

under the “Rakan Muda Style of Life Program”, (2) allow youths to be aware, skillful and dynamic which instilled the “Sure You Can” spirit, (3) develop positive self-image values such as discipline, respect, loyalty, cooperation, unity and patriotism for the youth and (4) create greater and stronger relationship in implementing activities with the relevant agencies in relation to Rakan Muda Style of Life Program. Currently, there are eight clubs under the

RMP and unfortunately there is no specific agriculture club put under the RMP. Establishment of specific youth agriculture club, enables more youths especially female to be exposed and to gain more vocational aspects, knowledge and information on ACF, thus will enhance their acceptance towards ACF (Alam et al., 2009; Egun, 2009). Even though it was revealed in this study that attitude is the main contributor towards female youths acceptance towards ACF, this positive attitude is not a guarantee that they will be involved in ACF. Norsida (2008) in her study has concluded that besides having positive attitude towards agriculture activities including ACF, youths still do not want to be involved in agriculture activities and Gidaraku (1999), Jeffrey et al. (2010) and Bahaman et al. (2010) have put forwards several plausible reasons namely youths consider agriculture as a second class job and agriculture does not promise a high income. To ensure the positive attitude of the female youth is sustained, series of courses and seminars on ACF should be organized to expose female youths at the university level.

Conclusion

Based on the results, it can be concluded that majority of female youths in Malaysia have a high level of acceptance towards ACF. Majority of them accept ACF as a potential industry nowadays and has the ability to attract investors and offers more benefit compared to other agriculture activities. Besides having a good level of

acceptance towards ACF, female youth in Malaysia were found to have a high level of belief, knowledge, support and attitude towards ACF. Further analysis unveiled that belief, knowledge, support and attitude had positive and significant relationship with acceptance towards ACF. Attitude was the most significant contributor to acceptance towards ACF.

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