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Participation of Youth in Kelantan towards Agro Entrepreneurship in Fertigation System

By

Nabila Huda Binti Adnan

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Faculty Of Agro-Based Industry

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DECLARATION

I hereby declare that the work embodied in this report is the result of the original research and has not been submitted for a higher degree to any universities or institutions.

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Student

Name:

Date:

I certify that the report of this final year project entitled “Participation of Youth In Kelantan Towards Agro Entrepreneurship in Fertigation System” by Nabila Huda bt Adnan, matric number F14A0160, has been examined and all the correction recommended by examiners have been done for the degree of Bachelor of Applied Science (Agriculture Technology) with Honours, Faculty of Agro-Based Industry, Universiti Malaysia Kelantan.

Approved by:

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Supervisor

Name:

Date:

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Participation of Youth in Kelantan Towards Agro Entrepreneurship in Fertigation System

ABSTRACT

This research aimed to identify the youth participation in Kelantan towards agro entrepreneurship in fertigation system. The participation is further examine in detail considering to the knowledge, interest and perception of youth towards agro entrepreneurship in fertigation system. The main objective of this study is to evaluate the participation level of youth towards agro entrepreneurship in fertigation system, to study the attraction and repulsion factor of interest of youth towards fertigation system, and to study relationship between socio demographic factor (age, marital status, educational status, and profession), and perception of youth towards fertigation system. The problem statement of this study, the limited of agriculture land to implement agriculture and lack of involvement of youth in agro entrepreneurship. This study assist the government and other agencies to identify what are the factors related to youth participation towards fertigation system in agriculture, either it comes from their interest, knowledge or perception. This study used survey method using questionnaire as instrument to collect data. Sampling method used for this study is purposive sampling. The collected data were then analysed by using SPSS 21. Descriptive analysis and Chi-square Test were used to analyse the data obtained. The highest mean score obtained from this study was 3.97 in which it indicated that the youths have good knowledge regarding fertigation system. The result indicates that the youth in Kelantan has good level of knowledge, interest and good perception towards agro entrepreneurship in fertigation system.

Keyword: agro entrepreneurship, fertigation system, youth, knowledge, perception, interest

Penyertaan Belia di Kelantan Terhadap Usahawantani di dalam Sistem Fertigasi

ABSTRAK

Tujuan utama kajian ini adalah untuk mengenal pasti penyertaan belia di Kelantan terhadap ushawantani di dalam sistem fertigasi. Penyertaan dikaji dengan lebih mendalam mengenai pengetahuan, minat dan persepsi belia terhadap usahwantani dalam sistem fertigasi. Objektif utama utama kajian ini adalah untuk menilai tahap penyertaan belia terhadap keusahawanan agro dalam sistem fertigasi, untuk mengkaji faktor tarikan dan penolakan kepentingan belia ke arah sistem fertigasi, dan untuk mengkaji hubungan antara faktor demografi sosioekonomi (umur, status perkahwinan, status pendidikan, dan profesion), dan persepsi belia ke arah sistem fertigasi. Pernyataan masalah kajian ini, tanah pertanian yang terhad untuk melaksanakan pertanian dan kurangnya penglibatan belia dalam bidang keusahawanan agro. Kajian ini membantu kerajaan dan agensi lain untuk mengenal pasti faktor-faktor yang berkaitan dengan penyertaan belia ke arah sistem fertigasi pertanian, sama ada dari minat, pengetahuan atau persepsi mereka. Kajian ini menggunakan kaedah kaji selidik menggunakan instrumen soal selidik untuk mengumpul data. Kaedah pensampelan yang digunakan untuk kajian ini adalah persampelan bertujuan. Data yang dikumpul kemudian dianalisis dengan menggunakan SPSS 21. Analisis penjelasan dan ujian “Chi-square” digunakan untuk menganalisis data yang diperoleh. Skor min tertinggi diperolehi daripada kajian ini adalah 3.97 di mana ia menunjukkan bahawa para belia mempunyai pengetahuan yang baik mengenai sistem fertigasi. Hasilnya menunjukkan bahawa belia di Kelantan mempunyai tahap pengetahuan, minat dan persepsi yang baik terhadap keusahawanan agro dalam sistem fertigasi.

Kata Kunci: usahawantani, system fertigasi, belia, pengetahuan, persepsi, persepsi, minat

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LIST OF ABBREVIATIONS AND SYMBOLS

KAP MODEL	Knowledge, Attitude, Practices
SPSS 21	Statistical Package for Social Science Software 21
%	Percentage
N	Sample size
SD	Standard deviation
MARDI	Malaysian Agricultural Research and Development

CHAPTER 1

INTRODUCTION

1.1 Background of Study

The agriculture industry has a broad prospect in which it includes husbandry, cultivation, and fishery. Hence, this explained that agriculture industry actually has a lot of job opportunities that can be offered to the youths. Technological advances nowadays indirectly demanded the need for transformation in all sectors that are involved in the community, especially in the agriculture sector (The Borneo Post, 2012). Agrotechnology is one of the main sources incomes in Malaysia. Malaysia's government encourage the youths to look into agriculture technology.

Nowadays, with the innovation of new technology development in agriculture, it will contribute the production of the crops. The procedure in preparing the crops can be done efficiently with the help of technologies. Through various subsidy programs prepared by the government, farmers have access to technology supplied to them (Wan Sufian, 2011). Agriculture has developed into a lot of transformation phases throughout the year in which it is very different from how it used to be years ago. One of the technologies in agriculture is fertigation system. Fertigation system is one of the technologies applied in agriculture nowadays. This system provides a lot of benefits towards crops plantation. Fertigation is referred to soilless culture production system (Mahamud S. *et al.,* 2015). Fertigation is introduced because of lack of agricultural land. Lack of agricultural land happened because of the development of the urban area and increase in human population (Ahmad Nazrul *et al.,* n.d).

National Youth Development Policy defined youth in Malaysia as a person that age range 15-40 (IPPBM Online Survey, 2010). Agricultural Research and Development Institute (MARDI) director-general, Datuk Dr. Sharif Haron stated that among agricultural entrepreneur, only 15 percent of it are youths. He said that the mentality of young people seeing agriculture as difficult work is one of the factors why there are not a lot of youths that participate in agriculture (Balqis, 2014).

This kind of mentality needs to be fixed among the youth as agriculture industry nowadays is not the same as it used to be 50 years ago. A lot of job opportunities also have been offered in this agriculture sector. The youths should avoid the attitude of being choosy over work and their mindset of working in the office also needs to be demolished.

1.2 Problem Statement

There are 7.6 million hectares of lands that are suitable for agriculture practices, but 70 percent of them are acidic (Utusan Online, 2017). This caused limited land to implement agriculture. Nowadays, the development of urban area becomes a big impact in agriculture in which it resulting in loss of agricultural land (Sinar Online, 2016). Development of urban areas such as housing, building constructions, and others will decrease the availability of land for plantation. New technology need to be implemented to solve this problem. Fertigation is one of the alternatives to increase crop production. However, the participation in fertigation system among the farmers is still not promising. The farmers claim fertigation system has a high risk and the initial cost is very high. Futhermore, the involvement of youth in agriculture is still low. Participation of youth aged 15-34 years old in entrepreneurship activity is low including agriculture (Amna *et al.*, 2015). Lack involvement of youth in agro-entrepreneurship is one of the problems faced by the

government. Youth should involve in agro-entrepreneurship because it will help them to increase their income. Fertigation system is one of agro-entrepreneurships, in which they can gain a lot of advantages by joining this program. Lembaga Pertubuhan Peladang (LPP) encourages youth to involve in the plantation by using fertigation system because it can bring a lot of income (Utusan Borneo Sarawak, 2017). Next problem is Malaysia depends more on imported crop or foods rather than producing it. As Malaysia import food and crops from other countries, it required a large amount of costs. Hence, Malaysia should depend more on the crops or foods that produced by our own country.

1.3 Research Question

1. What is the participation level of youth in fertigation system?
2. What is the attraction and repulsion factor of interest of youths towards fertigation system?
3. What is the relationship between socio demographic factor (age, marital status, educational status, and profession) and perception of youths towards fertigation system.

1.4 Objective of the Study

1. To evaluate participation level of youths towards agro-entrepreneurship in fertigation system.
2. To study the attraction and repulsion factor of interest of youths towards fertigation system.
3. To study relationship between socio demographic factor (age, marital status, educational status, and profession) and perception of youths towards fertigation system.

1.5 Scope of Study

The study focuses on participation level of youth towards agro entrepreneurship in Kelantan. The respondents were selected among youths with the ages

between 15 to 40 in Machang and Jeli. The questionnaires were prepared before conducting the survey.

1.6 Significance of Study

A lot of studies have been conducted regarding youth participation towards agriculture. This research focuses more on the participation of youth in Kelantan towards agro-entrepreneurship in fertigation system. In Malaysia, youths participants in this industry are still lacking even with the help of technology. This study will help the government and other agencies to identify what are the factors related to youth participation towards fertigation system in agriculture, either it comes from their interest, knowledge or perception. When the factors are identified, the solutions of this study can be discussed. This study will encourage youth to participate in fertigation system in agriculture. They can join any program provided by government sectors.

CHAPTER 2

LITERATURE REVIEW

2.1 Agriculture in Malaysia

In Malaysia, agriculture is one of the sources of income in Malaysia. Agriculture has a broad prospect and has a lot of job opportunities. Agriculture is still the relevant industry in Malaysia due to its contribution towards the economy in Malaysia (Farah and Bahaman, 2013). Agriculture industry can be mainly divided into three which are cultivation, husbandry, and fishery. For each of these sectors mentioned, a lot of income can be generated from it. Oil palm cultivation contributed a lot of income in the agriculture industry.

2.1.1 Agriculture Technology in Malaysia

As we are facing a new era of science and technology, the application of technology is a must in every country in order to increase their crops quality and productivity. Science and technology play a major role in Malaysia's development. In order to sustain the knowledge-based economy, Malaysia government acknowledged that research and development and technological innovation are essential (Zaharah, 2012). Some of the technologies that applied in agriculture are plant tissue culture, fertigation system, and hydroponic. These systems mentioned used specific technologies in order for it to work. Fertigation is the application of fertilizers, soil amendments, or other water-soluble products through an irrigation system (Bandyopadhyay, 2010). It is used in commercial agriculture and horticulture, and this system is applied to high-value crops such as vegetables, turf, fruits trees and ornamentals plant. The same thing goes for other technology applied in agriculture, each of them has specific method in handling and maintaining them, but the objective

is the same, to produce high-quality crops and yield. With the development of agriculture technology, the government and non-government sectors are willing to help people in which they held a program to teach future farmer that interest to get involve in agriculture technology. Malaysian Agriculture Research and Development Institutes (MARDI) is a government sector in which their objective is to promote new technology that will help the production of the crops (Ashriq, 2014). There are also a lot of benefits that can be gain by farmers when using technologies on their farm. Some of the systems are efficient and time-saving, in which the products can produce a lot at a time or the production is double compared to manual farming.

2.2 Fertigation in Malaysia

Rockmelon, chilies, strawberries are the examples of the fruits that used fertigation system in Malaysia. Fertigation is a cultivation method in which the completed fertilizers are supplied in solutions form towards the crop using drip irrigation. It used commercially in agriculture and horticulture and usually practiced with high-value crops such as turf, fruit trees, vegetables, and ornamentals (Bandyopadhyay, 2010).

A lot of benefits can be gained by using fertigation system. It can increase the nutrients absorption by plants. Nutrients are important for the growth of every plant; hence by getting enough nutrients, it will improve the plants quality. Using fertigation system also can save the cost application of fertilizers because the fertilizers supply is according to the measurement and time, this will avoid any waste from happen. The fertilizers also used directly supply to the root in which it will facilitate the nutrient uptake from the plant.

2.3 Local Youth

According to National Youth Development Policy, youth is a person that age range 15-40. Youths constitute the most important sector in any society. The youths are the major source of manpower for socio-economic development of the society (Sarah *et al*,, 2010).

2.4 Participation of Youth towards Agro-Entrepreneurship in Fertigation System

Local youth nowadays are demanding in choosing the job in Malaysia resulting a lot of youth left unemployed. Participation of youth aged 15-34 years old in entrepreneurship activity is low including agriculture (Amna *et al.*, 2015). The agriculture sector has provided a lot of job opportunities towards these young people and fresh graduated. However, they tend to go for office work rather than getting involved in agriculture industry. According to Utusan Online (2013), youths contribute about one over five from the population of developing economy. They also face the chance of being unemployed with 10%-28%. The amount of productive youth in Malaysia is increasing; however agriculture is not their career options. The students that graduated from agriculture school also do not join the agriculture industry after graduated. This increases bad perception of the youth towards agriculture industry (Ruhaidini, 2013). Youth are reluctant and less inclined to work in agriculture sector because there is conventional view that work in agriculture sector is rough, the pay is low and does not promise a bright future (Abdul and Norhlilmatun, 2013). A study done by Farah *et al.* (2012) proved that youths believed that agriculture is not a professional and attractive job. Agriculture nowadays applied new systems and technologies in the crop production. Fertigation is one of the technologies used in agriculture that can be promoted towards the youth. It is very important for the

government to encourage the youth by providing any program that teaches them the fertigation system. Some of the youths are interested in getting involve in fertigation system, but they probably have no knowledge regarding the methods or technology that they want to use. So, it is important for every government or non-government sectors to provide program and knowledge towards these people. These programs can encourage the youth and give them exposure towards agriculture technology. A few studies have been conducted in which the perception of the participant after getting expose towards agriculture change differently in which they want to join the agriculture industry after the program. Hence, it is important for the government to encourage the youth to join the fertigation system.

2.5 Theoretical Framework

The theoretical framework used in this study was KAP model. Knowledge, Attitudes and Practice (KAP) survey model are one of the theory models can be used for this study. A KAP survey means Knowledge, Attitude, and Practices. Knowledge is a set of understandings, knowledge and of science. The degree of knowledge assessed by the survey helps to locate areas where the information and education efforts remain to be exerted. Attitude is defined as a way of being, a position. These attitudes can be formed based on individuals like or dislike on something (Bahaman *et al.*, 2010). Practices or behaviors are defined when an individual give visible actions in response to a stimulus. KAP survey is an illustrative study of a precise population to assemble evidence on what is known, believed and done in relative to a particular subject (Shah *et al.,* 2011).

CHAPTER 3

METHODOLOGY

In this chapter, the procedure conducted in this research was elaborated. Several methods were used to conducted the study to achieve the research objective. This chapter was divided into three parts. The first part discussed the research design and the second part discussed research framework. The instrumentation, population, sampling and data preparation procedure were discussed in the third part of this chapter.

3.1 Research Design

Quantitative research design was used for this study. Questionnaire forms were distributed to the youths in Kelantan to gather the information from the respondent. The technique used to gather the data is purposive sampling in which this research targeted youth in Kelantan within 15 – 40 years old. The independent variable of this study is the knowledge, interest, and perception of the youth. Meanwhile the dependent variable of this study was participation of youth in Kelantan towards agro-entrepreneurship in fertigation system.

3.2 Research Framework

This research framework was prepared to identify the factor of participation of youth in Kelantan towards agro entrepreneurship in fertigation system in Kelantan.

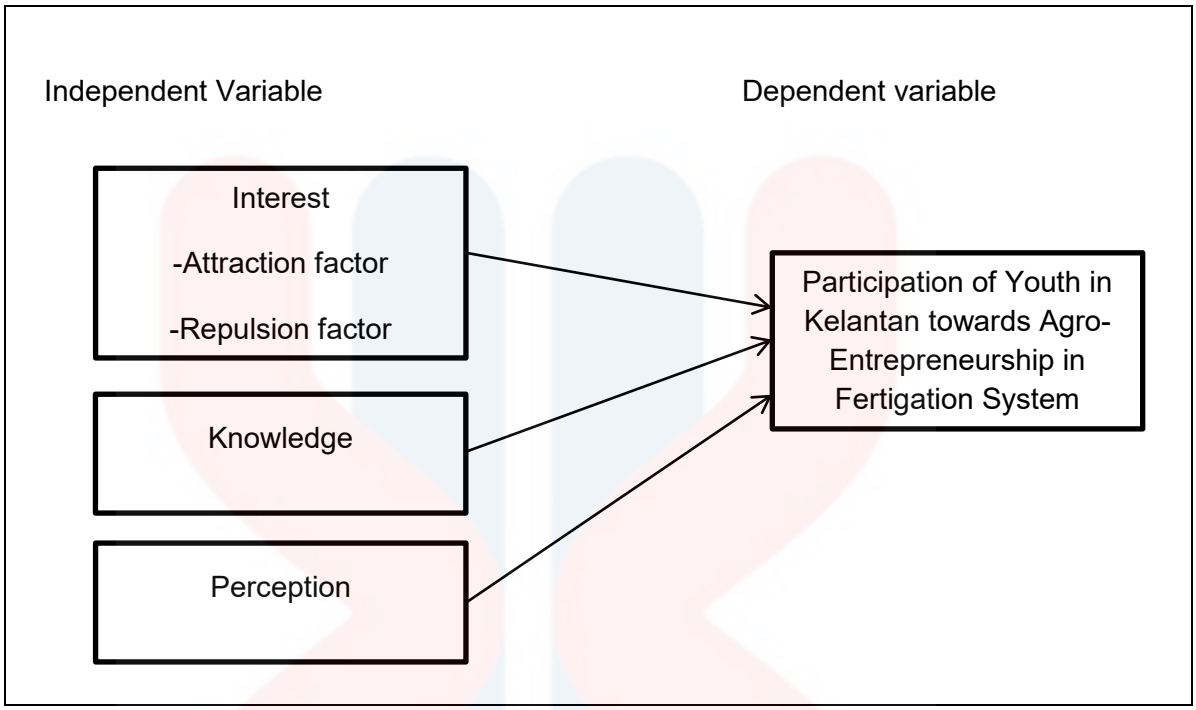

Figure 3.2.1 : Research Framework

The diagram above explained the research framework of the study. This explained the relationship between local youths' interest, knowledge, perception, and participation of youth in Kelantan towards agro-entrepreneurship in fertigation system.

There are three independent variables identified in this study which are interest, knowledge, and perception. Attraction factor and repulsion factor can be identified in which these can affect youths' interest to participate the fertigation system in agriculture. These three independent variables will affect the participation of youth towards agro-entrepreneurship in fertigation system. The dependent variable in this study is participation of youth in Kelantan towards agro-entrepreneurship in fertigation system.

3.3 Instrumentation

3.3.1 Questionnaire Survey

The instrument used for this research was self-administered survey questionnaire.

3.3.2 Questionnaire Design

The questionnaire was designed for this study. The questionnaire design was based on the title of the study which is, “Participation of Youth in Kelantan Towards Agro Entrepreneurship in Fertigation System”. Likert scale design was used in this study to ensure the respondents understand the questionnaire prepared. The questionnaire prepared consists of four parts:

- Part A included questions regarding demographic profile of the respondent. This section has thirteen questions. The respondents were asked about their age, gender, marital status, races, education level, religion, profession, and course.
- Part B included questions regarding the independent variable of this study which was youths’ interest towards fertigation system. In this section, the questions were divided into two parts which were Part B (i) the questions designed were about the attraction factor that lead to youth’s interest towards fertigation system in which it contained six questions. In Part B (ii) the questions were about the repulsion factor that cause the youth’ not interested in fertigation system in which it contained three questions.
- Part C included questions regarding the independent variable of this study which was the youths’ knowledge towards fertigation system. A total of six questions were asked on this part.

- Part D included questions regarding the last independent variable on this study which was the youths' perception towards fertigation system. Eight questions were asked on this section.

Part B (i and ii), Part C and Part D were design using Likert-type scales in which the respondent can choose their answer from scale 1 to 5:

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

3.4 Target Population

The population sample for this study was youths in Kelantan. Youths in Kota Bharu, Jeli and Machang were chosen as respondent for this study. The total population of youth of targeted areas is 259, 000 people (Institut Penyelidikan Pembangunan Belia Malaysia,2010). The amount of respondent participated in this study were 100 people.

Table 3.4.1: Total youth population by district in Kelantan

District	Populations
Kota Bharu	238 400
Machang	40 200
Jeli	17 000

3.5 Sample Design

This study targeted the background of respondent around Kelantan area in which their age must be between 15 to 40 years old. A purposive sampling technique has been done because the respondents were selected according to their age, means that not everyone can participate on this study.

3.6 Sample Size

100 respondents were selected for this study. Based on the previous study, 100 respondents were enough to conduct survey that have population size 100 000 and above to had a 100 of sample size by ±10% margin of error at a 95% confident level (Kline, 2005).

3.7 Pilot Study

In this study, pilot study was conducted to identify the level of understanding of the respondent towards major components that stated in the questionnaire. 30 respondents were purposive sampling to implement the pilot study. Based on the questionnaire distributed, modification and alteration of the questions were done to ensure it is suitable to distribute to the respondent.

3.8 Reliability Test

The reliability test was run at each independent variable (knowledge, interest, and perception) to know if the questions were reliable or not. Evaluation of the reliability of the questionnaire was conducted using Cronbach's Alpha. When even response obtained after repeated administration of the test, the variable was

dependable. The variable was said to be reliable when the Cronbach's Alpha was above 0.6 and higher value means the questions are reliable (Nunnally, 1978).

From the table 3.8 below, the result of Cronbach's Alpha, the 3 variables of the study were acceptable and show positive consistency on the data.

Table 3.8.1 Cronbach's Alpha of reliability analysis

No	Variable	Cronbach's Alpha	No of item
1	Knowledge level	0.923	6
2	Interest level (Attraction)	0.920	6
3	Interest level (Repulsion)	0.813	3
4	Perception level	0.867	9

3.9 Data Collection

3.10 Procedure for Data Analysis

The data obtained from 100 respondents involved in this study were analyzed using the program SPSS 21.0. A few analyses have been done in order to achieve the objective of the study. The analyses used were descriptive analysis and Chi-square test.

3.10.1 Descriptive Analysis

Descriptive statistic was used to identify the basic features of the data in the study. Then the summary about the sample and measures was provided together with simple graphics analysis. Thus, the basis of virtually every quantitative analysis of the data was formed. Descriptive analysis was used to determine the frequency

and percentage of demographic background of the youths, analysis participation level of youths towards agro-entrepreneurship in fertigation system, and to study the attraction and repulsion factor of interest of youths towards fertigation system.

3.10.2 Chi-square Test

Chi-square test was used to show relationship between two categorical variables. This test was used to compares two variables in a contingency table to see if they are related and to see whether distributions of categorical variables differ from each another. Chi-square test was used in this study to study the relationship between socio demographic factor (age, marital status, educational status, and profession) and perception of youths towards fertigation system.

CHAPTER 4

RESULT AND DISCUSSION

This chapter will covered the result of the study. 100 youths in Jeli and Machang, Kelantan were interviewed and the questionnaires were collected for further analysis. For demographic profile of the respondents the analysis used was descriptive analysis.

4.1 Descriptive Analysis

Descriptive analysis was analysed on this study to describe the profile of respondents towards agro entrepreneurship in fertigation system. This analysis also includes the repulsion and attraction factor of interest of youths towards fertigation system.

4.2 Demographic Background of Youth

Descriptive analysis was used to define the demographic background of the youths in Kelantan. The demographic background included age, gender, marital status, races, educational background, religion, profession, and course. Table 4.1 shows the demographic background of youth in Kelantan. Based on the study, most of the youths' age were between 21-25 years (60 persons, 60.0%), followed by 15-20 years old (29 persons, 29.0%), 26-30 years old (9 persons, 9.0%), 31-35 years old (1 person, 1.0%) and 36-40 years old (1 person, 1.0%). The youths involved in this study were quite same amount between male and female which were 47 persons (47%) and 53 persons (53%) respectively. 94.0% (94 persons) of the youths were found to be single and 6.0% (6 persons) of the youths are married. In this study, most of the youths involved are Malays with 99.0% (99 persons) and only one of them is Chinese (1.0%).

The majority of the youths, 61 persons (61.0%) were found to have degree as their education background, followed by SPM with 30 persons (30.0%), Diploma/STPM with 6 persons (6%), secondary school with 2 persons (2.0%) and only 1 person (1.0%) that have no education. Next is, 99.0% (99 persons) of the youths interviewed are Islam and only one person is a Buddhism (1.0%). Most of the youths involved in this study are students at 72.0% (72 persons) followed by self-employed at 17.0% (17 persons), private sector at 6.0% (6 persons), government workers at 3.0% (3 persons) and jobless at 2.0% (2 persons). Next is the course taken by the youths in which most of them are stated as others as their course with 52.0% (52 persons), followed with engineering at 16.0% (16 persons), agriculture science at 15.0% (15 persons), Science in Husbandry at 7.0% (7 persons), applied science at 6.0% (6 persons) and lastly vocational at 4.0% (4 persons).

Based on this study the amounts of youth that know about fertigation system are equally proportioned as the youths that have no idea what fertigation system is 55 (55.0%) youths answered Yes, indicate that they knew what fertigation is meanwhile 45 youths (45.0%) answered that they No as they do not know what fertigation system is. From 55 persons that answered yes, most of them know about fertigation system from Newspaper/Journal/Reading material which is at 43.64% (24 persons), followed by Friends as their source at 20.0% (11 persons), Television at 14.55% (8 persons), Agriculture Officer at 12.73% (7 persons) and lastly School at 9.09% (5 persons). Next question is “Have you ever done fertigation system?” with most of youths answered No at 78.0% (78 persons). Meanwhile, 22.0% (22 persons) of the youth answered that they have done fertigation system before this. The 22 youths that answered Yes to this question need to proceed with the next question which is they need to state what type of crops they planted using fertigation system. 14 youths (63.64%) answered that they planted vegetables using fertigation system, followed by 5 youths (22.73%) answered Fruits as the crop they planted and 2 youths

(9.09%) answered they planted herbs. Last question of this section is the youths need to answer whether they think fertigation system ass on the job opportunities and 98.0% (98 persons) answered Yes, meanwhile 2 persons (2.0%) answered No.

Table 4.2.1: Descriptive Analysis of Socio-Demographic of Youth

Variables	Frequency	Percentage	Mean	Standard Deviation
Age			**1.85**	**0.702**
15-20	29	29.0		
21-25	60	60.0		
26-30	9	9.0		
31-35	1	1.0		
36-40	1	1.0		
Gender			**1.53**	**0.502**
Male	47	47.0		
Female	53	53.0		
Marital Status			**1.06**	**0.239**
Single	94	94.0		
Married	6	6.0		
Races			**1.01**	**0.100**
Malay	99	99.0		
Chinese	1	1.0		
Educational Status			**5.47**	**0.834**
No Education	1	1.0		
Secondary School	2	2.0		
Diploma/STPM	6	6.0		
SPM	30	30.0		

Degree	61	61.0		
Religion			**1.01**	**0.100**
Islam	99	99.0		
Buddha	1	1.0		
Profession			**3.09**	**0.653**
Government Worker	3	3.0		
Private Sector	6	6.0		
Student	72	72.0		
Self-employed	17	17.0		
Jobless	2	2.0		
Course			**4.47**	**1.904**
Agriculture Science	15	15.0		
Science in Husbandry	7	7.0		
Vocational	4	4.0		
Engineering	16	16.0		
Applied Science	6	6.0		
Others	52	52.0		
Do you know what is fertigation system?			**1.45**	**0.500**
Yes	55	55.0		
No, if no please answer question number 11	45	45.0		
If yes, where did you get the information?			**2.49**	**1.526**
Newspaper/Journal/Reading Material	24	43.64		
School	5	9.09		

Television	8	14.55		
Friends	11	20.0		
Agriculture Officer	7	12.73		
Have you done fertigation system?			**1.78**	**0.416**
Yes	22	22.0		
No, if no please answer question number 13	78	78.0		
If yes please state type of crop you planted?			**1.43**	**0.676**
Vegetables	14	63.64		
Fruits	5	22.73		
Herbs	2	9.09		
Do you consider fertigation system as one of job opportunities?			**1.02**	**0.141**
Yes	98	98.0		
No	2	2.0		

4.3 Level of Knowledge of the Youth towards Fertigation System

Descriptive analysis was used to analyze youth knowledge towards fertigation system. The frequency analysis of mean and percentage results of the youths' knowledge towards fertigation system are presented in Table 4.3.1. The statement "By using fertigation system, it can produce quality crop" has 38.0% of the youths agree with the statement, while 30.0% of the youths strongly agree, 29.0% of the youth neutral, and 3.0% of the youths disagree with the statement. From this statement, most of the youth know that by using fertigation system, it can produce

quality crop. The next statement is “By using fertigation system, the usage of fertilizers are more efficient” has 39.0% of the youth that agree with the statement, while 35.0% of the youths strongly agree, 22.0% of the youth neutral, and 4.0% of the youth disagree with the statement. From this statement, most of the youths know that by using fertigation system, the usages of the fertilizers are more efficient. The next statement is “By using fertigation system, it can increase the crop production” has 37.0% of the youth agree with the statement, while 35.0% of the youth strongly agree, 26.0% of the youth neutral, 1.0% of the youth disagree and 1.0% of the youth strongly disagree with the statement. This statement indicates that most of the youths know by using fertigation system, it can increase the crop production.

Next statement is “By using fertigation system, the cost for weeding and disease management can be reduced” has 40.0% of the youth agree with the statement, while 29.0% of the youth neutral, 26.0% of the youth agree, 3.0% of the youth disagree and 2.0% of the youth strongly disagree with the statement. From this statement, 66.0% of the youths agree that the cost of weeding and disease management can be reduced by using fertigation system. “Before running fertigation system, the botany and physiology of plant should be known” has 38.0% of the youths agree with the statement, while 30.0% of the youth strongly agree, 28.0% of the youths neutral, 2.0% of the youths disagree and 2.0% of the youths strongly disagree with the statement. From this result, 68.0% of the youths agree that the botany and physiology of the plant should be known before running the fertigation system. The last statement of this section is “The basic knowledge of nutrition consumption is important in fertigation system” has 35.0% of the youths strongly agree, while 34.0% of the youths agree, 26.0% of the youths neutral, 4.0% of the youths disagree and 1.0% of the youth strongly disagree with the statement. The results showed that 69.0% of the youths agree that they must know have basic knowledge of nutrition consumption in order to run the fertigation system.

Table 4.3.1: Descriptive Analysis of Youths' Knowledge towards Fertigation System

Statement	Percentage (%)					Mean	Standard Deviation
	1	2	3	4	5		
By using fertigation system, it can produce quality crop	0	3.0	29.0	38.0	30.0	3.95	0.845
By using fertigation system, the usage of fertilizer are more efficient	0	4.0	22.0	39.0	35.0	4.05	0.857
By using fertigation system, it can increase crop production	1.0	1.0	26.0	37.0	35.0	4.04	0.864
By using fertigation system, the cost for weeding and disease management can be reduced	2.0	3.0	29.0	40.0	26.0	3.85	0.914
Before running the fertigation system, the botany and physiology of plant should be known	2.0	2.0	28.0	38.0	30.0	3.92	0.918
The basic knowledge of nutrition consumption is important in fertigation system	1.0	4.0	26.0	34.0	35.0	3.98	0.932

*Indicator: 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

4.4 Interest Factor of Youth towards Fertigation System

Descriptive analysis was used to analyze the interest of the youth towards fertigation system. In this section, the interest of the youth were divided into two sections in which the first section was the factors that attract the youths' interest towards fertigation system, while the other section was the repulsion factor of youth interest towads fertigation system. From the statement "I am interested in fertigation system because it is profitable", 37.0% of the youths answered neutral, while 32.0% of the youths answered strongly agree, 28.0% of the youths answered agree, 1.0% of the youths answered disagree and 2.0% of the youths answered strongly disagree. About 60.0% of the youths agreed with that fertigation system is profitable. Next statement is "Farmers success in plant production using fertigation system lead me to involve" has 40.0% of the youths answered agree, while 33.0% of the youths

answered neutral, 23.0% of the youths answered strongly agree, and 4.0% of the youths answered disagree. 53.0% of the youths agree that the other farmers' success in using producing crop using fertigation system lead them to involve in fertigation system. Next statement is "I know the techniques to operate fertigation system" has 28.0% of the youths neutral, while 26.0% of the youths disagree, 15.0% of the youths strongly disagree and 15.0% of the youths strongly agree with the statement. From this result, it indicates that most of the youths don't know the technique to operate fertigation system. "Market potential of fertigation system attract me to involve" statement has 36.0% of the youths neutral, 32.0% of the youths agree, 21.0% of the youths strongly agree, 5.0% of the youths disagree and 6.0% of the youths strongly disagree. 53.0% of the youths agree that market potential of fertigation system attract them to involve. Next statement is "Lack of fertile land for agriculture practice made me interested to involve in fertigation system" has 30.0% of the youths neutral, while 31.0% of the youths agree, 23.0% of the youths strongly agree, 12.0% of the youths disagree and 4.0% of the youths strongly disagree. 54.0% of the youths agree that lack of fertile land for agriculture made them interested to involve in fertigation system. Last question on this section is "I am interested to join the fertigation system when agriculture agencies provide the knowledge regarding fertigation system" has 39.0% of the youths agree, while 27.0% of the youths strongly agree, 24.0% of the youths neutral, 8.0% of the youths disagree and 2.0% of the youths strongly disagree. From this statement, 66.0% of the youths agree that they are interested to participate in fertigation system if the agriculture agencies provide the knowledge to them.

Table 4.4.1: Descriptive Analysis of Attraction Factor of Youths' Interest to Participate in Fertigation System.

Statement	Percentage (%)					Mean	Standard Deviation
	1*	2*	3*	4*	5*		
I am interested in fertigation system because it is profitable	2.0	1.0	37.0	28.0	32.0	3.87	0.950
Farmers success in plant production using fertigation system lead me to involve	0	4.0	33.0	40.0	23.0	3.82	0.833
I know the techniques to operate fertigation system	15.0	26.0	28.0	16.0	15.0	2.90	1.275
Market potential of fertigation system attract me to involve	6.0	5.0	36.0	32.0	21.0	3.57	1.066
Lack of fertile land for agriculture practice made me interested to involve in fertigation system	4.0	12.0	30.0	31.0	23.0	3.57	1.094
I am interested to join the fertigation system when agriculture agencies provide the knowledge regarding fertigation system	2.0	8.0	24.0	39.0	27.0	3.81	0.992

*Indicator: 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

For the repulsion factors, the statement "Fertigation system needs high cost that made me lost my interest to involve" has 46.0% of the youths neutral, while 21.0% of the youths agree, 13.0% of the youths strongly agree, 13.0% of the youths disagree and 7.0% of the youth strongly disagree with the statement. From this statement, 46.0% of the youths neutral that high cost was the reason why they do not want to involve. Next statement is "I lost interest because fertigation system needs time for crop maintenance" has 40.0% of the youths neutral, while 24.0% of the youths agree, 15.0% of the youths disagree, 12.0% of the youths strongly agree and 9.0% of the youths strongly disagree. Lastly the statement "I lost interest to involve in fertigation system because it is risky" has 44.0% of the youths neutral, while 19.0% of the youths disagree, 17.0% of the youths strongly agree, 14.0% of the youths agree and 6.0% of the youths strongly disagree.

Table 4.4.2: Descriptive Analysis of Repulsion Factor that Influence Youths' Interest to Participate in Fertigation System

Statement	Percentage (%)					Mean	Standard Deviation
	1*	2*	3*	4*	5*		
Fertigation system need high cost that made me lost interest to involve	7.0	13.0	46.0	21.0	13.0	3.20	1.054
I lost interest because fertigation system need time for crop maintenance	9.0	15.0	40.0	24.0	12.0	3.15	1.104
I lost interest to involve in fertigation system because it is risky	6.0	19.0	44.0	14.0	17.0	3.17	1.111

*Indicator: 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

4.5 Perception of Youth towards Fertigation System

Descriptive analysis was used to analyze perception of youth towards fertigation system. The statement "I think fertigation system needs high initial cost to start the project" has 38.0% of the youths neutral, while 36.0% of the youths agree, 15.0% of the youths strongly agree, 8.0% of the youths disagree and 3.0% of the youths strongly disagree. Half of youths (51.0%) of the youths had the perception that fertigation system needs high initial cost in order to start the project. Next statement is "I think plant production using fertigation system is a challenging job" has 42.0% of the youths neutral, 33.0% of the youths agree, 16.0% of the youths strongly agree, 8.0% of the youths disagree and 1.0% of the youths strongly disagree with the statement. Next statement is "The damage that often happen in fertigation system can cause harm loss" has 42.0% of the youths neutral, 30.0% of the youths agree, 17.0% of the youths strongly agree, 7.0% of the youths disagree and 4.0% of the youths strongly disagree. The statement "I think fertigation system can increase crop production" has 37.0% of the youths agree, 31.0% of the youths strongly agree, 29.0% of the youths neutral, 2.0% of the youths disagree and 1.0% of the youths

strongly disagree. The statement “Fertigation system needs minimum care compared to conventional plant” has 41.0% of the youths neutral, 27.0% of the youths agree, 27.0% of the youths strongly agree, 3.0% of the youths disagree and 2.0 of the youths strongly disagree. The statement “I think fertigation system can ensure cleanliness and can avoid plant disease’ has 35.0% of the youths agree, 31.0% of the youths neutral, 29.0% of the youths strongly agree, 4.0% of the youths disagree and 1.0% of the youths strongly disagree. Next statement “I think fertigation system is a profitable business” has 40.0% of the youths agree, 27.0% of the youths strongly agree, 26.0% of the youths neutral, 5.0% of the youths disagree and 2.0% of the youths strongly disagree. The statement “The youth will participate in this field because of the minimum usage of the land” has 36.0% of the youths neutral, 34.0% of the youths agree, 22.0% of the youths strongly agree, and 8.0% disagree. Lastly, the statement “Even the initial cost is high, the long term revenue is profitable” has 39.0% of the youths strongly agree, 29.0% of the youths agree, 27.0% of the youths neutral, 3.0% of the youths disagree and 2.0% of the youth strongly disagree.

Table 4.5.1: Descriptive Analysis of Perception of Youth Towards Fertigation System

Statement	Percentage (%)					Mean	Standard Deviation
	1*	2*	3*	4*	5*		
I think fertigation system needs high initial cost to start the project	3.0	8.0	38.0	36.0	15.0	3.52	0.948
I think plant production using fertigation system is a challenging job	1.0	8.0	42.0	33.0	16.0	3.55	0.892
The damage that often happen in fertigation system can cause harm loss	4.0	7.0	42.0	30.0	17.0	3.49	0.990
I think fertigation system can increase the crop production	1.0	2.0	29.0	37.0	31.0	3.95	0.880
Fertigation system needs minimum care compared to conventional plantation	2.0	3.0	41.0	27.0	27.0	3.74	0.960
I think fertigation system can ensure cleanliness and can avoid plant disease	1.0	4.0	31.0	35.0	29.0	3.87	0.917

I think fertigation system is a profitable business	2.0	5.0	26.0	40.0	27.0	3.85	0.947
The youth will participate in this field because the minimum usage of land	0	8.0	36.0	34.0	22.0	3.70	0.905
Even the initial cost is high, the long term revenue is profitable	2.0	3.0	27.0	29.0	39.0	4.00	0.985

*Indicator: 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree

4.6 The Level of Youths' Participation towards Fertigation System

Descriptive analysis was used to analyze the level of youths' participation towards fertigation system. Table 4.6.1 showed the mean score of knowledge, interest factor and perception of participation towards fertigation system among youth in Kelantan. The mean score of this study classified into low (1.00-2.33), moderate (2.34-3.66) and high (3.67-5.00) in which it was supported by Wisam *et al.* (2016) in which they categorized the data into three levels; 1=low (1.00-2.33), 2=medium (2.34-3.66) and 3 = high (3.67-5.00).

From the table 4.6.1, the mean score of knowledge recorded the highest mean score which was 3.97 with standard deviation 0.770. Meanwhile, for attitude, the attraction factor recorded the highest mean score which was 3.59, higher than repulsion factor mean score which was 3.17. The standard deviation for both attraction factor and repulsion factor is 0.850 and 0.970 respectively. Lastly, the mean score for perception was 3.74 and the standard deviation was 0.663.

Table 4.6.1: Mean score of Knowledge, Interest Factor and Perception of Participation of Youth towards Fertigation System in Kelantan.

Factors	Frequency	Percentage	Mean	Standard Deviation
Knowledge			**3.97**	**0.770**
Low	2	2.0		
Moderate	24	24.0		
High	74	74.0		
Attitude (Attraction)			**3.59**	**0.850**
Low	9	9.0%		
Moderate	39	39.0%		
High	52	52.0%		
Attitude(Repulsion)			**3.17**	**0.970**
Low	23	23.0%		
Moderate	44	44.0%		
High	33	33.0%		
Perception			**3.74**	**0.663**
Low	2	2.0		
Moderate	33	33.0		
High	65	65.0		

4.7 Chi-Square Test between Socio Demographic Profile and Perception of Youths towards Fertigation System.

Chi-square test was used to analyze relationship between youths' socio demographic and perception of youths towards fertigation system. The results showed that significant number for age (p=0.678), marital status (p=0.002), educational status (p=0.352), and profession (p=0.592). From this result, there is significant between marital status and perception of youth towards fertigation system. Age, educational status and profession were found not significant with youth perception towards fertigation system. Profession was found not significant with the youth perception towards fertigation system was opposite to the previous study conducted by Ayiende *et al,*. (2016).They stated that there is significant between the profession and perception of youths towards the program which the better the profession of the respondents, the higher their perception towards the program. The

reason why there is no significant between profession and youth perception towards fertigation system is probably because most of the respondents are students and unemployed.

Table 4.7.1: Chi-square Test of Socio Demographic and Perception of Youth towards Fertigation System

Variables	Chi-square	Degree of freedom	P-value	Decision
Age	73.650	80	0.678	Not Significant
Marital status	43.115	20	0.002	Significant
Educational status	84.229	80	0.352	Not Significant
Profession	76.456	80	0.592	Not Significant

CHAPTER 5

CONCLUSION

5.1 Introduction

The main purpose of this study was to evaluate participation level of youths towards agro-entrepreneurship in fertigation system. The study also focuses on the relationship between socio demographic factor (age, marital status, educational status, and profession) and the perception of youths towards fertigation system. This chapter covers on the summary of the results of the research questions. Besides that, this chapter also discussed limitations of study and recommendations for future implication.

5.2 Conclusion

Based on this study mean score of youths' knowledge was the highest in which indicated that majority of the youths have knowledge regarding fertigation system. Descriptive analysis of mean and percentage was conducted for questions on a five-point Likert scale about their knowledge, attitude and practice towards fertigation system. The results of mean and percentage from this study indicated that knowledge, attitude and practice have impact towards fertigation system.

Reliability test was conducted to determine the reliability of the questionnaire. The questionnaire for this study was reliable because the entire variables obtained Cronbach's Alpha value of 0.725. Independent variables such as knowledge, interest and perception also showed Cronbach's Alpha value more than 0.813. From the Chi-

square test, there was significant between marital status and the perception of youths towards fertigation system.

5.3 Limitation of Study

Total number of respondents obtained when the research was done is one of the limitations for this study. The sample size was restricted to 100 respondents that are very less when compared the number of youth in Kelantan area due to limited time given for the study and short time window for youths to answer the questions. Due to time constraint, the data were restricted to three regions in Kelantan. Therefore, the study area was chosen based on region that located in rural and urban area in Kelantan. Besides, because the answer was based on questionnaires given, a complete and accurate responses to certain questions quite hard to achieve and this able to affect the data obtained.

5.4 Recommendation

In order for the youth to participate in agro entrepreneurship in fertigation system, the knowledge regarding fertigation system should be provided to them. The government should encourage the youth to involve more in urban farming. They should provide agro entrepreneurship program among the youths. A few studies have been conducted in which the perception of the participant after getting exposed towards agriculture change differently as they want to join the agriculture industry after the program. This study also can be extended by focusing on participation of youth in universities towards agro entrepreneurship in fertigation system.

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APPENDIX

APPENDIX A

Participation of Youth in Kelantan Towards Agro Entrepreneurship in Fertigation System

PENYERTAAN BELIA DI KELANTAN TERHADAP USAHAWANTANI DI DALAM SISTEM FERTIGASI

Dear respondents:

1) **The information given is considered confidential. Your name will be protected.**
2) **Please answer all questions.**
3) **Thank you for your cooperation and information given.**

Kepada responden:

1) *Maklumat diberi adalah dianggap sulit. Nama anda akan dilindungi.*
2) *Sila jawab semua soalan.*
3) *Terima kasih di atas kerjasama dan maklumat yang berikan.*

PART A/*BAHAGIAN A*: DEMOGRAPHIC QUESTIONS/ *SOALAN DEMOGRAFIK*

Instructions/*Arahan*: Please tick in appropriate box/ *Sila tandakan di dalam kotak yang sesuai*

1. Age/*Umur* :
   15-20( ) 21-25( ) 26-30( ) 31-35( ) 36-40( )

2. Gender/*Jantina* :
   Male/Lelaki ( ) Female/Perempuan ( )

3. Marital status/*Status*:
   Single/*Bujang* ( ) Married/*Berkahwin* ( ) Divorced/*Bercerai* ( )

4. Races/ *Kaum:*
   Malay/*Melayu* ( )
   Chinese/*Cina* ( )
   Indian/*India* ( )
   Siamese/*Siam* ( )
   Indonesian/*Indonesia* ( )
   Bangladesh/*Bangladesh*( )
   Others/*Lain-lain* ( )

5. Educational Level/*Status Pendidikan*:
   No Education/*Tidak pernah bersekolah* ( )
   Primary School/*Sekolah rendah* ( )
   Secondary School/*Sekolah Menengah* ( )
   Diploma/ STPM ( )
   SPM ( )
   Degree/*Ijazah* ( )
   Others/ *Lain-lain* ( )

6. Religion/*Agama*:
   Islam ( )
   Buddhism/Buddha ( )
   Christian/Kristian ( )
   Hinduism/Hindu ( )
   Others/Lain-lain ( )

7. Profession/*Pekerjaan*:
   Government worker/*Kakitangan kerajaan* ( )
   Private Sector/*Sektor swasta* ( )

Student/*Pelajar* ( )
Self-employed/ *Bekerja sendiri*( )
Jobless/*Tidak berkerja* ( )

8. Courses/*Bidang pengajian*:
   Agriculture Science/*Sains Pertanian* ( )
   Science in Husbandry/*Sains Peternakan* ( )
   Vocational/*Vokasional* ( )
   Engineering/*Kejuruteraan* ( )
   Applied Science/*Sains Gunaan*( )
   Others/*Lain-lain* ( )

9. Do you know what is fertigation system/*Adakah anda mengetahui apakah itu sistem fertigasi*?
   Yes/*Ya* ( )
   No, if no please answer question number 11/*Tidak, jika tidak sila ke soalan no. 11* ( )

10. If yes, from where did you get the information/*Jika ya, dari sumber mana*?
    Newspaper/Journal/Reading Material/*Surat Khabar/ Jurnal/ bahan bacaan*( )
    School/*Sekolah* ( )
    Television/*Televisyen* ( )
    Friends/*Rakan-rakan* ( )
    Agriculture Officer/*Pegawai Pertanian* ( )

11. Have you ever done fertigation system/*Adakah anda pernah menjalankan sistem fertigasi?*
    Yes/*Ya* ( )
    No, if no please answer question number 13/*Tidak, jika tidak sila ke soalan no. 13* ( )

12. If yes, what type of crop/*Jika Ya, sila nyatakan jenis tanaman*?
    Vegetables/*Sayuran* ( )
    Fruits/*Sayuran jenis buah-buahan* ( )
    Herbs/*Tanaman herba* ( )

13. Do you think fertigation system as one of job opportunities/ *Adakah anda merasakan bahawa pertanian fertigasi sebagai salah satu peluang pekerjaan*?
    Yes/*Ya* ( )
    No/*Tidak* ( )

PART B/*BAHAGIAN B*: YOUTHS' INTEREST TOWARDS FERTIGATION SYSTEM/ *MINAT BELIA TERHADAP FERTIGASI*

B i) ATTRACTION FACTOR THAT LEAD TO YOUTHS' INTEREST TOWARDS FERTIGATION SYSTEM/ *FAKTOR MENDORONG MINAT BELIA TERHADAP FERTIGASI*

Instruction/*Arahan:* Please tick in appropriate box according to the scale given/ *Sila tandakan di kotak yang sesuai mengikut skala yang diberikan*

1. Strongly disagree/*Sangat Tidak Setuju*
2. Disagree/*Tidak Setuju*
3. Neutral
4. Agree/*Setuju*
5. Strongly agree/*Sangat Setuju*

Item	1	2	3	4	5
14. I am interested in fertigation system because it is profitable/ *Saya sangat meminati tanaman secara fertigasi kerana memberi keuntungan*					
15. Farmers success in plant production using fertigation system lead me to involve/ *Kejayaan para petani di dalam tanaman secara fertigasi mendorong saya untuk melibatkan diri dalam pertanian fertigasi*					
16. I know the technique to operate fertigation system/ *Saya tahu teknik untuk mengendalikan sistem fertigasi*					

17. Market potential of fertigation system attract me to involve/ *Potensi pasaran, menarik minat saya untuk melibatkan diri dalam pertanian fertigasi*					
18. Lack of fertile land for agriculture practice made me interested to involve in fertigation system/ *Kekurangan tanah dan tanah yang kurang subur untuk melaksanakan penanaman menyebabkan saya berminat untuk melibatkan diri dalam pertanian fertigasi*					
19. I am interested to join fertigation system when agriculture agencies provide me knowledge regarding fertigation system/ *Saya berminat untuk menyertai pertanian fertigasi apabila agensi pertanian mendedahkan kepada saya pengetahuan tentang sistem fertigasi*					

B ii) REPULSION FACTOR THAT LEAD YOUTHS' UNINTERESTED TOWARDS FERTIGATION SYSTEM/ FAKTOR MENDORONG TIDAK MINAT BELIA TERHADAP FERTIGASI

20. Fertigation system that need high cost made me lost interest to involve/ *Fertigasi memerlukan kos yang tinggi menyebabkan saya kurang minat untuk menglibatkan diri*					
21. I lost interest because fertigation system need extra time for crop maintenance/ *Fertigasi memerlukan lebih masa untuk menjaga tanaman menyebabkan saya tidak berminat*					
22. I lost interest to involve in fertigation system because it is risky/ *Sistem fertigasi amat berisiko menyebabkan saya kurang minat untuk menglibatkan diri*					

PART C/ BAHAGIAN C: YOUTH KNOWLEDGE TOWARDS FERTIGATION SYSTEM/ *PENGETAHUAN BELIA TENTANG SISTEM FERTIGASI*

Instruction/Arahan: Please tick in appropriate box according to the scale given/ *Sila tandakan di kotak yang sesuai mengikut skala yang diberikan*

1. **Strongly disagree/*Sangat Tidak Setuju***
2. **Disagree/*Tidak Setuju***
3. **Neutral**
4. **Agree/*Setuju***
5. **Strongly agree/*Sangat Setuju***

Item	**1**	**2**	**3**	**4**	**5**
23. By using fertigation system, it can produce quality crop/ *Dengan menggunakan fertigasi dapat menghasilkan tanaman yang berkualiti*					
24. By using fertigation system, the usage of fertilizers are more efficient/ *Dengan menggunakan fertigasi, penggunaan baja adalah lebih jimat dan cermat*					
25. By using fertigation system, it can increase crop production/ *Dengan menggunakan sistem fertigasi, ini dapat meningkatkan hasil pengeluaran tanaman*					
26. By using fertigation system, the cost of weeding, and disease management can be					

	reduced/ *Dengan menggunakan sistem fertigasi, kos merumput, pengawalan penyakit dapat dibasmi.*					
27.	Before running the fertigation system, the botany and physiology of plant should be known/ *Sebelum menjalankan sistem fertigasi, perlu mengetahui botani dan fisiologi tumbuhan*					
28.	The basic knowledge of nutrition consumption is importatnt in fertigation system/ *Pengetahuan asas penggunaan nutrisi juga amat penting dalam sistem fertigasi*					

PART D/BAHAGIAN D: YOUTH PERCEPTION TOWARDS FERTIGATION SYSTEM/ *PERSEPSI BELIA TERHADAP SISTEM FERTIGASI*

Instruction/Arahan: Please tick in appropriate box according to the scale given/ *Sila tandakan di kotak yang sesuai mengikut skala yang diberikan*

1. **Strongly disagree/*Sangat Tidak Setuju***
2. **Disagree/*Tidak Setuju***
3. **Neutral**
4. **Agree/*Setuju***
5. **Strongly agree/*Sangat Setuju***

Item	**1**	**2**	**3**	**4**	**5**
29. I think fertigation system need high initial cost to start the project / *Saya rasa sistem fertigasi memerlukan kos yang tinggi untuk memulakan projek*					
30. I think plant production using fertigation system is a challenging job/ *Saya rasa pertanian secara fertigasi adalah satu pekerjaan mencabar*					
31. The damage that often happen in fertigation system can cause farm loss/ *Kerosakan yang selalu berlaku dalam sistem fertigasi menyebabkan kerugian pada tanaman*					

32. I think fertigation can increase the crop produce/ *Saya rasa fertigasi dapat meningkatkan hasil pengeluaran tanaman*					
33. Fertigation system need minimum care care compared to conventional plantation/ *Sistem fertigasi memerlukan penjagaan minima berbanding tanaman* secara konvensional					
34. I think fertigation system can ensure cleanliness and can avoid plant disease/ *Saya rasa sistem fertigasi dapat menjamin kebersihan dan dapat menghindar penyakit tanaman*					
35. I think fertigation system is a profitable business/ *Saya rasa sistem fertigasi adalah perniagaan menguntungkan*					
36. Youth will participate in this field because of the minimum usage of land/ *Belia akan menceburi bidang ini kerana penggunaan tanah yang minimal*					
37. Even the initial cost is high, the long term revenue is profitable/ *Walaupun menggunakan kos yang tinggi pada permulaan, pulangan fertigasi adalah menguntungkan dalam jangka masa panjang.*					

End of Questions

Soalan Tamat

Appendix B

B.1 Reliability analysis for Interest (Attraction)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.910	.920	6

B.2 Reliability analysis of Interest (Repulsion)

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.815	.813	3

B.3 Reliability analysis of Knowledge

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.921	.923	6

B.4 Reliability Analysis of Perception

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.863	.867	9

B.5 Mean Score of Knowledge, Perception, Interest (Attraction and Repulsion)

Statistics

		knowledge_level	perception	attitude_attract	attitude_repulsion
N	Valid	100	100	100	100
	Missing	0	0	0	0
Mean		3.9650	3.7411	3.5900	3.1733
Std. Deviation		.76954	.66255	.85261	.96688
Variance		.592	.439	.727	.935
Minimum		1.33	2.00	1.33	1.00
Maximum		5.00	5.00	5.00	5.00
Percentiles	25	3.3333	3.1389	3.0000	2.6667
	50	4.0000	3.7778	3.6667	3.0000
	75	4.5000	4.1944	4.1667	3.6667