



**UNIVERSITI PUTRA MALAYSIA**

**THE FARMERS' PERCEPTION TOWARD PADDY PURCHASING  
CENTRE (PPC) BY FARMERS ORGANIZATIONS AUTHORITY (FOA) IN  
MACHANG, KELANTAN**

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**FP 2015 151**

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MACHANG, KELANTAN**

**By**

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A project report submitted to the Faculty of Agriculture Universiti Putra  
Malaysia in fulfilment of the requirement of PRT 4999 (Final Year Project)  
for the award of the degree of Bachelor of Agricultural Science

**Faculty of Agriculture  
Universiti Putra Malaysia  
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## CERTIFICATION

The project entitled “The Farmers’ Perception toward Paddy Purchasing Centre (PPC) by Farmers Organizations Authority (FOA) in Machang, Kelantan” Prepared by Ahmad Mushaimi Bin Sulaiman and submitted to the Faculty of Agriculture in partial fulfilment of the requirement of PRT4999 (Final Year Project) for the award of the degree of Bachelor of Agricultural Science is based own my original works.

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## ABSTRACT

Paddy was the third planted crop that is widely grown in Malaysia after oil palm and rubber. It was a staple food in the country so, a lot effort need to be done in ensuring the production of rice keep increased. Although we were also producing rice, it was still not enough to fill the demand due to increasing population in the country. There were a lot of granary areas in Malaysia such as in Kelantan, Kedah, Terengganu, Perlis, Selangor, Sabah, Sarawak and others. In Malaysia, the rice was processing in Malaysia at the factories that are owned mostly by Padi Beras Nasional (BERNAS). BERNAS was the large company that were responsible for the paddy industry in Malaysia.

Usually, farmers would sell their yield to the manufactures through the middle man especially in inland areas. However, there was an initiative made by Pertubuhan Peladang Kawasan (PPK) to establish Paddy Purchasing Centre (PPC) to avoid the middle man involvement in rice purchasing process. PPC was related as the new concept of technology services that built in the area. Hence, the concept of theory of technology adoption would solve the issues that affect the use of PPC services among paddy farmers at Machang area. The Theory Acceptance Model (TAM) was used as the discipline of the study. The key determinant and factors were important in the study to determine the farmers' perception towards PPC.

The objectives of the study were used to identify the perception of farmers towards Paddy Purchasing Centre (PPC) in Machang, Kelantan. In order to achieve the objective, the specific objectives need to be determined.

The specific objectives were to identify the respondents' demographic profile, to examine the perception level of paddy farmers towards PPC in Machang, Kelantan and to clarify the relationship between socio demographic factor and the importance of PPC to paddy farmers. The information was obtained by using the questionnaire which consists of many questions that made to achieve the specific objectives.

In descriptive analysis, the results showed that the farmers' perception level towards PPC services were mostly in moderate levels. In chi square analysis, the demographic profiles such as the age, gender, marital status, education, agriculture education, total net income and the relationship between farmers and PPK Machang did related with farmers' perception level towards PPC services. However, the most socio demographic profiles that were related to farmers' perception level towards PPC services were age and the relationship between farmers and PPK Machang. Meanwhile, the logistic regression analysis showed that those demographic profiles did not show any significant different to farmers' perception level towards PPC services.

In conclusion, the farmers' perception towards the PPC services in Machang, Kelantan did not be affected significantly by the socio demographic profiles among all of the paddy farmers, there. However, some demographic profiles might affect those perceptions in a different situation. Hence, a lot of recommendations need to be done in order to improve the study especially in terms of cooperation from respondents, variation of background profiles among respondents, the period of time of PPC services to be operated and also the right time to do the surveys among paddy farmers.

## ABSTRAK

Tanaman padi merupakan tanaman ketiga terbesar ditanam di Malaysia selepas kelapa sawit dan juga getah. Tanaman padi merupakan sumber makanan ruji bagi penduduk di negara ini. Oleh itu, banyak usaha yang perlu dilakukan bagi memastikan penghasilan beras di negara ini meningkat. Walaupun negara kita menghasilkan beras sendiri, negara kita masih lagi belum mampu memenuhi permintaan beras disebabkan populasi penduduk di Malaysia semakin meningkat. Terdapat banyak kawasan jelapang padi di Malaysia seperti di Kelantan, Kedah, Terengganu, Perlis, Selangor, Sabah, Sarawak dan lain-lain lagi. Di Malaysia, kebanyakan padi diproses untuk menjadi beras dijalankan oleh kilang-kilang yang dimiliki oleh Padi Beras Nasional (BERNAS). BERNAS merupakan syarikat besar yang bertanggungjawab bagi industri padi di Malaysia.

Biasanya, petani akan menghantar hasil padi mereka melalui orang tengah terutamanya di kawasan pedalaman. Walaubagaimanapun, inisiatif telah dilakukan oleh Pertubuhan Peladang Kawasan (PPK) Machang dengan menubuhkan Pusat Belian Padi (PBP) bagi mengatasi masalah orang tengah dalam penjualan hasil padi. PBP ini dikaitkan dalam kajian ini sebagai salah satu kemudahan teknologi baru yang ditubuhkan di kawasan Machang. Oleh itu, konsep bagi teori penerimaan teknologi diguna pakai dalam kajian ini bagi membantu menjalankan kajian ini dalam kalangan petani di kawasan tersebut. Teori Model Penerimaan Teknologi (TAM) digunakan sebagai salah satu disiplin dalam kajian ini yang perlu diikuti. Faktor dan kunci penentu bagi penerimaan teknologi ini sangat penting dalam menentukan persepsi petani terhadap PBP.

Objektif kajian ini ialah bagi mengenalpasti persepsi petani terhadap PBP di Machang, Kelantan. Bagi mencapai objektif ini, objektif khusus perlu dicapai. Objektif khusus bagi kajian ini ialah mengenalpasti profail demografik responden, membuat penilaian kepada tahap persepsi petani terhadap perkhidmatan PBP di Machang, Kelantan serta menghubungkan antara faktor demografik dan kepentingan PBP di Kelantan. Maklumat didapati melalui soalan-soalan kaji selidik yang dibuat untuk mencapai objektif kajian.

Melalui kajian deskriptif, hasil kajian menunjukkan persepsi petani terhadap PBP kebanyakannya berada pada tahap yang sederhana. Dalam kajian chi square pula, faktor demografik seperti umur, jantina, status perkahwinan, pendidikan dalam pertanian, pendapatan bersih petani serta hubungan antara petani dan PPK Machang mempunyai hubungkait dengan persepsi petani terhadap perkhidmatan PBP.

Walaupun begitu, umur dan hubungan antara petani dengan PPK Machang merupakan paling mempunyai hubungkait dengan persepsi petani terhadap perkhidmatan PBP. Manakala, analisis regresi logistik menunjukkan tiada perubahan yang signifikan kepada persepsi petani terhadap perkhidmatan PBP.

Kesimpulannya, persepsi petani terhadap perkhidmatan PBP di Machang, Kelantan tidak dipengaruhi secara signifikan oleh faktor demografik dalam kalangan petani. Namun, demografik profail mungkin boleh mempengaruhi persepsi petani dalam keadaan yang berbeza.



Jadi, banyak cadangan dan langkah yang perlu dilakukan bagi memperbaiki kajian ini terutamanya dari segi kerjasama oleh responden, kepelbagaian latar belakang responden, jangka masa bagi PBP beroperasi serta masa yang paling sesuai bagi menjalankan banciaan terhadap petani.



# CHAPTER 1

## INTRODUCTION

### 1.0 Introduction

This chapter summarized about the exposure about the agriculture and the important of rice sector in Malaysia. The importance of Paddy Purchasing Centre (PPC) by Pertubuhan Peladang Kawasan (PPK) Machang was discussed. The objectives of the study were revealed in this chapter which was to determine farmers' perception towards PPC services.

### 1.1 Agriculture in Malaysia

Agriculture was the cultivation of the soils for the growing crops or the rearing of animals which was the practice, art or science in producing food, feed, fibre and any other desired goods. Agriculture includes many types of works such as financing, marketing, processing, marketing, production supply, service industries, research and development, the use and conservation of land, recreational resources related economics, business, sociological, political and many things.

It gave a lot of benefits such as providing rural employment, uplifting rural incomes and ensuring national food security to the country. Most of the countries were depend on agriculture industry to develop. The agriculture sector became the important sector in each country and it was the sector that people were most relied on.

Agriculture provided the sources of food that people need to consume the food for their living. From the small works of an individual in a piece of land, now it was managed in lots of hectares and commercialize. Some of the countries had their own agriculture products and they had the power to monopolise the global market by their products. They became the biggest producer of the products in the global market and their quality of the products always increase to fulfil the demand of the products that were increased.

For example, Malaysia became the top producer of oil palm, Thailand became the top producer of rubber, and Ivory Coast became top producer of cocoa whereas Indonesia also became top producer of coconuts and others. Hence, the era had changed the agriculture become the world most valued industry in business and obtaining the income sources of the country or small holders. In history, agriculture started in Malaysia by individuals in the small village. They only focused on small crop such as paddy, spices and vegetables. At that time, they only planted the crop for supporting their family on food.

When the government is built, the plantation started to be commercialized, but it was only managed by small holders. During British administration, new crops have been introduced such as cocoa, palm oil and rubber. The crops were being commercialized as one of the major crops in agriculture at that time. Now, it was the one of the main industry in Malaysia. Agriculture was one of the important sectors in Malaysia's economy. It contributed twelve per cent of Gross Domestic Product (GDP). It also provides higher employment that were needed to be highlighted since the joblessness in Malaysia was at a higher rate.

The development in the agriculture industry of Malaysia was at increased rates. This was shown by the use of technology, researchers, global marketing, production of agriculture based products and the plantation of varieties, crops such palm oil, paddy, rubber, coconut, cocoa, fruits, vegetables and others.

The livestock production such as poultry, goats, cow, fishes, crustaceans and many more also become part of the agriculture industry in the marketing. The agricultural sector in Malaysia was divided into the estate sub-sector and small holders' sub-sector. The agricultural sector becomes the main focused by government. Many agencies, non-government organization and the private sector had been established to help in agriculture sector. Such as Malaysia Agricultural Research and Development Institute (MARDI), Department of Agriculture, Department of Fisheries, Malaysia, Farmers' Organization Authority (FOA), Malaysia Palm Oil Board (MPOB), Malaysia Rubber Board and others.

Since 1985, Malaysia had formulated three National Agricultural Policy (NAP) for develop agricultural sector. The NAP 1 (1984-1991) focused on to emphasize the linkage of agricultural production in agribusiness. The NAP 2 (1992-1998) stated the challenges of agriculture in terms of competition of labour forces and capital with other sector and also the need to increase efficiency and productivity.

Finally, NAP 3 (1998-2010) continued to develop the productivity to fill the demand for specific market needs and consumers' world-wide demand according the food security. Moreover, the tenth Malaysia Plan (2011-2015) stated that agriculture was still a key-growth engine of this country. Hence, agriculture industry became the

most contribution in the national income rather than other industry. Agriculture related courses in local universities such as biotechnology, agricultural sciences and agribusiness started to receive a lot of attention in order to produce specialists and researchers in agricultural fields. This sector would continually act as an important sector for government programs in poverty alleviation. It was also purposely to change the view of people from related to rural and poverty with highest value of modern and commercialize agriculture (Fahmi, et al., 2013).

## **1.2 Paddy Farming in Malaysia**

Paddy was the third planted crop that is widely grown in Malaysia after oil palm and rubber. The production of rice is the most important products in Malaysia because of it were the main staple food in the country.

The demand for the production of rice was always increases by year due to the population of people in the country also have increased. In Malaysia, there were two ways paddy plantation are being managed such as wetland paddy and dry land paddy which was on upland or lowland. The wetland paddy was refer to the primary paddy type planted in Malaysia and comprises of different varieties of paddy.

In contrast, dry land paddy means that the paddy that was grown on dry land whether on highland or lowland and it was mostly depend purely on rainfall (DOA, 2011). However, the dry land paddy was not yet commercialized because it was low grain yields. Furthermore, it was managed by rural communities in Sabah and Sarawak (Hanafi et. al, 2009). In Malaysia, the dry land paddy was managed in Sabah and

Sarawak only. The largest hectare areas of dry land paddy is Sarawak then, follows by Sabah. This was because of the topography and climate in both states were suitable in planting dry land paddy.

The hectare of planted areas, average yield, production of paddy and rice for dry land were shown in Table 1.2(a).

**Table 1.2(a): Area of Paddy Planted Areas, Average Yield, Production of Paddy and Rice for Dry Land Paddy in Malaysia, 2011**

State	All seasons				Main seasons 2010/2011			
	Planted area (ha)	Average yield of paddy (kg/ha)	Paddy production (metric tonnes)	Rice production (metric tonnes)	Planted area (ha)	Average yield of paddy (kg/ha)	Paddy production (metric tonnes)	Rice production (metric tonnes)
Sabah	6,710	2,286	16,328	9,867	6,701	2,285	15,328	9,657
Sarawak	64,202	740	47,502	28,501	64,202	740	47,502	28,501
Malaysia	70,912	886	62,830	38,158	70,912	886	62,830	38,159

Sources: Department of Agriculture (DOA), 2012

Meanwhile, the wetland paddy was mostly were grown at Peninsular Malaysia and there were also some were grown in Sabah and Sarawak. However, the state that had the biggest hectares of wetland paddy was in Kedah because it had many areas of wetland paddy were grown.

Kedah had a suitable soil for the wetland paddy to be grown. Then, it was followed by other countries such as Perak, Kelantan, Perlis and others. The data was shown in Table 1.2(b).

**Table 1.2(b): Area of Planted Areas, Average Yield, Production of Paddy and Rice for Wetland Paddy in Malaysia, 2011**

State	All seasons				Main seasons 2010/2011			
	Planted area (ha)	Average yield of paddy (kg/ha)	Paddy production (metric tonnes)	Rice production (metric tonnes)	Planted area (ha)	Average yield of paddy (kg/ha)	Paddy production (metric tonnes)	Rice production (metric tonnes)
Johor	3,022	3,798	11,477	7,461	1,494	3,755	5,610	3,647
Kedah	215,93	4,068	878,430	570,979	108,693	3,876	421,294	273,841
Kelantan	70,939	3,846	272,805	177,324	38,536	3,736	143,970	93,581
Melaka	2,228	3,368	7,507	4,879	1,014	3,636	3,687	2,397
N. Sembilan	2,016	3,198	6,447	4,190	946	3,248	3,073	1,997
Pahang	8,351	3,246	27,110	17,621	3,438	3,541	12,174	7,913
Perak	82,150	3,937	323,445	210,239	41,129	3,628	149,216	96,990
Perlis	52,075	4,468	232,674	151,238	26,008	4,336	112,771	73,301
P. Pinang	25,564	5,657	144,613	93,998	12,782	5,503	70,339	45,720
Selangor	37,460	5,908	221,295	143,842	18,729	5,763	107,935	70,158
Terengganu	17,851	4,358	77,796	50,567	9,618	4,460	42,896	27,882
Sabah	36,621	3,193	116,925	73,663	25,391	3,283	83,359	52,516
Sarawak	62,821	3,107	195,167	117,101	62,579	3,113	194,808	116,885
Malaysia	617,028	4,077	2,515,689	1,623,102	350,357	3,856	1,351,132	866,628

Sources: Department of Agriculture (DOA), 2012

### 1.2.1 Contribution of Paddy Farming to Malaysia Economic

In Malaysia, the income generated by paddy industry was RM 632 million in the year 2005. While in the year 2010, the amount of income generated was more than in the year of 2005 which was RM 988 million. This was because in 2005, paddy production was only 2400 000 metric tonnes while in the year of 2010, the paddy production was 3202 000 metric tonnes. In 2012, the rice production was 1,773,935 metric tonnes in Malaysia. However, in the year 2013, the rice production was dropped which is only 1,693,852 metric tonnes (Statistics Unit, Planning, Information and Communication Technology, DOA 2013).

The rice imported in the year 2009 was 1,130 000 metric tonnes were at a higher amount than the previous years. Nevertheless, in the year 2010, the rice imported was dropped highly which was 570 000 metric tonnes (DOA, 2011). Although we had produced a lot of rice in our country, they could not fill the demand of rice in Malaysia. Hence, we had imported rice from the other country such as Thailand, Vietnam, Pakistan, Myanmar, India and others (Department of Statistics, 2012). The total imported of rice in 2011 was 1,381,390 metric tonnes from all of the country and it had cost RM 1,864,088. The highest country that we imported rice was Vietnam, which was 660,687 metric tonnes and it costs RM 833,301 followed by Thailand, which was 326, 708 metric tonnes in such amount of RM 628, 301. Then, it was followed by another country such as Pakistan, Cambodia, India, Myanmar, Australia, China, Singapore, Taiwan, Korea, United States of America and others. The Tables 1.2a and 1.2b below showed the detailed reported that were discussed above.

**Table 1.2.1(a): The Economic Production of Rice in Malaysia, 2010 and 2011**

Commodities	2010			2011		
	Export (RM '000)	Import (RM '000)	Balance (RM '000)	Export (RM '000)	Import (RM '000)	Balance (RM '000)
Total sector agriculture	106,864,234	64,597,445	42,266,788	133,636,292	77,568,,862	56,067,430
Total food production	18,108,690	30,193,302	-12,084,611	20,500,003	34,449,265	-13,949,262
Rice	1,241	1,609,304	-1,608,063	1,293	1,854,067	-1,852,774
Fruits	570,295	1,364,489	-794,194	576,653	1,539,128	-962,475
Vegetables	682,222	2,777,794	-2,095,572	750,788	2,734,600	-1,983,812
Coconut	19,274	24,681	-5,407	49,263	52,544	-3,281
Floriculture	345,754	17,054	328,700	354,004	20,106	333,898

Source: Ministry of Agriculture (MOA), 2013



**Table 1.2.1(b): The Import and Export of Rice by Malaysia, 2011**

Country	Import			Export		
	Quantity MT	Value (RM '000)	Unit value (RM/1,000 kg)	Quantity MT	Value (RM '000)	Unit value (RM/1,000 kg)
Thailand	325,708	628,301	1,929	-	-	-
Rep. of Vietnam Socialist	550,597	933,536	1,695	-	-	-
Pakistan	129,566	221,661	1,711	-	-	-
Union of Myanmar	1,625	2,236	1,376	-	-	-
India	10,884	32,178	2,956	-	-	-
USA	116	519	4,474	-	-	-
Japan	18	221	12,170	-	-	-
Australia	756	2,170	2,870	-	-	-
Rep. of China People's	352	965	2,741	-	-	-
Indonesia	17	61	3,588	35	76	2,171
Hong Kong	0.3	0.8	2,667	0.05	0.39	7,800
New Zealand	-	-	-	62	178	2,894
Singapore	345	925	2,681	573	1,038	1,812
Cambodia	10,885	29,409	2,702	-	-	-
Rep. of Korea	150	586	3,907	-	-	-
Taiwan	225	894	3,972	-	-	-
Italy	0.1	0.6	10,000	-	-	-
Others	145	402	2,772	-	-	-
<b>Total</b>	<b>1,031,390</b>	<b>1,854,066</b>	<b>1,798</b>	<b>670</b>	<b>1,292</b>	<b>1,928</b>

Source: Department of Statistics, Malaysia (2013)

### 1.2.2 The Granary Areas in Malaysia

The granary areas or “Jelapang Padi” was defined to major irrigation schemes which was an area of paddy field that greater than 4000 hectares. The government had introduced the Granary Areas in National Agricultural Policy (NAP) as the main paddy producing areas. There were eight granary areas in Malaysia namely Muda Agricultural Development Authority (MADA), Kemubu Agricultural Development Authority (KADA), Kerian-Sungai Manik Integrated Agricultural Development

Area, Barat Laut Selangor Integrated Agriculture Development Area, Seberang Perak Integrated Development Area, Penang Integrated Agricultural Area, North Terengganu Integrated Development (KETARA) and Integrated Agriculture Development Kemasin Semerak.

The statistics showed that in 2013, there are 688,207 hectares are grown with paddy plant in Malaysia. The peninsular Malaysia recorded 502,848 hectares, the Sabah state recorded 43,118 hectares, Sarawak state recorded 124,241 hectares meanwhile “Jelapang Padi” area recorded 393,306 hectares planted paddy areas (Statistics Unit, Planning, Information Technology and Communication Divisions, Department of Agriculture Malaysia, 2013). There are slightly increased the paddy planted areas from year 2009 to 2013. This was because in the year of 2009, there were only 674,928 hectares of paddy planted areas. The peninsular Malaysia recorded 515,657 hectares meanwhile the Sabah state recorded 40,352 hectares. Sarawak state recorded 118,919 hectares meanwhile “Jelapang Padi” recorded 391,625 paddy planted areas.

However, the average yield of paddy plantation was still less produced. This was because of the average yield of paddy is only 3,817 kilograms per hectares. The population in Malaysia had grown up till 29, 457,000 at 2012. Thus, Malaysia needed a lot more paddy plantation to be opened, to fill the population in Malaysia demand in rice. Most of the Malaysian people consumed rice and rice was one of the staple foods in the country. Below was the data shown about the granary areas in Malaysia from 2009-2013.

**Table 1.2.2: The Granary Areas in Malaysia, 2009-2013**

<b>Paddy Planted Area (ha)</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Malaysia	674,928	677,884	687,516	692,340	688,207
Peninsular Malaysia	515,657	512,610	517,586	524,893	520,848
Granary areas	391,625	387,160	389,544	392,865	393,306
Sabah	40,352	43,353	42,907	43,485	43,118
Sarawak	118,919	121,921	127,023	123,962	124,241
<b>Paddy yield production</b>					
Peninsular Malaysia	512,221	503,305	513,304	514,901	506,356
Granary areas	389,235	385,112	389,418	387,106	390,424
<b>Average yield production (kg/ha)</b>					
Malaysia	3,720	3,636	3,747	3,973	3,817
Peninsular Malaysia	4,254	4,102	4,257	4,539	4,351
Granary areas	4,646	4,540	4,773	4,821	4,717
Sabah	3,264	3,403	3,026	3,499	3,406
Sarawak	1,562	1,761	1,910	1,740	1,720

Source: Department of statistics (2013)

### 1.2.3 The Number of Paddy Farmers in Malaysia

In 2011, the total number of paddy farmers in Malaysia was 177, 230 people consists of farmers from peninsular Malaysia is 125, 090 farmers, Sabah farmers is 8,920 people and Sarawak farmers was 38,220 people.

In peninsular Malaysia, Kedah has the highest numbers of paddy farmers, which was 31,820 farmers followed by Kelantan (30,610 farmers), Perak (18,700 farmers), Selangor (17,580 farmers), Terengganu (9,500 farmers), Perlis (7,440 farmers), Pulau Pinang (4,480 farmers), Pahang (3,700 farmers), Johor (740 farmers), Melaka (290 farmers) and lastly, Negeri Sembilan only 150 farmers (Statistics Unit, Planning, Information and Communication Technology, Department of Agriculture Malaysia, 2013).

Table 1.2.3 showed the estimation number of paddy farmers in Malaysia in 2011 according to each state. However, the estimation number of paddy famers in the table below was the estimation numbers of rice grower in Malaysia not exactly the farmers number. The total of rice grower also was for all type of commodities, it was not accurately the exact of rice grower because of several were developed another commodities like rice and fruits. The data below not included the other commodities such as rubber, oil palm, cocoa, pepper and tobacco.

**Table 1.2.3: The Number of Malaysia Paddy Farmers, 2011**

State	Paddy Farmers
Johor	740
Kedah	31,820
Kelantan	30,610
Melaka	290
N. Sembilan	150
Pahang	3,700
Perak	18,780
Perlis	7,440
P. Pinang	4,480
Selangor	17,580
Terengganu	9,500
Pen. Malaysia	125,090
Sabah	8,920
Sarawak	38,220
Malaysia	172,230

Source: Statistics Unit, Planning, Information and Communication Technology, DOA (2013)

### 1.3 Rice Processing in Malaysia

During harvested period, the paddy harvested was collected in trucks and transported the harvested paddy to the nearby rice factory. There were many rice factories were built in selected areas especially at the granary areas like in Kedah.

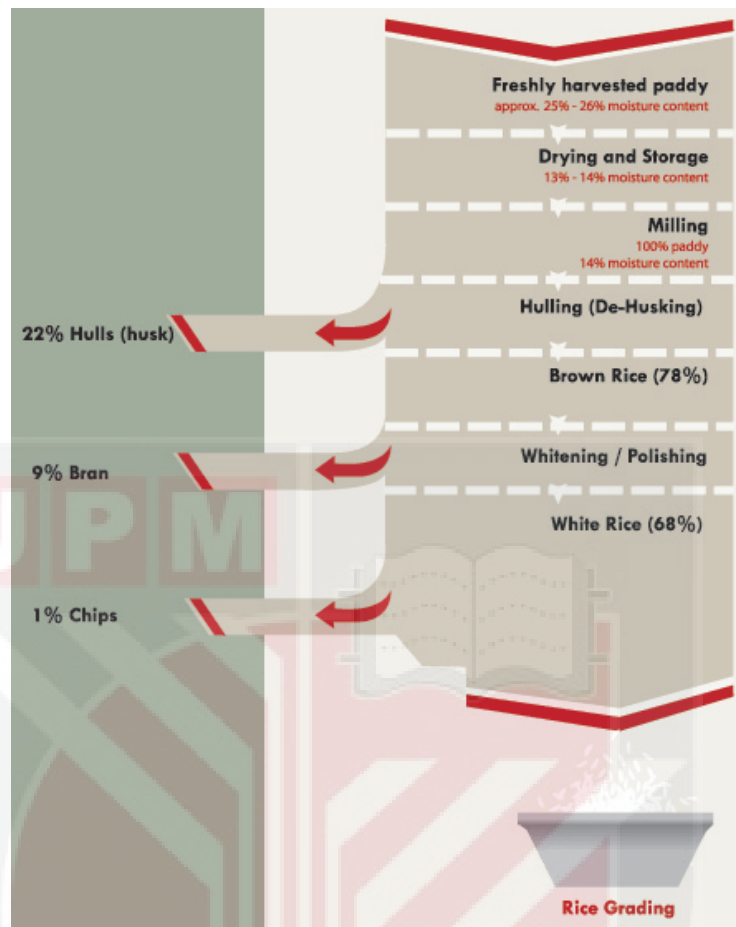
There was a lot of rice factories were built, there. However, there was less rice factories were built in Kelantan. Some paddy fields areas in Kelantan were located far distance from the rice factories. The trucks were needed in high number to delivered those paddy harvested to the rice factories.

Referring to Figure 1.3, the paddy harvested only kept remaining fresh in 24 hours. After arrived at the rice factories, the trucks would undergo weighed in processed to get the accurate weight measurement of the trucks. Then, the freshly harvested paddy which was approximately 25%-26% moisture content will be chosen. Then, the harvested paddy was going to undergo the drying and storage process which was in 14% moisture content.

After that, it went for a milling, which was under 14% moisture content. The hulling process to remove the husks producing the brown rice on average of 78% succeeded. Next, it was going to be whitening or polishing process, 9% bran produced will be separated. Finally, the white rice was produced in 68% of average and 1% chips was expected to be produced.

The rice produced would be graded. Then, it would be packed in plastic bag according to the weight that specified 5kg, 10kg and 15kg. Then, it would be transported to the market, shops, and supermarket (Padi Beras Nasional, BERNAS, 2014).

**Figure 1.3: The Rice Processing by BERNAS**



Source: BERNAS, 2014

#### **1.4 Farmers Organization Authority (FOA)**

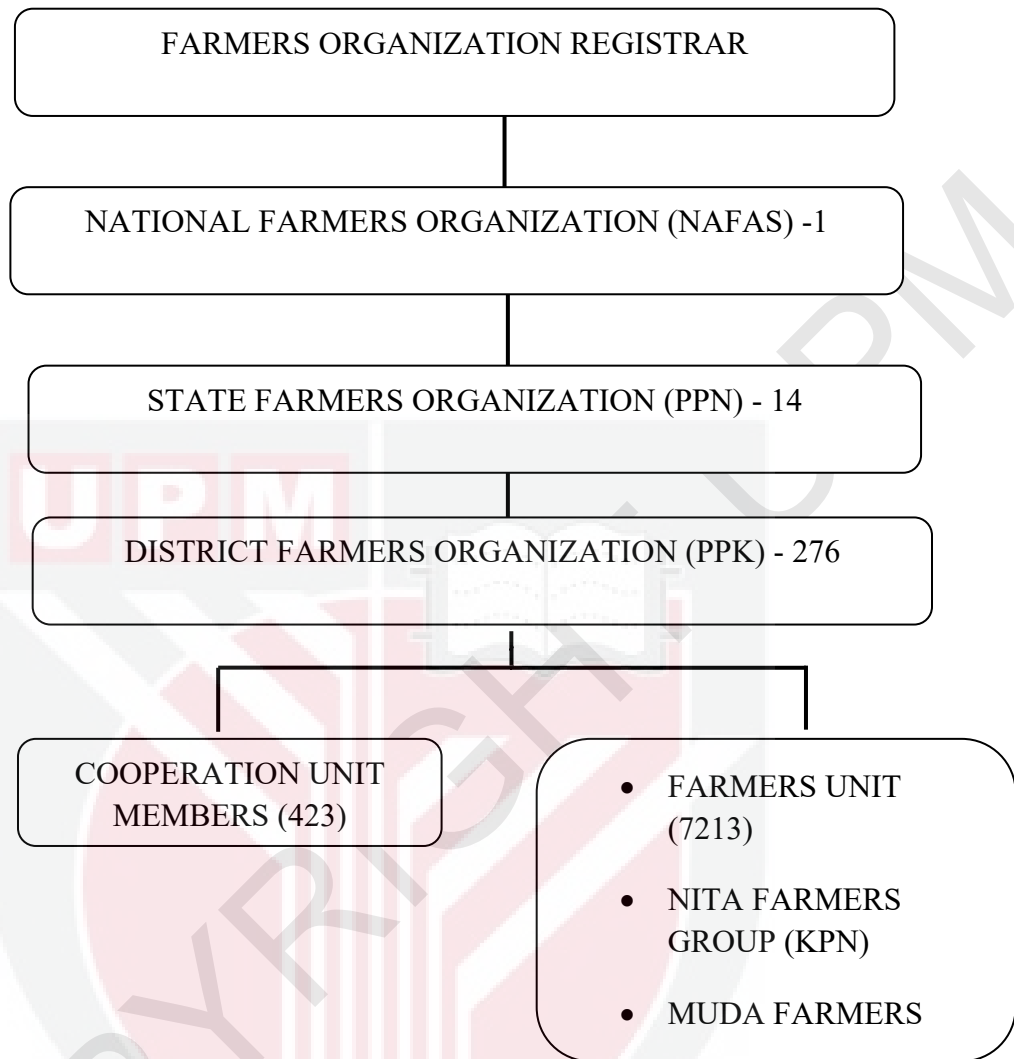
FOA was the organization that represents the farmers in the country. It was established under the Farmers' Organization Act 1973. This organization consisted of National Farmers' Organization (NAFAS), 14 State Farmers' Organization (State FO) or known in Malay words as Pertubuhan Peladang Negeri (PPN) which represent the states in the country and also District Farmers Organization (District FO) that people mostly recognized as Pertubuhan Peladang Kawasan (PPK).

There were 276 numbers of Pertubuhan Peladang Kawasan (PPK) that was established. Meanwhile, there are 778, 812 members in PPK that was registered officially under FOA. PPK was responsible on the agriculture land in between 5 thousand to 10 thousand acres. There are Cooperation Unit Members, Farmers Unit, NITA Farmers Group and also MUDA Farmers Group under in charge of PPK.

The Farmers Unit was the PPK individual members of at least 30 members united together in a formal group at village level which consists of smaller groups under them. While in cooperation unit is the Agricultural Base Cooperation which was acts as an institution of the PPK. 1 PPN and 68 PPK if given the authority by the Farmers Organization Registrar (FO Registrar) who was FOA Director General to Muda Agricultural Development Authority (MADA) by 27 PPK, Kemubu Agricultural Development Authority (KADA) by 13 PPK and Sarawak by 1 PPN, 28 PPK.

The main objective of FOA was to increase the economic and social level, build knowledge and skills, increased yields and incomes and improved living members of the farming community as well as creating a progressive, independent, prosperous and integrated. Hence, mostly farmers would depend on FOA to help them in improving their social life and their management on paddy field to produce high quality of yield. All the process for transporting the yield or imported and exported would be FOA roles to help the farmers. Then, the tasks of small holder's income and farm practices would be depend on how they developed their management on rice quality. Figure 2 shows the organization structure of FOA.

**Figure 1.4: The Organization Structure of Farmers Organization Authority (FOA)**



Source: LPP, 2014

Machang District Farmers' Organization or known as Pertubuhan Peladang Kawasan Machang (PPK Machang) is one of the government agency that was functioned under the LPP. The agency was known as Pertubuhan Peladang Machang Selatan before, and was registered under Farmers' Organization Act 1973 on 4 July 1974. On May 1996, its name changed to PPK Machang.



Currently, PPK Machang was responsible on 36 Farmers' Unit including 4 district such as Pangkal Meleret, Panyit, Temangan and Ulu Sat district. There are 2,925 men and 869 women that had become the members of PPK Machang.

The chairman of PPK Machang was Tuan Hj Romli Bin Mamat whereas the general manager of PPK Machang is En. Mozamir Bin Hj. Hussin. The main office is located at Lot. 706, Jalan Besar, 18500 Machang, Kelantan.

The objectives of PPK Machang were established were to act as agency that was responsible to manage, coordinate and provides the facilities for the farmers. Then, it was also responsible to help increase farmers' income and also the yield of the crops. It helped farmers to improve their living. PPK Machang also gave the advice for the farmers and gave information regarding the new technologies that was introduced to the farmers.

Currently, PPK Machang had provided the need for the farmers as follows:

- 1) Social services
- 2) Supplying sources for the farm and marketing goods services
- 3) Farm mechanization services and transportation services
- 4) Contract works
- 5) Distribution paddy fertilizers under Federal Aid Scheme (Skim Bantuan Kerajaan Persekutuan)
- 6) Credit/saving services
- 7) Rental services store or business site
- 8) Advices services

## 1.5 Paddy Purchasing Centre (PPC)

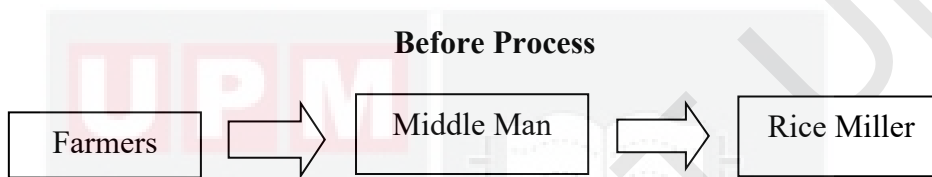
Paddy Purchasing Centre (PPC) was the centre for the farmers to sell his yield to the rice miller. PPC was the place where it is built for post-harvest marketing to the PPK without getting through the middle man. It can help PPK by reducing the risk of loss in yield whenever there was a damage occurring. PPC establishment was an option for the farmers to sell his yield directly to the centre or selling to the middle man.

This was because the objectives of PPC were to avoid middle man means that the farmers do not have to contact the middle man to sell his yield and transported it back to the factories. The farmers only need to transport his yield to the centre and sold it to the PPK members those were in charge of the centre. Hence, the middle man can be avoided in this process. Other than that, PPC can pay the fee for the farmers to be done faster than the middle man. In the meantime, the existence of PPC can help in increase the farmers' income because they come directly to the PPC transporting the yield. This situation helps in reducing the transportation cost. Moreover, PPC was located not far from their paddy field.

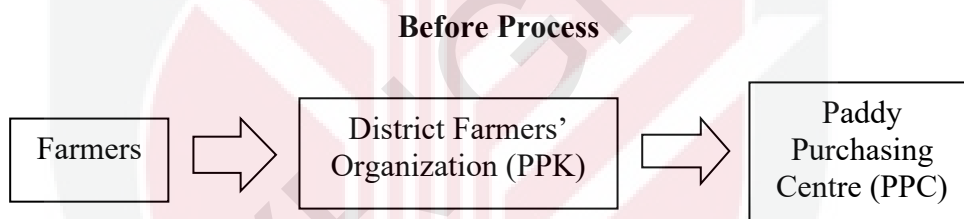
In Malaysia, there are only several places are built with the PPC. The most active locations are built with PPC in Kedah, Perlis and Pulau Pinang. In 2012, the centre is built by the collaboration PPK and Muda Agricultural Development Authority (MADA).

In conclusion, there are two types of practice that farmers can choose in order to distribute their yield. Firstly, the farmers can choose to contact the middle man to sell to them and they transport those yield to the rice miller. Secondly, they can sell to PPK and transport those yield to PPC. Figure 1.5a and Figure 1.5b shows the practice of paddy distribution before process.

**Figure 1.5(a): The Conventional Practice of Paddy Distribution**



**Figure 1.5(b): The New Practice of Paddy Distribution**



Source: Mozamir (2014)

## 1.6 Problem Statement

The level of wet paddy cutting per cent had increased rapidly from 12% to 43%. 43% was the maximum cutting per cent of wet paddy that have been recorded starting this year. This was because of the high percentage of unfilled grain and most of the yield consists of unusable material like stones and weeds. This situation occurs maybe because of the unstable climate that is mainly occurring recently.

The grades of paddy yield depend on high content of grain. High level in per cent of wet paddy would give a big loss to the farmers and also the rice millers. Other than that, the price of paddy became very low. Sometimes, the farmers sold the paddy yield to manufacturers in low price because the price was decided by the rice millers according to the grade of paddy they sell. Moreover, paddy cannot stand more than 12 hours after harvested; the farmers need to sell the entire paddy yield to manufacturers to avoid any loss and waste. This situation can affect farmers by lowering their income because of the low price of paddy.

The middle man was the person who responsible buying the yield from the farmers. The middle man had the power to control the price of paddy yield that they bought from them. This was because of the price of paddy yield was depend on the grades of the paddy quality that were decided by the middle man. Sometimes, the middle man were purposely lowered the price of paddy. Thus, the farmers have no other option except to agree with the price suggested in preventing any waste of the yield, despite of not to sell it to the middle man.

During a peak season, there would be an excess of paddy because of the paddy yield will be at maximum amount. Thus, when there are highest paddy yield harvested at various places at the same time, it may be not enough to be transported to the factories. This is due to the capacity of the factories which have their own limitation. The number of the rice factories existed, were not ready to receive the highest amount of paddy yield to be processed at the same day. This situation had caused the excess of paddy yield to be occurred. Moreover, the paddy would only keep in fresh in 12 hours after harvested.

The capacity of truck that can transport the yield also limited. This situation also makes the excess paddy yield to be left in paddy field area because it cannot be transported to the factories due to limitation capacity of factories. Moreover, the transportation cost to transport the yield is very high.

It almost cost a lot more than usual whenever they need to transfer the yield to far away factories, especially during peak season. The farmers were in a serious condition whenever they need to pay for the transportation. This situation may reduce their income because of they have to spend more on transportation.

However, the roles of PPC still not are known well by the farmers because it is still new and it would be first build in Machang. Moreover, the farmers are facing off many problems regarding the paddy yield and get the lower income because of highest level wet paddy cutting per cent.

Therefore, the research questions are as follows:

- 1) What is the perception level of paddy farmers towards the Paddy Purchasing Centre (PPC)?
- 2) What is the relationship between socio demographic factors and the importance of the Paddy Purchasing Centre (PPC) to the farmers?

## **1.7 Objectives of Study**

The objectives of the study were used to determine the purpose of study which was divided by two sections such as general objectives and specific objectives.

### **1.7.1 General Objective**

The general objective of this study was to identify the perception of farmers towards Paddy Purchasing Centre (PPC) in Machang, Kelantan.

### **1.7.2 Specific Objectives**

Specifically, the objectives were:

- 1) To identify the respondents' demographic profile.
- 2) To examine the perception level of paddy farmers toward PPC in Machang, Kelantan.
- 3) To clarify the relationship between socio demographic factors and perception level of paddy farmers toward PPC to paddy farmers.

## **1.8 Significance of Study**

### **1.8.1 Practical (Farmers, FOA, NAFAS, PPN, PPK)**

The significance of the study will benefit to paddy farmers, Farmers' Organization Authority (FOA), National Farmers Organization (NAFAS), Pertubuhan Peladang Kawasan (PPK) and Pertubuhan Peladang Negeri (PPN).

These organizations were all in one big structure of organization. They are all linked together in terms of work and profit. They were all under the Director of FOA. The benefit of PPC was that paddy farmers can easily access PPC to transport their yield to PPC using lower cost of transportation than before.

They also did not have to make payment using the middle man because of they can directly sold their yield at PPC. Moreover, this situation can help them from getting too much loss because high level of per cent wet paddy. In the meantime, they could raise more money than before to support. Other than that, FOA, NAFAS, PPK and PPN will also obtain their benefits by providing PPC for the farmers.

This was because they will be responsible in selling the yield to BERNAS without using the middle man with the presence of PPC. They will be responsible to manage PPC because it was under their management. From that, they also can cut the cost in dealing with the middle man for transportation the yield to the factories. From PPC, all the yields will be transport directly to the factories for processing. From PPC, they would be responsible in contacting with BERNAS and make the paddy distribution to them.

### **1.8.2 Discipline of Study Theory (Theory of Technology Adoption)**

The theory of the technology acceptance was defined on how the performance expectancy, effort expectancy, social influence, along with the gender, age, experience and voluntariness of used affect the behavioural intention of people. The behavioural intention and the facilitating conditions which being affected by age and experience factor would cause people on how they would react on certain things.

This could be concluded that performance expectancy, effort expectancy, social influence and facilitating conditions were key determinants whereas socio demographic such as gender, age, education background, agriculture education background, experience, the land owning, area of paddy fields owned by farmers and

the distance between PPC and their paddy fields were the factors. All of the results and findings would be followed according this theory.

The theory would be completed when farmers made a decision to use PPC in their daily work. All the factors and key determinants in the theory would influence them to make such a decision. This was the discipline that this study would be followed and being organised.

## **1.9 Thesis Organization**

Chapter 1 covered the introduction of the study which was about the definition of agriculture and the issues in agriculture in Malaysia and Malaysia's history on agriculture. It was also tells about the contribution in economics by sector of agriculture. The National Agriculture Plan (NAP) that made in ensuring the agriculture was still the key growth engine of the country. All of the agencies that were involve in agriculture until now which are consists of government organization and also non-government organisations. All of the agriculture products that were become one of the major contributions in economics of the country.

Then, it was also told about the agriculture sector of paddy in Malaysia consists of its contribution in economics in terms of import and export, the production annually in the country, the granary areas in Malaysia and also the number of farmers in paddy field that were working under small holder or agencies. Other than that, it was also tells on the rice processing in Malaysia and Paddy Purchasing Centre (PPC). The problems that would be arise during the study also highlighted. The general objective



and specific objectives were the main purpose in doing the research. Lastly, the significance of the study that are should be addressed so that, the study will be in completely well managed.

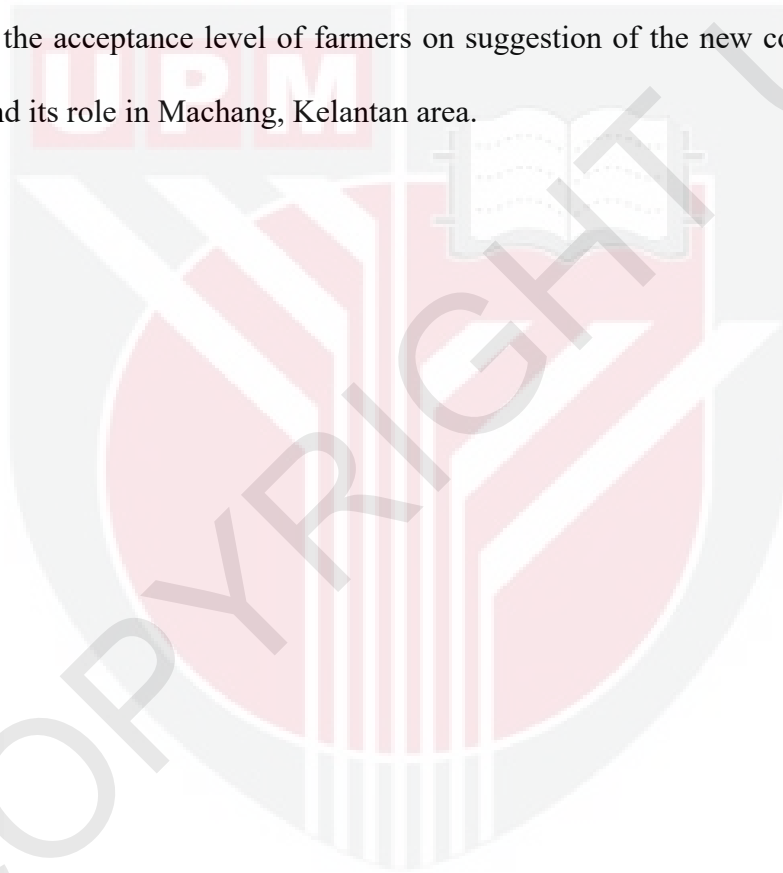
Chapter 2 covered about the literature review which reviewed only relevant aspects of information and it might argue with reported of findings. It was also state the limitation of the result. The findings of the literature were being reviewed and were related with the research plan. All the information that was related was cited in this chapter. The journals, articles, website and reports that were search to get in more information in completed this research were reviewed and cited in this chapter.

Chapter 3 covered on the methodology which was on respondents, location of study, questionnaire design and also the analysis technique. The respondents that targeted were the farmers in between 100 to 200 people in the location that specified. The study of location was at Machang, Kelantan state in any places where there are the paddy farmers working at. The questionnaire design was designed by dividing into several parts on farmers' profile, problem in managing paddy field, perception towards of PPC and lastly, their suggestion to improve the accommodation provided. The descriptive, chi-square and logistic regression are chosen for the analysis technique in the study.

Chapter 4 covered about the results collected that are based on the questionnaire and interviews made with the support of secondary data. The data are collected and be analyse by using the method that were suggested such as descriptive analysis, chi-

square analysis, and logistic regression analysis. It summarised the results and the analysis of the study.

Meanwhile, chapter 5 would be last part that will be the storyline for all the findings and it told us all about the collected data and its combination of data. The conclusion was made based on the results from the analyses made. This chapter will be the last section that conclude all the highlighted of findings in the study. The results would decide the acceptance level of farmers on suggestion of the new construction of the PPC and its role in Machang, Kelantan area.



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