PADDY AND RICE POLICY TRANSFORMATIONAL:

A HISTORICAL POLICY ANALYSIS

by

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DECLARATION

I, hereby declare that, this paper submitted for a degree of Master's of Science in International Cooperation Policy, is my own research carried out under the supervision of Professor MIYOSHI Koichi. This work has not been submitted previously to qualify for any other award. All the information derived from published and unpublished work utilized in this study has been carefully acknowledged and referenced. I, therefore, accept full responsibility for the content and outcome of this work.

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Abbreviation

AFTA	:	ASEAN Free Trade Area
DOA	:	Department of Agriculture
EPU	:	Economic Planning Unit
FAMA	:	Federal Agricultural Marketing Authority
GDP	:	Gross Domestic Product
IADP	:	Integrated Agricultural Development Project
KADA	:	Kemubu Agricultural Development Authority
MARDI	:	Malaysia Agricultural Research Development Institute
MADA	:	Muda Agricultural Development Authority
MOA	:	Ministry of Agriculture
NAP	:	National Agricultural Policy
NEP	:	New Economic Policy
SSL	:	Self Sufficient Level
WTO	:	World Trade Organization

Abstract

The paddy and rice subsector as measured by conventional economic indicators has been of increasingly minor significance to the national economy and the same case is in Malaysia. However, the food security consideration by taking into that paddy and rice as a staple food had made the subsector deserved an intention. Several measures has been undertaken to maintain the paddy and rice subsector in the economic development.

In undertaking the measures of development, a designated policy direction had been formularized in mobilizing the paddy and rice subsector. In this regard, some issues had occurred while implementing the policy through various programmes and projects. This research is being conducted in measuring and evaluating the policy development from the existing policy documents related to the agricultural sector as well as the paddy and rice subsector that had been introduced since the beginning of the subsector being recognized as one of the economic contributor. The descriptive analysis from these documents will be used as the main sources in evaluating the policy. On top of that, some major highlighting of the imposed policy from historical background will be discussed and the issues related to it will be analyzed and the assessment of the policy will be evaluated. The research will then recommending some way forward in developing the paddy and rice in sustainable manner.

The paddy and rice subsector even though are significantly marginally contributing to the economic pie of the nation, still remain crucial especially in ensuring the food security objective, trade balance and social-economic responsibility. In such situation, more comprehensive policy directions have to be introduced in facing the future challenges of the subsector to remain sustainably developed.

CHAPTER ONE
AN OVERVIEW OF THE RESEARCH

1.1 Introduction

This research provides an overview and an evaluation of the paddy and rice policy development in Malaysia from the existing of the structural sector development in the historical perspective from pre-independence up to post-independence and current position. In this regard, the research will focus on the policy issues in identifying the elements that can be highlighted as a key factor in deriving the development of the paddy and rice sector policy. On top of that the research also will look into the other factors that contribute in the decision of the policy formulation. The methodology of analysis used in this research also will be explained and in addition a detail will be given on the rationale behind the research.

1.2 The Idea of The Paddy and Rice Policy Development

Malaysia's paddy sector as measured by conventional economic indicators has been of increasingly minor significance to the national economy. As an example in year 2000 its contribution to the Gross Domestic Product (GDP) was mere 0.16 percent while its value added to agriculture sector was only 2.9 percent. However, the considerations of the food security, in the context of rice being a staple food of the population has situate paddy as the security crop that deserves an exclusive consideration. This has been indicated from the various direct and indirect supports for its sustainability in the wave of rapidly diversifying in the national economy.

Nevertheless, the issue pertaining in sustaining the paddy and rice development has prevailed with the realization that the country is a high cost producer. In this regard, the Government has instituted a consistent policy to maintaining a minimum domestic rice production capability measuring by Self

Sufficiency Level / Rate (SSL/SSR). On the other hand, the perplexing issues of weaning paddy farming away from a number of direct supports and subsidies have not been adequately addressed.

In many respects, Malaysia's paddy and rice sub-sector may be viewed as being at a crossroad, faced with new choices in policy and practice brought about by development, on both domestic and external fronts. Despite the major Government direct and indirect support of the paddy sub – sector as well as the protection against competition from cheaper imports, production performance for many decades has shown a mediocre performance. Direct support off paddy farming via the Paddy Price Subsidy and the Fertilizer Subsidy programmes.

In the global front the Malaysian rice sub – sector faces the threats and challenges posed by the relentless drive towards compliance with rice trade liberalization terms and rules. The trade rulings as spelt out in the Agreement on Agriculture of the World Trade Organization (WTO) and the ASEAN Free Trade Area (AFTA) could threaten the economic survival of the nation's paddy sub – sector.

The external threats have been instrumental in the Government's decision to seriously and expedite readdress the issues of basic reform and restructuring of the country's rice sector. A number of this process has already been instituted where feasible. The Government's commitment to see the paddy and rice industry being less regulated and market driven is reflected in the withdrawal from the paddy and rice trade through privatization of the National Paddy and Rice Authority. The removal of the retail rice price controls and rigid price grade specifications since 1994 has resulted in the ready availability of high quality and specialty rice of both domestic and imported origin to cater for increasing sophistication in consumer demand. Consolidation and integration in the industry supply chain, particularly in the downstream operations, is already evidence and should lead to the overall greater efficiency.

Nonetheless, reforms and structural changes in the paddy farming activities are imminent. The perplexing issues on the paddy farming away from a number of direct supports and subsidies have not been

adequately addressed. Increasingly, as trade barriers fall, the changes in global production, trade and prices will hinge on Malaysia's rice industry. The only feasible long term defense would be a drastic structural reform of paddy farming. The aim of the reform is to increase the competitiveness of the domestic rice. The structural reform would focus on the creation of the large scale production units in the form of several models ranging from group farming with centralized management, farm size expansion in existing paddy areas as well as new land development for estate type production.

1.3 Background of the Research

As mentioned earlier, rice is the main staple food for Asian community as well as for the Malaysian society. Therefore, any policy direction determined by the Government will give an implication to the various stakeholders such as farmers, retailers, households and also to the Government. Since the security concern becomes one the major measurement in determining the future of the paddy and rice sector, it had become more burdens to the Government itself to make the market of the commodity in equilibrium state. Such situation happens due to the direct intervention of the Government in the commodity market. The decision based on policy direction on how much the production should be produced and how much import can be brought in had put the Government in the pressure position. The pressure are from both the demand and supply side for instance maintaining minimum or affordable price for the people and maintaining the farmers' wages respectively. Therefore, in understanding the approach in establishing the policy, this research will discuss and analyze it via the policy issues in identifying the elements that can be highlighted as a key factor in deriving the development of the paddy and rice sector policy. The details of the research analysis will be explained.

1.4 Rational of the Research

Due to the various issues pertaining to the paddy and rice industry, it is necessary to do a diligent research to understanding the overall circumstances particularly from the policy aspect or perspective. From the policy view, the research will show the impact on the paddy and rice industry perspective and from it the analysis will be done in showing the effectiveness of the policy directions. The aim of the research is to confirm whether the policy approach has given the impact on the paddy and rice industry as a whole as well as from the perspective of the various stakeholders.

1.5 Methodology of the Research

The approach of methodology in this research is through qualitative analysis by measuring and analyzing the descriptive policy direction documents. The issues related to the introduction of various policies will be analyzed and the impact of the policy will be derived. From this approach of methodology, the research will identify the pertaining relative issues on the policy direction that had been undertaken in the paddy and rice sub-sector. Thus, from this analysis the research will moving forward by recommending an alternative strategies to be considered in developing more reliable policy direction in the development of the paddy and rice sub – sector.

1.6 Research Question

In order to guide the research, the following main question highlighted will be used :

a. What are the issues in implementing the policy direction of the paddy and rice?
b. What are the impacts of the policy formulation and directions on the key elements of the paddy and rice sub – sector development?

c. How can the paddy and rice sub – sector can be developed in the sustainable manner by taking into account the issues related to it?

1.7 The structure of the Paper

Based on the objectives of the research, this paper will be divided into six chapters. Chapter 1 consists of the overview of the research. Chapter 2 - Overview of the paddy and rice industry. Chapter 3 - policy review. Chapter 4 - review of related literature. Chapter 5 - policy analysis and Chapter 6 – moving forward and conclusion.

CHAPTER TWO
OVERVIEW OF THE PADDY AND RICE INDUSTRY

2.1 Introduction

The paddy and rice sector has been considered a strategic sector and had always been accorded special treatment by the Malaysian government. This is reflected by the evolution of the rice policy over many decades, beginning with the Rice Commission 1933, the Federation of Malayan Rice Committee 1966 and the various policy stance adopted by the Government. These effects reflect the concern of the Government on the issues relating to food-security as well as other socio-economic considerations. Being as a staple food for the entire Malaysian population has made the rice have to be maintained in their production. Rice environment in Malaysia are classified as irrigated, partially irrigated, rain fed lowland and upland. The irrigated lowland predominates in Peninsular Malaysia while rain fed rice is more common in Sabah and Sarawak where upland rice is prevalent. Crop establishment in the irrigated areas are by manual or mechanical transplanting; direct seeding, usually broadcast and only seldom row sown or drilled; and a double nursery technique. Machine harvesting is common in some irrigated areas such as the Muda irrigation system in Kedah. In the partially irrigated area, rice is mostly direct seeded instead of transplanted. Rice is mainly transplanted in the rain fed lowlands and drill seeded in the uplands . In this regard, an acceptable and comfortable level of Self Sufficiency Rate (SSR) for rice has to be determined. This policy is to ensure that country is not too depending on the external sources and consumers are protected drastic price change in the world market. In addition, support to the sector is justified to enhance incomes of small farmers, in many of which are poor. In this respect, the Government interventions in the industry are heavy, extending right from production to distribution and marketing. Massive public investments in the infrastructure development and support services are accorded to the industry. The sector is also supported by various subsidies including price and fertilizer subsidies. (Malaysia Plan) (Malaysia)

Mainly in the previous Malaysia paddy and rice policy has been formulated to fulfill for at least three objectives :

i. *Ensuring food security.* As the country facing a production deficit, rice is considered as a security commodity. Hence the national policy is to maintain a prudent level of Self Sufficient Rate at a minimum of 65 percent.

ii. *Ensuring food supply to consumers at fair and stable price.* Currently, market forces are allowed to determine rice price and quality, with only one priced-controlled grade to protect the interest of the low-income consumers.

iii. *Increasing farmer income and productivity.* In order to sustain the rice industry, Government support is provided to make rice cultivation financially viable. Two forms of Government support had been instituted are to boost farmer income by keeping farms product prices high and to reduce production cost by subsidizing the cost of inputs particularly fertilizer.

2.2 Role of Rice in the National Economy

The contribution of paddy and rice to the national economy is relatively small compare to the other sectors. In 1985, the contribution of the sector is 0.72 percent of the Gross Domestic Product (GDP) and 4.7 percent of the agricultural value added as shown in Table 2.1. These achievements differ from the forecasted in the National Agricultural Plan (NAP: 1998-2010) which predicted that the contribution to the agricultural value added would only decline to 3.7 percent and 3.4 percent in 2005 and 2010 respectively. The declining trend was largely due to the negligible gains in productivity, increase in cost production and decreasing in profitability.

Table 2.1 : Contribution of Paddy to National Economy

Years	Total GDP (RM Million)	GDP Agriculture (RM Million)	% Agric GDP to Total GDP	Valued Added (Paddy)	% Paddy to Agric GDP	% Paddy to Total GDP
1985	77,470	11,854	13.3	557.2	4.7	0.72
1990	115,701	14,827	12.8	600.0	4.0	0.52
1995	222,475	17,115	7.7	516.0	3.0	0.23
2000	339,420	18,154	5.3	532.0	2.9	0.16
2005	495,281	21,018	4.2	673.0	3.2	0.14

Source : Malaysia Plan, Economic Planning Unit

On the socio-economic perspective, the rice cultivation is home to about 116,000 households who depend on rice as a major source of income. This population segment represents about 3 percent of the total household in the country. In this case, the paddy production is almost entirely a smallholder entity base. It is estimated that 296,000 paddy farmers exist in the country out of which about 138,000 are located in eight granary areas and operating 212,000 hectare of land. The number of the active paddy farmers based on the payment of the price subsidy in 2002 was 145,595 (BERNAS). The average farms size is around 1.06 hectare, with 65% of the farmers operating farms less than one hectare. There had been an overall increase in the farms size which is probably due to the consolidation of the small farms.

2.3 Basic Information on Paddy Sector

The basic information on the paddy sector will give some idea and impression on the actual scenario in the real field. The average size or mean of the size of the paddy farm in year 2005 (2.0 hectare) compare to year 1991 (1.81 hectare). The increment in the paddy farm size is due to the expansion in the granary area, but more so to farm enlargement brought about the reduction of paddy farmers over the period. In terms of the farm size category, the majority of the farmers (31.5 percent) operated farm size between 1 to 2 hectare, followed by 2 to less than 3 hectare at 23.1 percent. About a quarter of the farmers operated

farms size of less than 1 hectare. A very small percentage of farmers (8.6 percent) operated farms exceeding 4 hectare as shown in Table 2.2. Indeed, the process of farm enlargement purely based on its own 'natural process' is a very slow process and the prospect of increasing the mean farm size to the desired level of 4 to 5 hectare is almost bleak in the future.

Table2.2 : Farm-size Category

FARM SIZE (HECTARE)	FARMERS PERCENTAGE
<0.5	5.2
0.5 - <1.0	19.4
1.0 - <2.0	31.5
2.0 - <3.0	23.1
3.0 - <4.0	12.1
4.0 and above	8.6
MEAN	2.0

Source : MADA

The other aspect of the information that had to be known in the paddy sector in Malaysia is about the tenure arrangements because there is a different of the tenure category which also gives an impact on the paddy production as well as its quality. In this term, in the comparison of the owner tenant, it was the largest tenure category in 1991, whilst the owner operator was dominant in 1982 as shown in Table2.3. This was about partly brought by the aggressive land renting by farmers in order to increase their farm holdings. At the same time as increasing number of older farmers exited out naturally from paddy farming, the percentage of owner operators' farmers declined accordingly. It is expected that the owner-tenant category will remain as the most important category, especially among the 'younger' set of paddy farmers. Additionally, with high attachment on land ownership among paddy farmers who are more likely to rent out or lease their land rather than selling them, it is envisage that the owner tenant as well as the tenant farmers categories will continue to increase at the expense of the owner operator group. Among the tenant and owner-tenants, the most preferred terms of rental is short term arrangement

between 1 to 3 seasons and mostly paid by cash. In this regard, the move s toward longer leasing period is a positive phenomenon as it would enable some level of security in land-use, with possible investment on the farms in terms of infrastructure and farm machineries.

Table2.3: Land Tenure Status

TENURE CATEGORY	1982 (%)	1991(%)
Owner-operator	52.0	29.3
Tenants	21.9	28.6
Owner-tenants	20.5	37.8
Others	5.6	4.5

Source : MARDI

2.4 The Domestic Scenario

In this section, an overview of the industry in the domestic perspective will be highlighted. Malaysia paddy sector produce about 2.2 million metric ton in average, 84 percent of which are produce in Peninsular Malaysia. The modest increase in the production over the years is due to more productivity increase rather than area expansion. Rice area has not much changed over the years. A summary of the performance of the sector is depicted in the Table 2.4. The total planted area is about 680,000 hectare, out of which 240,000 hectare had received irrigation and can be double-cropped. Of these irrigated paddy fields, about 80 percent are located in Peninsular Malaysia in the eight designated granary areas. The national average yield has remained low, about 3.2 metric ton/hectare, averaging 3.6 metric ton/hectare in Peninsular Malaysia, against 1.6 metric ton/hectare I Sarawak and Sabah respectively. The eight granaries consistently contributed about 70 percent of the national rice production.

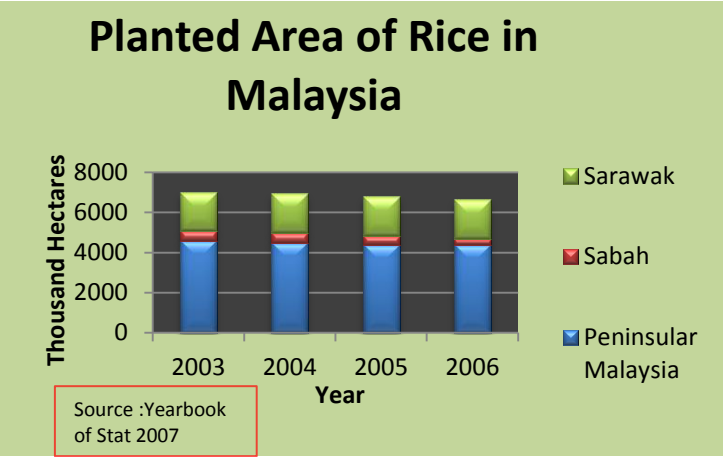
Paddy is also grown in the "secondary or mini granary areas" which are supported by small and medium scale irrigation facilities with varying degrees of double cropping capabilities. Currently, there are 74 secondary granaries and 172 minor granaries in the country, with total land area of 28,400 and 47,700 hectare respectively. Eight percent of these areas are located in Peninsular Malaysia, even though recent statistics indicated there are only 36,527 hectare and 35,583 hectare of planted areas with irrigation outside the granary and for the main and off season respectively. Together with the main granary, they constituted about 85 percent of total paddy cultivated areas. The balances of another 15 percent of the planted area are the non-irrigated rice areas, which include rain fed paddy fields and hill or upland paddy, concentrated mainly in Sabah and Sarawak. In these areas, single-cropped paddy cultivation is widely practiced with little or no inputs. Productivity is low, ranging between 0.7 metric ton / hectare in states of Sarawak to 1.8 metric ton / hectare in Sabah. The distribution of paddy land for Peninsular Malaysia is presented in Table 2.5. Based on this table, with the exception of KADA, Kemasin-Semerak and Kerian-Sungai Manik, other granaries had an almost 200 percent cropping intensity.

Guided by various development policies and strategies for production, consumption and trading of paddy and rice: the country had been quite successful in achieving its food security objective. For the period of 1975-1995, the average of SSL was 75.4 percent, which ranges between 61 percent on 1978 to an all time high of 84 percent in 1986. Malaysia is still importing rice from the major supplier such s Vietnam and Thailand.

Currently the paddy cultivation is considered as a low-income economic activity and the unattractiveness of the rice cultivation is further eroded by a set of inherent problems faced by the paddy sector. Small scale production units, low and unattractive returns, low average yield and a highly regulated market are some of the weaknesses faced by the sector. An effort to increase productivity and efficiency through large scale estate-type production system has been seriously considered. While this kind of efforts had shown some success, the transformation of the sector into a bigger scale is not expected to be widespread

in the near future. High infrastructure costs, resource shortage especially in land and others socio-economic issues associated with the consolidation of the existing paddy farms into the larger holdings are the major challenge.

Chart 2.1



It is not an exaggeration that the continued capability of the country to sustain paddy production is mainly to the price and income support provided by the Government. In line with the Government commitment to World Trade Organization (WTO) that calls for the phasing out of direct price support, a different scenario for the rice industry is expected to emerge. On the supply side, farmers sell their paddy directly to private rice millers or through paddy buyers or brokers. There are approximately 352 mills and the outputs of the mills are sold to 270 licensed rice wholesalers who in turn distributing them to about 37,000 licensed retailers.

As shown in the Chart 2.1, in 2006, all 504 thousand hectares of rice in Peninsular Malaysia were planted in wetlands. In Sabah, only 3,800 hectares of rice were planted on dryland, while 26,000 hectares of rice were planted in wetlands. Planted area of rice in Sarawak for both wetland and dryland were 62 and 65.1 thousand hectares respectively in 2006. Wetland paddy is the primary paddy type planted in Malaysia and comprises of different paddy varieties. Dryland paddy includes those planted in the highland and lowland. This type of paddy is commonly planted in Sabah and Sarawak. Planted area of rice in Malaysia for the past four years did not have differed much. The total planted area was about 661 thousand hectares. However, the planted area decreased from 666.6 thousand hectares in 2005 to 660.9 thousand hectares in 2006.

Table 2.4 : Planted Area, Production and Yield of Paddy by Main Production Area

Region	1985			1990			1995			2002		
	Planted Area ('000 ha)	Production ('000 mt)	Yield (mt/ha)	Planted Area ('000)	Production ('000 mt)	Yield ('000)	Planted Area ('000)	Production ('000 mt)	Yield (mt/h)	Planted Area ('000)	Production ('000 mt)	Yield (mt/h)
Pen. Malaysia												
Main granaries	336.8	1,122.4	3.33	373.6	1,297.9	3.47	383.1	1,527.7	3.99	382.4	1,492.8	3.90
• MADA	186.1	701.0	3.77	189.7	724.9	3.82	193.8	862.2	4.45	192.5	820.3	4.26
• KADA	37.9	108.2	2.85	46.3	163.7	3.54	51.7	181.2	3.50	47.2	121.4	2.58
• KERIAN-SG.MANIK	47.2	144.1	3.05	51.1	128.7	2.51	48.6	163.0	3.35	56.8	174.2	3.07
• NORTH WEST	34.2	97.4	2.85	35.7	142.0	3.98	35.6	146.7	4.12	37.2	177.1	4.76
• IADP PENANG	16.0	31.7	1.98	21.8	35.9	1.65	19.3	62.7	3.25	17.4	80.04	4.60
• SEB. PERAK	9.4	20.5	2.18	17.1	70.5	4.12	17.1	56.9	3.33	16.7	74.5	4.46
• KETARA	6.0	19.5	3.25	8.0	25.5	3.19	9.5	35.3	3.71	10.2	38.8	3.80
• KEMASIN/SEMARAK	-	-	-	3.9	6.5	1.67	7.5	19.7	2.63	4.4	6.4	1.47
• Others	118.9	332.4	2.80	120.4	326.9	2.72	113.4	310.6	2.74	126.3	359.2	2.84
Sub Total	455.7	1,454.6	3.13	494	1,624.6	3.29	496.5	1,838.3	3.70	508.7	1,852.0	3.64
SABAH	38.0	79.1	2.08	54.8	94.8	1.73	53.1	143.5	2.70	42.7	137.0	3.21
SARAWAK	161.2	211.7	1.31	131.8	165.6	1.26	123.1	145.4	1.18	127.1	208.4	1.64
MALAYSIA	654.9	1,745.4	2.67	680.6	1,885.0	2.77	672.7	2,127.2	3.16	678.5	2,197.4	3.24

Source : Department of States For Agricultural

Table 2.5 : Distribution of Paddy Land – Peninsular Malaysia

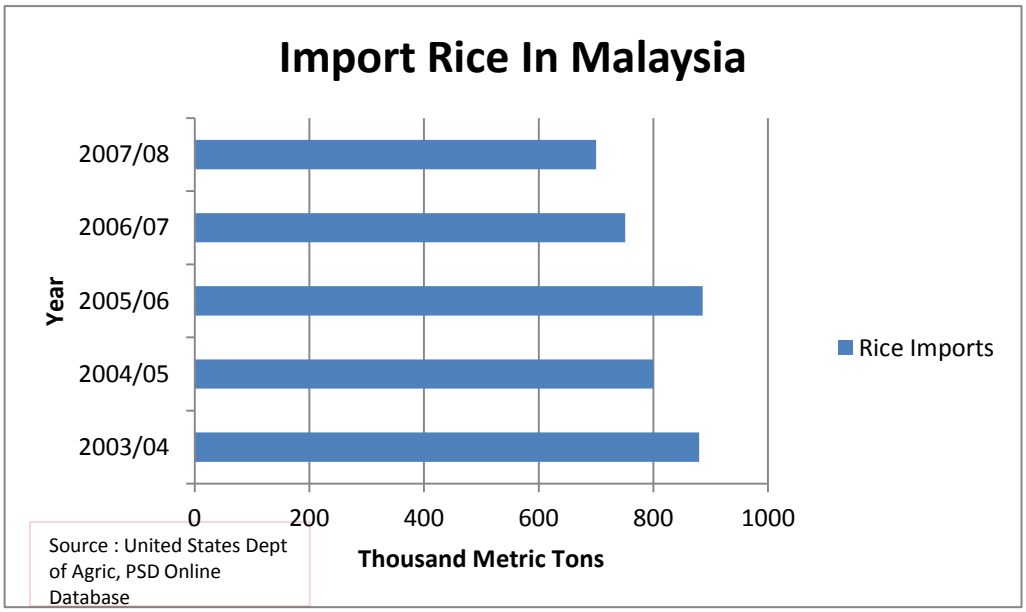
STATE	GRANARY	GRANARY AREA		NON GRANARY AREA				TOTAL PLANTED AREA
		Paddy Parcel	Planted Area	Planted Area				
				Paddy Parcel	Irrigated	Non Irrigated	Total	
Perlis		18,768	18,684	7,414	3,664	3,654	7,318	26,002
Kedah		77,790	77,460	40,080	13,343	15,722	29,065	106,525
Penang		8,773	8,627	4,675	2,433	173	2,606	11,233
Perak		30,147	28,250	8,429	5,903	85	5,988	34,238
		8,529	8,191					
Selangor		18,816	18,607	538		333	333	18,940
N.Sembilan				3,176	1,121		1,121	1,121
Melaka				6,882	804		1,405	1,405
Johor				3,404	1,192	601	1,272	1,272
Pahang				12,684	493	80	3,907	3,907
Terangganu		5,141	5,110	20,733	3,155	3,433	6,588	11,698
Kelantan		32,168	20,877	29,862	4,419	9,346	13,765	34,642
		5,123	3,948					
Total Peninsular Malaysia		205,255	189,754	137,877	36,527	36,841	73,368	263,122

Source : Department of States For Agricultural

2.5 Import

Import is becoming an important component in the supply of rice to Malaysia. Since the domestic production yield is decreasing in the past 40 years, where Malaysia only managed to double its production to 2,231 thousand metric tons in 2007compared to 1,089 thousand metric tons in 1961. The national average yield is low at just 33,803 hectogram per hectare in 2007. Local production can only cater approximately 60 – 65 percent of domestics' consumption requirements. Hence, the shortfall is supplemented by imported rice. To ensure an adequate supply to the consumers, the Government has been directly involved in rice imports since 1967. The Government – to – Government imports is based on contracts by the Malaysian Government and foreign Government with terms and agreement varying among contracts. The import of rice is restricted and monopolized by the National Paddy and Rice Authority (BERNAS), and the domestic price rice is maintained above the world price. Based on Chart 2.2, about 40% of annual imported rice is from Thailand. In 2008, Malaysia imported on average about 880,000 metric ton of rice, the majority from Thailand, while the rest came from Vietnam, China and Pakistan as well as some new supply options from India, Australia, Myanmar, Cambodia and the USA. The increasing in the population income had led to the incline of the more quality and fragrance rice. Rice remains the staple food although per capita consumption has dropped. Malaysia's rice consumption is about 2.2 million tons per year, or 82kg per person. Despite a population growth that exceeds 2.3% annually, the nationally requirement for rice has increased less drastically because of declining per capita consumption. Main

Chart 2.2



season is a period whereby paddy planting is very suitable based on local climate (rain season) and does not depend wholly on irrigation system. Off-season is a dry period and paddy planting normally depends on an irrigation system.

2.6 Malaysia Paddy Production System

There are various systems being used in the Malaysia paddy production due to the different circumstances such as geographical and socio-economic of the people or farmers involved in the production of paddy. The current systems are *Smallholder*, *Group Farming*, *Estate Farming* and *Contract Farming*. These different production systems are crucially to be understood because it gives an impact on the volume and quality of the paddy as well as the whole rice production. The current production systems are as follows:

2.6.1 Smallholders: Under the smallholders system, the average operation farm size is about one hectare. Most of the majority paddy farmers ore in this system and these farmers are either owner operators or tenant operators. The average age of the farmers are almost sixty years. There are increasing trends of younger farmers who operates larger farms holding, by renting the land from the retired farmers. However the number is marginally still small. Under the small holder system as part time farmers operate small and scattered plots, but with lower in the technology uptake resulting in poorer crop management practices, hence low in productivity and returns.

2.6.2 Group farming: There is a number of group farming being practiced. The smallholders are organized by extension service agencies and Land Farmers Association into groups but the crop management is still carried out by the individual operators/farmers. The contract services such as land preparation, harvesting and seeding are obtained as a group. The crops inputs may

also be purchased in bulk to reduce cost. The advantage of this kind of the group farming is only in synchronized planting and better water availability as well as a reduction in the rate of contract services. The organizer of this group farming is not full time and not trained in rice technology as well as techniques in technology transfer. Thus, it is fail to motivate farmers to manage their crop properly. There are wide gaps in the level of crop management, input use and yield. The income level is still low because the operation size is small. Even the high yielding farmers obtain relatively small income, hence they are less motivated to fully concentrate on paddy production.

2.6.3 Estate farming: There are a few rice estates in the country, one of the well known is the FELCRA rice estate which consist of about 4000 hectare farm land. FELCRA runs the estate on profit sharing basis with the settlers. It is the only one of its kind in the country where the farms operation is centrally managed and the farmers (who are the shareholder in the estate) are employed in the estate. The infrastructure development in the estate is provided by the Government, as well as the estate management. The estate is not run as the truly commercial entity since there are still heavy elements of social responsibility in form of ensuring certain level of income derived from the farm wages as well as annual dividend. In fact, the payment of dividend (which can be translated as equivalent to rental payment) is much higher than the market rate in the area. The possibility for replication of the system in other areas looks fairly remote in view of the high establishment cost as well as the availability of large tract of land for this purpose.

There is another few estate farming in the country namely LKPP in Rompin, of Pahang state which is about 600 hectare. This estate is operated fully in the commercial basis without any subsidy element (in the form of price or fertilizer subsidy) by the Government. It is operated as an integrated system, fully completed with dedicated mills. The estate is currently devoted for the production of high quality rice with its own brand. This should be the model for the

integrated production system especially for the production and milling of high quality and specialty rice production, making it possible to be marketed by varietal or rice types.

Generally, the yield of the current estates is still low. There are many reasons for this, but it is the net effect of low level of farm and crop management. The quality of contract services is poor, especially in land preparation and leveling as well as the input experience, resource availability (especially water and labor) and inadequate in infrastructure, initiatives and incentives.

2.6.4 Contract farming: Basically these are smallholders but plant specific varieties on contract basis with some small price incentive. These are mainly for seeds, where the farmers plant on contract to seed suppliers and Department of Agriculture. There are also few farmers planting quality variety for BERNAS in contrast. All those involved in contract growing achieved good yield. Price incentive for producing good crops in the form of pure variety, results in good crop management, hence higher productivity. Greater supervision and frequent visit by the organizer of contract farming could also be the reason for the higher yield obtains by the contract farmers.

2.7 Methods of Operation

Besides in the different types of the systems in the production of the paddy, there are also some differentiations in the methods of the operational of the production itself. The methods of the operation are as follow:

2.7.1 Contract service: it is used for the operations that involve the use of the machinery. These kinds of service are used in the land preparations and harvesting. Most of these services are provided by the private sectors that are not directly involved in paddy production. Some of the Land Farmers Association also providing this service especially to their members. However, this

service is still very much pitiable especially in providing the services for the land preparation. The smallholders do not have the bargaining power to dictate the quality of the services.

2.7.2 Seeding: it is most carried out by using the motor blower. Most farmers are using the contract services to seed their field. This service is provided by fellow farmers who buy these machines for their own used and offer services when they completed their seeding activities in their field.

2.7.3 Other crop management involves input application such as for weed control, pesticide and fertilizer application. About half of the farmers used own or family labour to apply input and manage their crop. The rest of them used contract services for this purpose. Some may supervise the operation while others leave everything to the contractors.

2.7.4 Water supply and drainage is mostly through farmers' field. Very limited numbers of plots have direct access to irrigation canals or drains except in the estates and IADP. Thus,, water controls inefficient and more so when there is no synchronized sowing in the area.

CHAPTER THREE
POLICY REVIEW

3.1 Introduction

In this section, some major events on the paddy and rice policies will be highlighted to give some brief idea on the policy determination on particular time based on particular events nationally and internationally that give an influence to the sector. In explaining the events, the policy direction will be categorized in three different eras consisting of pre-independence, post-independence and recent guiding policies. In this manner, each and every category will explaining the criteria of the policy direction and will discuss on the strategies that had been undertaken in achieving the objective underline in the policy trend.

3.2 Pre-independence Policy

During the colonial era, the rice policy was badly neglected, with little emphasis given to its development. There was no significant infrastructural development investment, as well as very limited support in terms of research and development, extension services and other measures. Most of the public and private sector investment was allocated to the rubber and tin industry due to their comparative advantage against rice production. Despite the heavy reliance on imports of rice to fulfill the domestic demand, the exports earning from rubber and tin were adequate to finance the total rice imports. This policy approach has resulted in stagnated staple food production with the lowest self-sufficiency level at 35 percent during the Japanese Occupation era. Serious food shortages during that time had resulted in food rationing for the population (Malaysia, Fisrt Malayan Plan, 1966-1960). It is an early stages in recognizing and identify the importance of the domestic production capacity as well as the balance between the SSL and imports

elements especially in encountering the riot during crisis. On top of that the food security agenda has being distinguished in ensuring the supply sustainability to the population.

Nevertheless, some attempts were undertaken in this era in by some policy direction in rice production. Some of these events are summarized as follows :

a. Formation of Rice Cultivation Committee

   Introduced in 1931, it was aim at achieving self-sufficiency level in rice production. A limited infrastructural development especially irrigation facilities in Tanjung Karang, Selangor with the formation of Drainage and Irrigation department was noted.

b. Introduced Measures to Restrict Movement of labor out from Paddy Production

   In 1939, measures were taken to reduce out-migration of rice farmers to the more lucrative rubber planting. Among the measures taken were :

   - Land gazette for paddy cultivation could not be converted to other uses
   - Restriction on transfer of land titles
   - Discourage Malays farmers to cultivate rice
   - With holding English education from the farmers' children to reduce their occupational mobility

c. Introduction of Food Security Policy Measures

   - Introduction of price support programme with floor price at RM17/picul (equivalent to RM2.45/100 kg) to support paddy prices
   - Provision of credit through Rural Credit Cooperative Societies to paddy producers to minimize exploitative trading practices of middlemen
   - Expansion of cooperative Price Milling Societies, to provide small-scale milling services to producers

Despite these efforts, the pre-independence era was a period when about half of the domestic requirement for the rice imported. The domestic rice production stagnated and some of the policy measures failed in achieving their goals. Instead, these measures had resulted in a clear demarcation of labor among ethnic groups, with the Malays in the paddy production and non-Malays in the rubber and tin industries.

3.3 Post-Independence Policy

At the time of independence in 1957, the rice self-sufficiency level for Peninsular Malaysia was 54 Percent. The attainment of independence had prompted the reorientation of the priorities governing the nation, particularly on the agricultural sector. Food security through full sufficiency consideration outweighed other objectives. The target of self-sufficiency in rice production, even at the expense of comparative advantage was attempted. Rural development goal became an important strategy to address food production as well as farm incomes. The shift policy toward self-sufficiency level resulted in the introduction of four-pronged programmes :

a. Irrigation and Drainage Infrastructural Development

   The advent of the Green Evolution where the realization of potential output from the new high yielding varieties had required investment in drainage and irrigation. Under irrigation facilities, double cropping of rice would ensure a significant increase in rice production. With this second crop, farm income would double and poverty incidence reduced.

b. Enhanced intervention measures in input and output prices.

c. Strengthening research activities to enhance farm productivity

   Malaysian Agricultural Research and Development Institute (MARDI) were established in 1971. Research on rice was given a high priority.

d. Agricultural Extension and Institution Building

   The creation of specific government institutions to support and manage the development process, including rice during the 1960's and 1970' had been instrumental in placing at its current level now.

According to the primary objective of the rice policy during the post-independence era was to incorporate the following consideration:

a. Ensure food security for the nation
b. Raising farm income and productivity
c. Ensuring food supply to consumers at reasonable prices
d. Savings in foreign exchange

The significance of the economics of scale in production had been taken into consideration in enhancing production as well as the farmers' income. The paddy granaries development had been introduced in achieving this objective. In this regard, during the Second Five Year Plan (1961-65) and the First Malaysia Plan (1966-70), two large irrigation projects were constructed, that of Muda in the Northwest and Kemubu I the Norteast of Peninsular. With the upgrading of existing irrigation facilities, by 1970's the production target was revised to 90 percent rather than complete self-sufficiency in view of the high cost of production.. The priority shifted from the increasing production to enhancing farm income (Malaysia, Fisrt Malayan Plan, 1966-1960).

The emergence of the World Food Crisis in 1972-74 saw a further increase in expenditure on irrigation. Even small scales irrigation projects were rehabilitated as policy makers once again strive for complete self-sufficiency. Plan were made to open up new areas for paddy planting at the rate of 20,000accres (approximately about 8,000 hectare) per year and to improve yields by 2 percent annually. By the Fifth plan period however, the amount allocated for drainage and irrigation had dropped to about one-fourth the amount spent during the preceding plan period.

The interference on prices that had caused so many distortions in the rice sub-sector continued at the greater pace. In 1970s, Bank Pertanian Malaysia was set up by the Government to finance the cultivation of two crops a year. In 1979, the Government decided to give free fertilizers in lean of increasing Guaranteed Minimum Price (GMP). At the same time, the Government increased the price by RM5 a picul (RM82 per mt) on marketed paddy. The mills however were able to tolerate a price increase of only RM2 / picul. As a compromise, free fertilizers were provided since the determination of the GMP includes fertilizer costs (Malaysia, Second Malaysia Plan, 1971-1975).The price subsidy was introduced in1980, in the belief that output prices will act as a more effective incentive to produce a marketable surplus. The subsidy was given at the rate RM2 / picul or RM33 per mt paddy marketed. However, in fact the subsidy was given by reducing the GMP by an equivalent amount such that the actual prices obtained by the farmers remain unchanged.

A demonstration by farmers in Alor Star, Kedah in January 198 against the manner of the subsidy payment had led to its withdrawal and its had been replaced by a cash subsidy of RMM10 per picul or RM165 per mt. With the enunciation of the National Agricultural Policy (NAP) in 1984, the criterion of commercial viability began to govern the choice of crop. Although paddy was exempted from this condition, falling export revenues led to the review of National Agricultural Policy target of 80 percent – 85 percent Self Sufficiency Level / Rate. The Ministry of Agriculture decided to confine paddy growing to designated double cropped areas, to be known as the nation's Granaries and production target was reduce to 65 percent.

These production policies to sit the dictates of political economy have resulted in the insulation of paddy farmer from almost all production risks except weather. The period from the mid 60s to the 70 s also saw the proliferation of the Government institutions or agencies to manage the development process and progress in Malaysia. Table 3.1 explains the related agencies and the major activities or their function.

Table 3. 1 : Major Agencies and Activities/Roles

AGENCIES	MAJOR ACTIVITIES / ROLES
Federal Agricultural Marketing Authority (FAMA)	To take care of the market failure at the post harvest level
Muda Agricultural Development Authority (MADA)	To manage the irrigation process
Kemubu Agricultural Development Authority (KADA)	To manage the irrigation process
Malaysia Agriculture Research and Development Institute (MARDI)	Research and Development
Department of Agriculture (DOA)	Extension services
The Farmers Organization Authority (FOA)	To develop farmers organizations in agri-business activities
Paddy and Rice Marketing Authority (LPN)	Took over the implementation of the various facets of the rice policy from FAMA
Ministry of Agriculture (MOA)	Responsible for the overall policy formulations in the sector

Source : Economic Planning Unit, Prime Minister Dept. of Malaysia

3.4 Current Policy

The agricultural development strategies in the 1960s and 1970s focused on creating employment opportunity and earnings as well as saving in terms of foreign exchange. Consistent with the New Economic Policy (NEP), and the view of the high incidence of poverty I agricultural sector, strategies and programmes during the period were designed to raised farm incomes (Malaysia, Second Malaysia Plan, 1971-1975). The country strongly pursued expansionist policies on export crops such as rubber, oil palm and cocoa. Import substituting strategies were adopted to earn and save foreign exchange and create employment and income earning opportunities. Many sub sectors in agriculture were protected through

tariffs and non tariffs barriers such as quotas and other imports barriers. High emphasis was given to food security and a 100 percent Self Sufficiency target was set for rice. The export crop sub sector was heavily taxed to provide revenue to the Government. The Government also undertook heavy investments in infrastructural development, institutional building and new land development.

To ensure the sustained and consistent development of the agricultural sector, a formal policy on agriculture was launched in 1984. The main objective of this first National Agricultural Policy (NAP) was to maximize income from agriculture through efficient utilization of the country's resources and increase productivity. The main strategies still emphasize on new land development together with the in-situ development. Agricultural support services such as research and development, extension and marketing were also emphasized (Malaysia, National Agricultural Policy I, 1984-1991). This policy marked the beginning of the liberalization of the agricultural sector, although the country had already started to reduce tariffs for intermediate products and raw materials during the Second and Third Malaysia Plan periods (1971 – 1980) to stimulate manufactured export activity (Malaysia, Second Malaysia Plan, 1971-1975) (Malaysia, Third Malaysia Plan, 1976-1980). The NAP explicitly stressed productivity driven growth and recognized the need for the sector to be efficient in order to sustain agricultural growth in the long term. Reflecting this move in emphasizing efficiency, the 100 percent Self Sufficiency Level / Rate (SSL / SSR) for rice was rationalized to 80 – 85 percent (Malaysia, National Agricultural Policy I, 1984-1991).

The period of 1984 - 1990 marks an important threshold in the transformation of the Malaysia economy. This era saw the rapid expansion of the manufacturing sector and reduce the relative importance of agriculture. Although value added inn agriculture grew at an average rate of 4.6 percent, the manufacturing sector grew at the rate of 13.7 percent. At the same time, the agricultural sector was beset with problems, including more favorable polices towards manufacturing, labor shortages and increasing wages and increasing competition for land. To aggravate the situation, two of the important commodities

namely palm oil and cocoa experienced a substantial decline in world prices. Subsequently, the First Agricultural Policy (NAP) was reviewed and the second NAP (Malaysia, Second National Agricultural Policy, 1992-1997) was introduced. Greater emphasis was given to productivity, efficiency and competitiveness in the context of the sustainable development and the linkages with other sectors of the economy, in particular the manufacturing sector. This is in contrast with the First NAP that emphasized new land development and the creation of employment opportunities. The policy also outlined both medium and long – ter (Malaysia, Third National Agricultural Policy, 1998-2010)3 was formulated. It was to ensure that the capability of the agricultural sector to play its strategic role in national development could be sustained and enhanced in light of new and emerging challenges facing the agriculture sector. Towards this end, the policy focused in several approaches, which include efforts to increase productivity and competitiveness, deepening of linkages with other sectors, venturing into new frontier areas as well as conserving and utilizing natural resources on a sustainable basis. The policy also aims to enhance the enabling and supportive measures to promote growth in the agricultural sector. The policy thrusts of the NAP3 include meeting the national food requirements to ensure food security and enhancing sectoral competitiveness and profitability. These thrust are to be accompanied and supported by strengthening requisite economic foundation and adopting sustainable development.

Particularly for the paddy sector, NAP3 outlines six major strategic thrust toward ensuring the continued relevance and competitiveness of the rice industry in the globalize economy. The strategies which would have a direct implication on the demand – supply situation are highlighted below :

a. Rationalizing resources used by designated the eight granary areas as permanent paddy producing areas. Unproductive areas outside granaries, including areas under the secondary irrigations would be converted to other uses. New areas for commercial paddy production by the private sector will be promoted in Sabah and Sarawak states.

b. Increasing efficiency and productivity by increasing farm yield and cropping intensity. The national yield target is 5.5 mt / ha in 2010, with 185 percent cropping intensity for all granaries. To ensure a competitiveness return from rice farming, the operating of larger production unit through farm enlargement, group farming and estate is to be supported.

c. Strengthening the degree of competitiveness under a liberalized market by regulating the industry to allow market forces and preferences to determine price and quality. To ensure compliance with ASEAN Free Trade Area (AFTA) and World Trade Organization (WTO), the existing price and fertilizer subsidy is to be repackaged.

d. Strengthening the economic foundation especially in the Research and Development (R&D), extension and advisory services, irrigation and drainage facilities, credit, marketing and farmers' institutions. Particularly for R&D, the application of high technology to ensure exploitation of potential yield is to be encouraged.

e. Strategic sourcing of the rice from offshore investment especially in low cost rice producing countries.

f. Promote sustainable development of the rice industry by adopting environmental friendly farm practices.

CHAPTER FOUR
REVIEW OF RELATED LITERATURE

4.1 Introduction

The purpose of this chapter is to review some of the articles or journals which related to the research topic that had been conducted. From this literature review, the different perspective from different researcher or the author can be taken into account while conducting this research. Therefore, there it will assist in better understanding of the research field which includes the area, timeframe, target group etc. In this chapter, the topic that had been selected from various author are in the same field of Paddy and Rice Policy. Related and selected journals or articles will be discussed in specific details sub topic.

4.2 The Principle Developing of the Food Policy

Since rice as discuss in the beginning of this research has become a main or a staple food for many of the population in many countries had made it a crucial sub sector which need an intention from the authority to determine the development of it. Therefore, in the development of the paddy and rice sub sector the determination of the policy direction will give an impact from both supply and demand side or in the other perspective it will give an impact to the various stakeholders from Government, farmers, traders and the population as a whole.

In that such manner, the principle development of food policy is a very important element to be understood when discussing the policy itself. In recognizing and discussing the information of the policy must, then, return to the endogeneity of the research agenda. Under the induced innovation hypothesis, the generation of information responds to the impersonal price signals (Hans P. Binswanger, 1978). (Janvry, 1981), however, indicates that the agricultural research priorities are

often dictated not by price signals alone but by the interest of the subset of the population also in (Alderman, 1984). This can probably be generalized beyond agriculture; funding of policy-oriented research is simultaneously determined with the current policy. Shocks, however, contribute to new policy direction. They are not ruled out even by an extreme form of this hypothesis and simultaneity. Even if the range of probable findings is restricted by the statement of the question, research results are no perfectly determined by the agenda. Unanticipated results can be captured by other interest groups. Moreover, often there are several funding sources, reflecting, in part, diversity of the current policy perspectives and the varying social roles played by the different forms of information from the investigative journalism to elaborate data collection and analysis. Information as a political tool is a special case of the issue of competing information. A particular concern for the topic under discussion is whether the quality of information in determining the policy is matters. (C. Peter Timmer, 1983), had highlighted the tacitly assumption that any influence of information on policy, particularly that derived from economic and social science research, would lead to the higher social welfare. However, the possibility of misinterpretations, facts are taken out of context, and other errors becomes a near certainty when the complexity and volume of information needed for major policy choices is taken into consideration. This is often taken as an argument for less policy intervention.

The appropriateness of the recommendation, however, depends in the part whether the process of the information generation is self-correcting. The idealized version of the scientific methods depicts a linear process in which new and better research replaces outmoded information and failed theories. A fair portion of Gould's writings is devoted to illustrating that human failings of the practitioners and the collective social context divert this process into side paths. This may, however, and practiced than for the social sciences, which are never divorced from historic and nonreplicable contexts. (McCloskey, 1985) Studies how economists have dealt with this aspect of their discipline. He argues that the profession has elevated the positivism over other methods of persuasion, which are, in fact, powerful mean of communication. A similar trends are towards increased reliance on mathematical

proofs that are self-contained in the sense that their validity are does not depend on social context. These tendencies may be appropriate when the communication re directed towards other economists. It is that such professional communication, distilled and often underestimated, is a major pathway. However, it is indirect from the economic research to policy formation.

The policy choices, regardless of their quality, change the trajectory of an economy in a manner that restricts subsequent options. Later choices, including corrections of previous errors, then, come at a path dependent cost (David, 1985). Therefore, even the science is self – correcting, short term dominance of bad ideas incurs major cost. This is often recognized in the case of the continuing tension between economic populism and principles of macroeconomic management and international trade. It is also the case for the food policy. How then, can researchers and funders of research increase the probability that research has salutary effects on policy design? Ironically, this may occur if the political nature of the information is explicitly acknowledged. This is not an argument for abandoning scientific objectivity, but it does recognize that usable knowledge is often normative and more rapidly assimilated when communicated accordingly. Moreover, useful knowledge implies a user, communication that bears in mind both the type of user and the objective should be more effective (Galbraith, 1998). The examples presented above this depict spectrum. It should be clear that, although political expediency usually holds sway in policy decisions, research often guides the implementation of policies chosen on other grounds. Moreover, research gives momentum to cautious bureaucrats and the interest groups. As illustrated, this may happen when research quantifies what supporters of a policy believe to be the case. Similarly, the examples discussed illustrate a portion of the range of possible interactions where research effort can generates findings that are then employed to recruit uncommitted individual laymen, professionals, administrators or politicians according to the issues or to recruit funding to increase the volume of supportive evidence. Knowledge of the types of evidence needed to influence decision which can guide the nature of the research. For example, in certain situations evidence is required to confirm that results in other communities are applicable to

local conditions. This suggests a different scale and design of research that which might be indicated when the prior expectation of the scientific community or policy makers is more diffuse.

Similarly, research aimed in guiding the implementation of existing policy can be designed to meet a different set of objectives and addressed to a more specialized audience than research aimed at defining policy priorities. The examples presented also indicate that individual does matter were also in the illustration less for their own research than for their roles in shepherding research towards actions. A scientist does not necessarily dilute the quality of his or her efforts or compromise professional integrity of key actors are identified and included in discussion as research efforts matures. At least, such interactions will highlight findings. Moreover, if begun early in the process, they may contribute to the project's design and the generation of usable knowledge. Most good researchers already recognize that technical research skills are by no means perfectly correlated with the ability to write a grant or raise funds and often design their research efforts to acquire or include these skills. Generally, the attempt to predict the importance of the research and therefore, implicitly assume a user and a communication channel, it is actually not a major shift from current research practices to explicitly acknowledge these users and interest groups. Once these are acknowledge, research efforts that gain the skills to communicate to these groups as well as to the general scientific community would maximize the value of the knowledge.

4.3 The Roles of Government in the Development of the Food Sector

The policy direction as well as the implementation in ensuring the sustainable development in food sector are most determine by the Government rather than the market forces. It is understood that the main concern of the intervention of the Government in the food sector are towards the issue of the food security especially for the staples food of that particular country. Therefore, at the outset it is

perhaps necessary to accept the need for the Government to exercise some regulatory function in the area of the food production and distribution.

The world replete with the country experiences Government interventions such that the any suggestion to completely free the market for staple food is certain to meet with severe problems. The productivity for the Government to intervene implies on an important massage that the production, distribution and pricing of staples food are too important to farmers, middlemen and food retailers and that an absence of the interventions, the markets would fail. Be at as it may, the decision to implement certain policy towards agriculture invariably requires other seemingly public policies to be introduced. Therefore, there is a lock step characteristic in the nature of the policy decisions. To understand the nature of the Government interventions in staples food markets one must approach the problem from the perspective of the second best since the first solution is hard to come by. The difficulty in achieving the first best solution lie in the existence of the incomplete markets in insurance and credit, imperfect information and most importantly in the inequity of initial endowments among producers (Stiglitz, 1987).

The market imperfections particularly from the view of unethical trading practices have adverse effects on the income of farmers through various types of exploitation. In this regard, the Government also assumed that the private millers are unable to cope with the expected increase in the supply resulting from the expansion of the irrigated areas in paddy fields. As mention by (Ahmed, 1988), market faced by developing countries where markets are still rudimentary, especially for modern inputs. Market imperfections, in particular poor marketing infrastructures, need to be upgraded. A suitable pricing system is also required to encourage technological development. There is a need to strike the right balance between the cost of Government intervention and the benefits accrued. Benefits here are defined to include those of a social and political kind. While the underlying social and political objectives have been achieved, the economics costs incurred have been too massive to

ignore. Policy restructuring could start with the fundamental belief about alleged market imperfections and world price instability. The assumption of the market imperfection, in particular the exploitative role of the middlemen, has been proven by many writers to be a myth. The middleman has been shown to be beneficial to the farmer as an important linkage to the market.

On the other hand, in developing the food sector particularly the paddy and rice sub sector in sustainable manner, it is a need on the improvement of the massive infrastructure as well as modernizing the industry. In this point, by instilling the construction of the infrastructure and modernizing it through the introduction of mechanization, the increment of the productivity is expected to stepping up. The public investment are directed mainly at improving the physical infrastructure, such as road and drainage system, provision of production cost subsidies, such as fertilizer, seedlings etc to increase yields and the adoption of the multiple cropping annually. Mechanization was also introduced as part of the modernization programmed. The Government's direct intervention in the industry was also seen in the areas of research and development (R & D) to seeking for the high yield seeds and variety, provision of the extension services as well as to provide the marketing channels through varies institutions so as to prevent the exploitation of the farmers by the middlemen, blamed for exploitation of rich farmers through artificial low prices that prevented farmers from earning higher income from their efforts. Marketing institution was established to enforce minimum price policy for rice. As part of the scheme, a price control mechanism was put in place so to ensure that the rice is affordable for every citizen.

In many countries, the practices of the Government roles as a mediator in the industry are crucial in ensure the stability of the market and as mention before for the various stakeholders in the industry. The domestic production is the main concern to improve the food security issue. In this manner, Yujiro Hayami, explained that the raised of the serious public concern about national security had encourage the Government efforts to counteract the increase in rice import by encouraging the

domestic production of rice included the establishment of the National Agricultural Experiment Stations (1896), the Law of State Subsidy for Prefectural Agricultural Experiment Stations (1899), and the Arable Land Replotment Law (1899) (Hayami, 1972)**.** In this regard, these efforts have successfully raised the yield per hectare especially through technology development. Without the Government intervention the development technology will be undermined if the sub sector is freely develop under the market forces. The element of the farmer capability to invent in the research and development (R & D) of the new technology is another reason why the Government intervention is need in this sub sector.

4.4 The World Paddy and Rice Industry Overview

The world are moving forward to the globalization and making the free trade as an agenda in boosting the economic growth as well as to increase the trade transaction. In this matter, the liberalization of the certain element which hindered the trade in the free manner such as taxation and protection had been discuss in many economic and trade forum. However there is an argument not only from the developing countries but also from the developed countries in the liberalization and globalization of the food sector particularly for the staples food like rice. The concern on the food security and safety as well as the social agenda such as the farmers' income had made the important points that had been highlighted in the discussion. The 'so called' protection that had been practices by many countries in the food sector is still relevant when it is relating it with the security, safety, social, welfare, political as well as the economic development.

The price stabilization which is one of the protections in the food sector is inconsistent with completely the free trade, but it is still remains important in the developing Asia because the large share of rice in economic output. A policy of the pure price stabilization for rice, with consistent protection either subsidization or taxation, can help to create the macroeconomic stability that

essential for sustained a rapid growth by increasing the quantity and efficiency of the investment throughout the economy. Pure price stabilization can also generate significant equity gains by protecting poor consumers and farmers from sharp fluctuation in prices. While domestic commodity price stabilization schemes have a checkered history around the world. The experience of the Asia countries in stabilizing rice prices offers more scope for optimism. Asian Government have been generally successful in stabilizing rice prices, and there are several instances where there has been accomplished without sustained protection of either consumers or farmers. However, there is a need to improve the stabilization mechanisms that would lower the costs of intervention (Dawe, 2001).

According to (Dorosh, 2001), in his research on the trade liberalization and national food security by analyzing the trade between Bangladesh and India, had highlighted an evidence on the trade of the private trader in Bangladesh in the case of the poor harvest in late 1997 and massive flood in 1998 by imported several million metric tons of rice from India. This trade, made possible by separate trade liberalization in India and Bangladesh in the early 1990s, augmented the domestic supply and stabilized prices in Bangladesh at import parity levels. Letters of credit data indicating the participation of hundreds of importers and a close correlation on the price movements across the two countries suggest that the trade was competitive. A risk of co – incident of crop shortfalls in the two countries remains, though these have occurred rarely in the past two decades. Bangladesh imports from the alternative sources would also enhance food availability if another production shortfall occurs, but these imports face higher transport costs and would involve far fewer importing firms given the economists of scale of shipments by sea. The positive contribution of trade liberalization to short – run food security in Bangladesh in recent years does not minimize the importance of increased agricultural productivity and rural economic growth to provide rural poor households with sufficient incomes o acquire food. Nonetheless, the Bangladesh experience shows that the trade offers potential benefits for the national food security by enabling a rapid increase of the food supplies following domestic production shortfalls.

The World Trade Organization (WTO) which is the organization that intends to supervise the liberalization and reduce the trade barriers of the international trade, playing a major role on deriving the negotiation in multilateral arrangement in trade. The food sector is one of the major sector that bringing the most issues when the negotiation taking into place. According to (Helmar, Premakumar, Karen, Kruse, Smith, & Meyers, 1994), the Uruguay Round, where the agreement and the negotiation taking place has produce the first global agreement to reduce the agricultural trade barriers even though the reduction are gradual and limited. A study done by them, was done to evaluate the effects on the Uruguay Round commitments on domestic support, export subsidization, import access and tariffication on world agricultural commodity markets. A baseline was compared on two General Agreement on Tariff and Trade (GATT) scenarios; one in which income increases due to Uruguay Round were assumed and one in which no GATT – induced income increases were incorporated. The results of the study were specifically pertaining to the world rice market. Based on the study, the world rice market will be impacted substantially, not only due to greater access commitments by Japan and Republic of Korea, but due to the expected increases to world consumption which will be stimulated by rising incomes, especially in the developing world. By the time of the full implementation of the GATT, income growth is expected to have significant and increasing impacts on the world agricultural trade and prices. For some sectors, income increases will have greater impacts than the direct constraints imposed by the GATT agreement. The magnitude of the overall impacts across all commodities is not likely to be as large as envisioned at the beginning of the negotiations because of the unilateral reductions in trade – distorting practices undertaken for some commodities by several countries since 1986. Also, final reduction commitments are much smaller than those being considered early in the negotiations process. Ultimately, countries are free to respond by adjusting policies to dampen the effects on their markets as long as they remain within the GATT constraints.

4.5 Conclusion

In summary, it is understood that the food sector particularly the staples food such as rice are being very sensitive sub sector in determining the policy directions. By taking into account the domestic commitment of the sub sector itself as discussed, the industry in most countries especially in the developing countries are still needed some regulation imposed by the authority or the Government. In most developing countries the industry especially in the upstream activities i.e the production level are being undertaken by the smallholding which in majority are in the lower income bracket. Therefore, the Government intervention in assisting them to ensure the income level parity with the cost of living is still crucial. In the other hand, the presence of the Government in the market also are still needed to make the market equilibrium especially in maintaining the affordable price for the majority of the population, in this case the middle income group in the most of the developing countries. The failure of the Government intervention in the market will make the price of the commodity fluctuate in much greater and will contribute the bad inflation. The wisdom of adopting any particular intervention varies from country to country and over time, so that a policy which is appropriate, effective or efficient in achieving a specific goal in one place and time may not be so in another. It is important to emphasize that the wisdom of adopting or terminating policies of market intervention will depend upon conditions which are not only specific to a given industry in a given time and place, but also upon the form which the intervention takes (Pletcher, 1990) . On the other matter, the globalization and liberalization facing by the food sector is one of the future challenges that need to be taken seriously due to the commitment in the international trade. Once again the Government role as a mediator and the driver for the food sector particularly for the rice as the main food are important. The Government needs to take an effort to prepare the industry with the international trade commitment particularly in the trade barrier. The trade liberalization, peculiarly for the developing countries will triple the welfare gains by taking into account the both positive and negative protection that had been imposed (Salazar P. Brandao, 1993).

CHAPTER FIVE
POLICY ANALYSIS

5.1 Introduction

The purpose of this chapter is to identify the issues related to the policy formulation and analyzing the consequences in the policy direction towards the sub-sector itself as well as the nation and the main stakeholders. From this analysis the research will be able to concluding the significant approach in the manner to driven the paddy and rice sub-sector in sustainable development by taking into account as much as possible issues related in implementing the policy.

5.2 Emerging Issues

From the early chapter, the discussion on the policy development had been discussed in details with the chronology of the policy itself beginning from the pre-independence, post-independence and current undertaken policy. In the past few years the emergence of the new issues that question the relevancy and appropriateness on some of the strategic directions in NAP 3, or could negatively affect the various targets set under the plan. Some of the more important issues addressed below :

a. Whilst the eight granaries areas had been designated as permanent production areas for the purpose of maintaining the food security derived from the minimum self sufficient level of 65 percent, the security of these granaries as permanent paddy production zones is under threat. This is due to the following reasons :
    - Majority of the granaries are located in the rapidly urbanizing and industrializing west coast states. Consequently, the pressure by both the state government and the farm owners to convert the rice field for the industrial used are high. Whilst the Federal government sees the

need for sustaining rice security, the state governments and the landowners are more interested in the potential financial benefits from the conversion.

- Longer term security of water resources inn all granaries, due to the undergoing developments in water catchments areas i.e longing, deforestation etc. and an increased in demand for the domestic and industrial used. Increased efficiency in water used ids hindered by the insufficiency in irrigation infrastructure including the tertiary infrastructure and ancillary.
- The possibility of developing of new granary areas in Peninsular Malaysia is almost nil, in view of limited land availability and high establishment and development cost. At the same time, the policy under the NAP 3 calls for the conversion of the secondary and mini granary areas for other more lucrative agriculture activities such as livestock. Whilst the expected conversion to the other crops within this secondary and mini granary irrigation scheme had not taken place on the large scale, it might be so when all the subsidy components in rice farming are withdrawn. This dependency on major granary areas alone to provide the targeted domestic production of rice might jeopardize the targeted self sufficiency level. This is especially so if the expected change in farm productivity as envisage by the plan fail to materialize.

b. In the NAP 3 the target of the average yield level is 5.5 mt/ha for all granaries by year 2010. Each granary set up, have its own targets, which are usually higher than the national target. This is to be realized through the adoption of "high yielding production technology" and adequate infrastructure support. At the moment, a small percentage of the farmers have generated yields exceeding 8 mt/ha consistently in selected areas of the granaries. At the same time, the Ministry of Agriculture aims for the yield level up to 10 mt/ha for the selected areas within the granaries by based from the Australia model. In this production model, it is possible to achieve yield up to 10 mt/ha with low production cost due to low input cost and operate in more environmental friendly manner. The system also capable inn reducing the pest infestation through crop rotation approach

where rice is planted once inn every 3-4 years on the same field. The achievement of this target, on the assumption that the existing biophysical resources are at the optimal level, would definitely change the total landscape of this production.

c. The needs to change the production unit by encouraging new generation of farmers who would operate on commercial basis with profit orientation. This is to be realized by providing support to encourage and facilitate the farm size enlargement by renting in paddy land from a large number of individuals landowners. The targeted size of 50 ha and above for each farmer had been suggested. Such transformation would result in economies of scale in production, higher farm incomes even without the existing of the input and price subsidy and reduce the numbers of rice farmers. However, the current pace of transformation toward the farm size enlargement had been very slow, and it will take a long time to materialize if no drastic measures are to introduce today.

d. As was stated in the NAP 3 and in line with the World Trade Organization (WTO) commitments, the existing paddy price and fertilizer subsidy programmes are to be repackaged to improve its efficiency, while complying with the WTO rules. Additionally, Malaysia's commitment to AFTA required that domestic rice production must be cost effective in order to compete with other producers in the region, once all the non-tariff barriers are terifficated and tariff rates are reduced. These represent a serious threat to the industry and the affected farmers, as there are currently no concrete proposal on how this is to be addressed. In fact, recent decision to expand the fertilizer subsidy and price support programme to farmers who were previously deprive of the facilities, contradicts with the commitment.

e. To seriously consider crop rotation farming, where paddy will be planted only in one season, with the other season used for other activities such as high value crops, maize for animal feeds etc. the argument is based on if it is possible to double the yield level based on the Australia model, then the level of self sufficiency level will not jeopardized. Production of other non-paddy

commodities will improve farmers' incomes, reduce import bill and allows operation under environmentally friendly situation.

f. There is the need to spearhead the development of quality or specialized rice due to the increase demand and the power purchase of the population on the products. Increasing the domestic production of high quality rice is one of the objectives in the NAP 3. The willingness of the consumers to pay premium prices for high quality rice is encouraging. Given that the Malaysian rice farmers especially the insufficient small farmers under the category of low inputs production system will not be able to compete with the more cost effective farmers as well as the neighboring rice producers, production of high quality rice that fetch the premium prices under low input production system could be viable proposition. Currently there is a great interest in designating the portion of rice areas as well as in the main granary areas. It is essential that the necessary support be provided to realize this option.

5.3 Policy Assessments and Impacts

As analyzing above, the paddy and rice sub-sector is guided by several sets of policy thrusts, strategic directions and targets. These had been spelt out clearly in all the policy documents especially in the National Agricultural Policy and the Five Years Malaysia Development Plan. The implementation of these strategies and the subsequent achievement of their goal and targets would ensure the sustainability and survival of the paddy and rice industry.

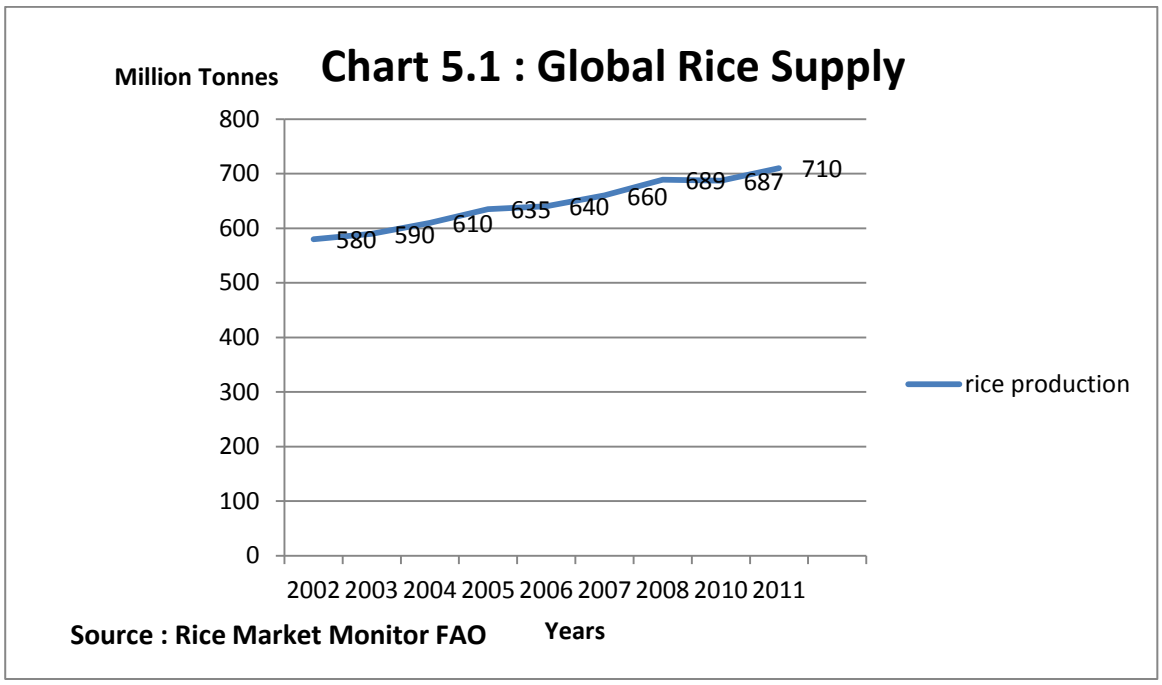
In this part of analysis the review will be undertaken of some selected major objectives, strategies, directions and targets as advocated in the NAP 3, with the view of providing some indications of the achievements, relevancy and appropriateness. Subsequently these analyses would provide some

insights for the future consideration in terms of the possible suggestions and recommendations to the industry. In this regards, some major points will be highlighted as follows:

a. The maintenance of the self sufficiency level (SSL) at minimum 65 percent, which is the continuation of the similar policy of the earlier national agricultural policies.

   The self sufficiency level (SSL) for the last twenty years, including the period after the NAP 3 was launched, had always been greater than 65 percent, an achievement that is in line with the Government aspiration. In fact during the period of 1977-2000, the country was able to maintain the self sufficiency level o 75 percent and above. The highest level of SSL was registered in 1986 at 85 percent and the lowest was recorded in 1998 at 65.7 percent. Beyond 1997 the SSL level was below 70 percent.

   In view of the changing of the world rice production and trading as elaborated earlier, Malaysia should at most maintain the current policy stance. In fact, Malaysia could seriously consider reducing the level of SSL in line the projected increase in the global rice supply as shown in Chart 5.1, the strengthening of Malaysia's economy relative to the rice importing countries as well as the expanding trade and political linkages with major rice producing nations. The world price is also forecasted to remain low and stable. Thus, the food security objectives could still be achieved even with a reduction in SSL. What is required is a good balance between several options that make food security objective achievable in an efficient and cost effective manner, while meeting the interest of the consumers.



b. The need for the market forces is allowed to determine the rice price and quality, with only one-price controlled grade to protect the interest of low-income consumers. In this respect, the Rice Order (Price and Grade Control) 1992 is to be reviewed to further deregulate the industry and that rice prices and quality will mostly be essentially be market drive.

The rationalization in the number of grades and the lifting of price control for Super Grade rice had resulted in the ready availability of high quality rice at higher prices. Whilst this segment of the market captured about 45 percent of the total rice market, the absence of the major complaints from the consumers indicated the feasibility of this market arrangement. In fact, the controlled-price grades that are readily available accounted for less than one percent of the market share..

In line with the liberalization of the global rice market, the current rice strategies that allow the market forces to determine the quality and prices of rice in the domestic market should be continued. In view of the small market segment captured by the so-called price control rice, such control might not relevant anymore in the future. The complete liberalization by allowing free price-float for all domestically produced rice is an added impetus towards realizing the production

of specialty and high quality rice. The realization of the premium prices for these rice types would further encourage the local production of such rice.

c. The need to encourage greater private sector participation in the provision of support services to the rice industry.

Currently, the wide range of essential inputs is provided by the private sector. The private sector supplies agro-chemical, seeds and provides contract mechanization services covering almost all farm operations such as land preparation and leveling, mechanized seeding, water pumping, harvesting by combined harvesters, paddy transportation and marketing. In farm mechanization, the role of these service providers had resulted in a significant decline of man-days used in paddy production. In fact in some cases farmers' involvement in paddy production had reduced to less than eight man-days preseason.

As the policy desired direction of larger farm holdings materialized and with the emergence of group farms and paddy estates, some of the roles of these services providers may decline in importance. However, a significant number of relatively small size farms still requires a whole range of purchased production services and will continue to be a feature of primary production. Hence specific measures should be put into place to support the continues sustenance of service providers. In fact, the industry could be considered as overly dependent on these service providers for farm mechanization services, even in small pockets of rice growing areas in several states. The withdrawal or termination of these services would be detrimental to the industry.

d. The greater reliance placed on the existing granary areas for the purpose of maintaining the minimum desired SSL.

The eight major rice granaries had consistently produced about 70 percent of national production requirement, which is equivalent to about 50 percent of SSL. Overall, the expected increase in productivity and production had not been realized. In the last 15 years, the annual growth in production in the eight granary areas was 1.4 percent. Whilst the expected increase in productivity is not forthcoming with productivity growth in some granaries registered negative growth, the available paddy land for the other socio economic purposes. In general, the productivity level had not increased significantly, whilst the expected improvements in the cropping intensity had not materialized.

The majority of the main granaries are located in the rapidly urbanizing and industrializing west coast states of Peninsular Malaysia. Under the urban sprawl phenomenon the pressure for the conversion of paddy land to cater for industrial and residential needs is real. Whilst this occurs purely on the economic consideration, the implication on the future dependency of rice supply from the granaries areas alone is a threat to the national rice production. Similarly, the continuous availability of water resources that is essential for irrigated agriculture is also questionable. In fact, all main granaries will face the possibility of reduced water availability as water catchments areas are disturbed by logging and land clearing activities. These problems should be seriously addressed to ensure that water resources in the granaries areas are protected to sustain the dominant role of the granary in supplying rice to the country.

e. The improvement to output in the existing granary areas through increases in yield and cropping intensity. The target is to achieve yield of 5.5 mt//ha and cropping intensity of 185 percent by year 2010.

On average, the eight granary major granaries are achieving the paddy yield of about 4 mt//ha and an overall cropping intensity of about 166 percent. Whilst the achievement of 185 percent

cropping intensity is achievable, the achievement of mean yield increment of about 37 percent. Currently, about 2 percent of paddy farms in the granary area had achieved yields of 6-8 mt/ha. The majority of the farmers in some areas have also consistently achieved the yield of 5.5 mt/ha and above. For the rest of paddy farmers, this required revolution in paddy farming practices, this required a revolution in paddy farming practices towards optimizing the yield level.

The average yield target had been revised to 7.0 mt/ha in the granary and 5.5 mt/ha in th non-granary areas in the 8th Malaysian Plan. Efforts and initiatives are being taken y the Ministry of Agriculture to achieve yield level of up to 10 mt/ha based on Australia's experience. The realization of these target might be possible among small group of farmers, though not necessarily be sustainable in all seasons. In this respect, the target should be reviewed, considering its potential and attainable yield, and analyzing the current yield gap between what's the farmers are currently achieving and what's the optimal yield possible under the current paddy production environments. More importantly there are a significant climatic differences as well as farm infrastructures set-up and production system between Malaysia and Australia which could be a stumbling block in achieving the yield levels of 10 metric tons and above based on Malaysia capacity.

f. Changes in the structure of production in the granaries through the creation of larger and more viable production unit a mixture of both group farming/partial estatizations generally under the supervision of the Government agencies.

There is no record to indicate the changes in the structure of production unit farm holdings, even though it is known that overall the farm sizes are increasing, albeit in gradual basis. New involvement of private sector in large scale paddy production is almost nil especially in Peninsular Malaysia. Currently a group of farmers are involved in paddy production operating

farm of sizes between 30 to 50 hectare and in some instance up to 100 hectare. What is obvious is the expansion of Government departments and agencies and is accessible to the various Government subsidies and support. In fact almost all of the authorities governing the major granary areas had established group farming in their areas. Similarly, the Department of Agriculture (DOA) is strongly promoting the group farming concepts especially within the secondary and mini granary areas.

The concept of group farming should be encouraged since it is proven to improve production efficiency. However there is a conflict in implementing it. Better standard of management and higher yield and the continuation of involvement in paddy production should be gradually reduced and indeed conflicting. It is essential that the administration of various models of group farming activities must be profit driven and managed by private sector. Hence mobilization of Area Farmers Association (PPK), currently involved in group farming activities and benefited from fertilizer subsidy and price support should be right approach.

The pace towards expansion in paddy production unit had been slow. The existing policy and institutional support is not sufficient to facilitate and encourage farm size enlargements. Since this is one of the critical components to ensure the survival of the paddy farmers post trade liberalization, much more need to be done to materializing the objective. Currently this is one of the feasible options that the Government should pursue compared to the traditional land reform approach that would create socio political problem. Additionally, much more need to be done to attract large scale private investors in commercial paddy production. The various models of paddy estate should be evaluated to determine the most viable and acceptable approach.

g. The repackaging of the paddy price and fertilizer subsidy programme to allow for long term structural adjustment of the industry in line with the international requirement and obligation.

The paddy price and fertilizer subsidy programme are being enjoyed by a wider group of farmers, to cover all the paddy production areas in the country. The cut of point of the eligibility in getting the subsidies had been increased from the previous 6 acres of land holdings to that of 25 acres. With these changes, more farmers are eligible for these subsidy and price support.

Since its inception, the cost to the Government in providing the subsidies is more than RM11 billion and about RM500 million annually in average. On the other hand, the objectives of the scheme to increase paddy production and reduce the incidence of poverty among paddy farmers were less successful. There was a modest gain in production at the national level at about one percent per annum whilst the incidence of poverty amongst paddy farmers continues to be high among sectors.

The task of repackaging subsidies is difficult, especially in the context of Malaysia political and social perspective. On the other hand, the need to conform to the international trade liberalization is unavoidable. Given this complexity, a number of measures must be seriously considered to ensure the survivals of the paddy and rice sector, the welfare of the farmers are protected and the country's commitment to market liberalization of paddy and rice is intact.

h. Increasing the production of higher quality, specialty and fragrant rice.

The current paddy grading system, which in practice represents a flat rate deduction, discourages the production of higher quality rice. The flat rate deduction at the mills does not encourage farmers to improve the quality of paddy delivered to the mills. In fact the farmers would send paddy with a high content of impurities and moisture that will not be captured in the present flat rate grading system. These unethical practices caused an annual payment of RM95 million in

respects of impurities and moisture that cannot be turned into rice and RM36 million in subsidy payment.

The current production and milling setup cause difficulty in the production of specialty rice except for the integrated production approach. The limitation of the price structure and the availability of dedicated mills would hinder the development of high quality rice industry. In light of foreseeable serious competition in the production of normal rice once WTO and AFTA agreements are in effect and the potential increase in demand for high quality and specialty rice, strategies to expand the domestic production of these rice type should be pursued rigorously.

CHAPTER SIX
MOVING FORWARD AND CONCLUSION

6.1 Introduction

The review of the Malaysian paddy and rice industry from the historical and existing policy directions had highlighted a number of major weaknesses and challenges faced by the industry, especially in the light of the impending liberalization of the sector. If not addressed, these issues could impact negatively on the future of the industry. This, in turn, could result in dire consequences on the socio-economic well-being of the small farmers involved in the paddy cultivation and may also threaten the food security of the nation. The need to reform the industry is hence crucial.

6.2 Moving Forward.

It is essential that the proposed policy changes need to be undertaken in such a manner that the 'shock' to the target group for which the current policy was designed was minimal. Inappropriate sudden measures would likely result in social discontent and may destroy the stability that had taken years to build. With that consideration in mind, the new strategic directions for the paddy and rice industry have to taking into account all the issues involve to reform the paddy and rice industry.

This crucial reform agenda for the Malaysia paddy and rice industry revolved around the following key concern :

- In complying with the international and regional trade liberalization agreement, Malaysia has no choice but to be increasingly moving toward freer market scenario. Malaysia policy instrument in the sector need to be restructured to be less trade distorting and more market driven oriented. With the level of trade distorting support in the paddy and rice sector way above the allowable level, the repackaging of these marks a crucial step.

- The trend in productivity change has not been encouraging, therefore the productivity improvements over the last twenty years had been very modest. Despite advance in the production technology, availability of better irrigation infrastructure and other supportive measures provided by the Government, the yield gap between what is attainable and what the farmers are currently getting is still wide.
- There is widely recognized, a large majority of paddy farmers are small farmers. These farmers would be under serious threat to survive under trade liberalization due to decrease in the farm price resulting from the market price adjustment under a freer market situation. The welfare needs on those farmers who would eventually need to exit are a major socio—economic and political issues.
- The weak involvement of the private sector in the paddy production is expected to continue to be insignificant. With the exception of a few large – scale producers currently existence, the possibility for the new entrants would most likely remain remote. This is evidenced by the almost non – existence of new applications for private sector investment in paddy production for the last three years. This is despite of the various types of incentives already in place notably that of various tax incentives in the form of Pioneer Status and Investment Tax Allowance under the Promotion Investment Act 1986. In essence, paddy production as with other food crops would continue to be the domain of the family – based smallholders, with little private sector involvement.
- The food security issue is not critical as before, based on the analysis it had been shown that the current adequate global surplus of rice in the global market. And this trend is forecasted to remain so in the future. Recent development showed that whilst traditional rice exporting countries are gearing up policies for increasing the production for expanded market, there are also new emerging global suppliers such as Vietnam and Myanmar. At the same time, major importing countries are also gearing up to increasing production. Under this scenario, the 'world tradable surplus' in rice is expected to continued to increase making international trade

in rice are more dependable low and stable, even under the expected trade liberalization. Malaysia, being a small importer, with its large foreign reserves and economics wealth should always be able to procure rice from the world market for the food security of its population. As such the concern of the food security will not be as serious as before. In this context, the country could afford to relax its rice self sufficiency level.

6.3 Summary

In summarizing the research paper, Table 6.1 is explaining the whole idea and overview by pointing out the historical time based and supporting with the policy that had been undertaken, related literature review in correlation with the research question and main theme, the situation that happen in conjunction with the introduction of certain policy directions and analysis of the policy as and its' assessment of why the policy had been introduced. On the other hand, the table is giving an indication of the research.

From the summarization table, it is understood that the policy direction of the paddy and rice industry had undergone several changes or transformation based on the situation and the surrounding environment. These situations had given a significant influence on the formulation of the policy and it can be categories in the different era. The Government of Malaysia had played a major role in determining the direction and the development of the industry. It can be seen from the beginning of the post-independence, the Government had introduced several policy and programmes as well as projects in deriving the industry in much more organized manner. The establishment of several agencies especially that involved in the paddy production had shown the seriousness of the Government effort in assisting the subsector. In addition, the R&D aspects also had been given emphasize by the establishment of specialize R&D institution in agricultural development including the paddy.

Therefore, the research objective in reviewing and identifying the issues related to the development of the paddy and rice industry by review the historical policy direction from different era had shown that the industry still need to overcome some emerging issues in order to develop in sustainable manner.

Table 6.1: SUMMARY

HISTORICAL PERIOD	POLICY REVIEW (Policy and Situation)	REVIEW OF RELATED LITERATURE (Conceptual Discussions)	ACTUAL SITUATION	POLICY ANALYSIS (Interpretation)
(1) Pre-independence Policy (1940-1956)	• Import based • Low SSL (35%) • Serious food shortages • Formation of Rice Cultivation Committee • Reduced migration from paddy sub-sector to others emerging sectors • Introduction of food security measures	• Principle of the Food Policy Development Direction • The impotency of the information accuracy in policy formulation • Contribution of shocking elements in deriving the policy determination in short-run and long-run measurement	• Colonialization era • Rice policy being neglected • Concentrate on more comparative advantages commodity i.e rubber & tin • Heavy reliance on import • Serious food shortage after World War II and had resulted in food rationing for population	• An early stages in identify the importance of the domestic production capacity • The balance between the SSL and imports elements in encounter the riot during crisis • Food security agenda in ensuring the supply sustainability
(2) Post-independence Production Policy (1956-1984)	• Development via infrastructure • Increasing farmers' income • Equilibrium on demand and supply side • Productivity via extension services provision	• The roles of the Government intervention in determining the - Increasing income of farmers - Stabilizing market prices for reasonable prices for consumers - Providing extension services - Improving infrastructure capability	• After 1957, SSL improve to 54% • Reorientation of the independence nation in prioritizing the sectors • Food security objective become main consideration • Increasing production capacity has overweighed the intention in developing the subsectors	• Recognizing the significance of the economics of scale in production by introducing the paddy granaries development • Setting up of the average yield target as a productivity objective by adopting the high yielding production technology • Production improvement through the farm enlargement and consolidation in ensuring the extension services can be provided effectively and efficiently

HISTORICAL PERIOD	POLICY REVIEW (Policy and Situation)	REVIEW OF RELATED LITERATURE (Conceptual Discussions)	ACTUAL SITUATION	POLICY ANALYSIS (Interpretation)
(3) Current Policy (1984-2010)	• Rationalizing resources for paddy production • Strengthening the research & development (R&D) in supporting the productivity • Improving the capability in the sub sector competitiveness in facing the globalization and trade liberalization	• R&D become an important elements in this era due to labor shortage and less competitive advantage compare to others sector i.e manufacturing • Increase the competitiveness of the sub-sector in meeting the world changes and the pressure from others emerging sector • Readability on the gradually deregulation and divestment	• More comprehensive policy director has been established via the introduction of the NAP in 1984 • The main objective is to maximize income from agricultural activities through the utilization of the resources and increase productivity • The rationalization and utilization of resources has become crucial due the rapid expansion of the manufacturing sector • The migration of the rural population to the urban area had increased and has threaten the paddy development via the labor shortage • More emphasis being given in improving paddy yield through the productivity via R&D and mechanization • Globalization and liberalization agenda become a main pillar in formulating the new policy direction for the agricultural sector including the paddy and rice sub sector	• Encouraging more lands or farms consolidation in managing the input resources • Encouraging private sector investment in deriving the paddy and rice sector by gradually harmonizing the regulation • Strengthening the agricultural R&D institution i.e MARDI in exploring the new varieties of the paddy seeds as well as inventing farms mechanization to increase production via productivity • Sustainable supply via G2G contract agreement in ensuring the food security objective with the emerging paddy producers

(Source): Formulated by Author

6.4 Conclusion

In conclusion, in moving the paddy and rice industry forward, towards a more desirable position, it is the belief from this research and study that the non-trade concerns together with the national strategic concern on food security still need to be upheld albeit in a different form. In this regard, the research recommendation from the perspective analysis of the historical policy direction can assist in the much better way in positioning the paddy and rice industry in developing in sustainability.

The challenges from the other competitive sector such as manufacturing and services had given an impact on the agricultural activities as whole including the paddy and rice industry. In addition, within the agricultural sector also the paddy and rice industries are facing challenge where the other subsector such as livestock and the aquaculture are more attractive especially in point of income generating. In the other hand, the globalization and liberalization on trade regionally and globally had been given an extra pressure for the industry. The recommendation and moving forward part had given some idea on the formulation of the policy direction in sustainable manner by taking into accounts the significant issues that had been identified in this research.

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