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# **Evaluating the Effects of Trade Liberalization on Malaysian Agriculture with Emphasis on the Palm Oil and Paddy Sub-sectors**

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## **1. INTRODUCTION**

The debate on the benefits and effects of trade liberalization continues till this day, even after more than three years since the signing of Marrakesh Agreement and the formation of the World Trade Organization (WTO) to facilitate and implement trade liberalization world-wide. The signing of the agreement is in reality, a testimony of consensus by signatory countries that freer trade is beneficial to everybody. However, despite the consensus, the debate on the advantages and disadvantages of trade liberalization not only continues but is also gaining momentum. This is especially so for liberalization in the agricultural sector, a sector which is deemed strategic by many countries in both the developing and the developed worlds.

As the effects of agricultural trade liberalization begin to trickle down and starting to affect the farmers, many governments now realized that they may have to go through painful adjustment programs that can be politically unpopular. The agreement is also constraining the choice of policy instruments that can be used in pursuing their respective socio-economic and political agendas. In developed countries and more so in developing countries, governments are grappling with 'acceptable' plans to restructure the sub-sectors affected by liberalization. For many countries agricultural trade liberalization is expected to affect the country not only in the economic and social fronts but also in the political front.

However, the extent of the effects and impacts of agricultural trade liberalization in Malaysia has not been a comprehensively researched subject and as such its economic and social implications are still not very clear. It is, therefore, the objective of this study to examine the actual effects and extend of benefits and losses to be gained by Malaysia as a result of trade liberalization in agriculture, with special focus on two subsectors that are important to Malaysia, viz palm oil and paddy.

## **2. The Agriculture Agreement and the CEPT Scheme of AFTA**

The two main agreements that Malaysia is involved with regards to agricultural liberalization are the Agricultural Agreement and the CEPT Scheme of AFTA. In the Agricultural Agreement members agreed to the following main components:

- i. Market access commitments - this involved the conversion of all existing NTBs into bound duties that are no higher than the tariff equivalent of the protection levels in the base period (1986 - 1988). Developing countries are to reduce new and existing tariffs by an average of 24 per cent over 10 years with a minimum reduction of 10 per cent per tariff line while developed countries are to reduce by an average of 36 per cent and a minimum of 15 per cent over six years. In addition, minimum market access has to be granted through tariff quotas starting from three per cent to five per cent of domestic consumption. This market access to imports has to have low or minimal duties.
- ii. Exports subsidies commitments - no new export subsidies are allowed and developing countries are required to reduce the volume on subsidized exports and expenditures of subsidies by 14 per cent and 24 per cent respectively over 10 years while developed countries have to do so by 21 per cent and 36 per cent respectively over six years.
- iii. Domestic support - developing countries are committed to reduce their Aggregate Measure of Support (AMS) by 13.3 per cent in 10 years while developed countries are to reduce the AMS by 20 per cent in 6 years.

Apart from obligation to the UR Agreement, Malaysia is also committed to AFTA through the CEPT Agreement. At the 26th. ASEAN Economic Ministers Meeting in 1994, the ministers decided to phase in unprocessed agricultural product (UAPs) into the CEPT Scheme. These products have been categorized into three major lists:

- i. immediate inclusion list
- ii. temporary exclusion lists, and
- iii. sensitive list
- iv. highly sensitive list

UAPs in the immediate inclusion list were included in the CEPT scheme by 1996 and by year 2003 tariff on these products will be within the 0 - 5 per cent range. QRs and other NTBs on these products will also be eliminated. UAPs in the temporary exclusion lists will need to be phased in, at equal installments by 1997. All phasing is to be also completed by year 2003 whereby tariffs on these products will also be in the 0 - 5 per cent range. Products in the sensitive list are given more flexibility in terms of the duration of phasing into the CEPT scheme. However, all of these products in this list will also be having 0 - 5 per cent ending tariff. For the highly sensitive list, the modality of liberalization is still being worked out among ASEAN member countries.



### 3. Effects on Malaysia - a qualitative assessment

The UR and the CEPT Agreement that Malaysia is committed will certainly affect the Malaysian agricultural sector in the years to come. Although it is now too early to know the actual effects these agreements have on Malaysian agriculture, a qualitative assessment of the potential effects of the agreements on Malaysian agriculture especially

with regards to the export crop sector and the protected sector of Malaysian agriculture, can nevertheless, be made.

### 3.1 Effects of the UR agriculture agreement

In this section, the likely effects of the UR Agriculture Agreement are assessed for Malaysia's main export crops. Also, its potential effects on imports and on the protected sub-sectors are also evaluated.

#### 3.1.2 Export commodities

Table 1 shows the tariff reduction offered by the developed economies for agricultural products. The product categories that are important to Malaysia are oilseeds, fats and oil with a percentage reduction of 40 per cent, spices, flowers and plants with reduction of 52 per cent and tropical beverages with reduction of 46 per cent. Except for the category oilseeds, fats and oils, Malaysian exports of other products are not very significant. In this category, the exports of Malaysia palm oil is expected to substantially benefit from the Agriculture Agreement. Both EU and the U.S.A. are important markets for Malaysian palm oil and Malaysia will benefit from tariff reductions for Malaysia palm oil products in these markets.

Table 1: Tariff reductions by developed economies on agricultural product categories

Product categories	Import value from (US\$ mil.)		Percentage reduction in tariffs
	All sources	LDCs <sup>a</sup>	
<b>All agricultural products</b>	<b>84,240</b>	<b>38,038</b>	<b>37</b>
Coffee, tea, cocoa, sugar, etc	13,634	10,280	34
Fruits and vegetables	14,575	8,887	36
Oilseeds, fats and oils	12,584	6,833	40
Other agricultural products	15,585	4,233	48
Animals and their products	9,596	2,690	32
Beverages and spirits	6,608	2,012	39
Flowers, plants, vegetables materials	1,945	1,187	48
	3,086	1,135	36
	5,310	725	39
	1,317	48	26

Tobacco	<b>24,022</b>	<b>18,744</b>	<b>43</b>
Grains	8,655	8,041	46
Dairy products	4,340	3,672	37
<b>Tropical products</b>	3,443	2,546	41
Tropical beverages	4,591	2,497	40
Tropical nuts and fruits	2,992	1,987	52
Certain oilseeds, oils			
Roots, rice, tobacco			
Spices, flowers and plants			

Source: GATT (1993)

Notes: a LDC = least developed countries

For example, the U.S.A. will reduce tariffs on oilseeds, fats and oils by 19 per cent for unprocessed or semi-processed products and 30 per cent for processed products. In addition, developing economies, which are increasingly becoming more important markets for Malaysian palm oil, are also reducing their tariffs on these products. Thailand and the Philippines, for example, are reducing them by 24 per cent and 12 per cent respectively. Apart from increased competitive footing that can be obtained from tariff reductions in major palm oil markets, Malaysian palm oil will also gain effective competitiveness strength from the reduction of domestic support and export subsidies by developed countries on their oilseeds, fats and oils products. This will assist Malaysian palm oil exports to be on more equal footing as compared to other vegetable oils, considering that Malaysian palm oil is devoid of any production and export subsidies.

Another export product that is expected to gain from the Agreement is wood and wood products. Reductions in tariff escalation of these products by the developed economies would certainly encouraged the exports of more higher value added products to these countries. The weighted average of pre and post UR tariffs on these products are to be reduced by between 30 per cent to 67 per cent (Table 2). Panels are to be reduced from 9.4 to 6.5 per cent and articles from 4.6 to 1.6 per cent.

Other major export crops such as cocoa, rubber and pepper are expected to only register modest gains from agricultural liberalization of the UR Agreement. Rubber products are mostly subjected to already low tariffs in major markets while cocoa will still be subjected to quite high tariff escalation in major cocoa markets such as the EU.

Furthermore, Malaysia's competitiveness in these subsectors is already on the decline and future production and exports are expected to be well below the current levels, especially for rubber. Therefore, unless there are substantial increases in the prices of these commodities resulting from the liberalization measures, gains accrued to these crops are expected to be minimal.

In addition to the expected increase in overall exports due to reductions in tariffs and support in developed countries, Malaysian export commodities are also expected to gain from the effects of price increases from liberalization. This is especially so for the more competitive sectors such as palm oil and forestry. Brando and Martin (1993) estimated that the price of oilseeds would increase by 4.5 per cent as a result of agricultural liberalization while Golden, Knudsen and van des Mensburugghe (1993) estimated the increase to be at 4.1 per cent. Although these figures may not reflect the actual price increase in the future, most studies were consistent in their predictions of upward price movements for many agricultural products resulting from liberalization.

Table 2: Changes in tariff escalation in selected product categories

Product categories by Stage of processing	Weighted average		Change in tariff escalation
	Pre-Uruguay	Post-Uruguay	
<b>Rubber</b>	0.1	0.0	-
Raw	5.5	3.3	-39
semi-manufactures	5.1	3.6	-28
finished products	3.4	2.3	-
total			
<b>Wood</b>	0.0	0.0	-
in the rough	9.4	6.5	-30
panels	0.9	0.4	-50
semi-manufactures	4.7	1.6	-67
articles	2.0	1.1	-
total			
<b>Jute</b>	0.0	0.0	-
Fibers	5.4	0.1	-98

Yarns	5.7	3.2	-43
Fabrics	5.1	1.8	-
Total			
<b>Tobacco</b>	14.7	11.5	-
Unmanufactured	22.1	9.2	-131
Manufactured	17.3	10.7	-
Total			
<b>All tropical industrial products</b>	0.1	0.0	-
raw materials	6.3	3.5	-100
semi-manufactures	4.2	1.9	-19
finished products	4.2	1.9	-
total			

Source: GATT (1994)

### 3.1.3 Import Commodities and the Protected Sectors

In general, the Agriculture Agreement is not expected to bring about radical changes in the import tax regime for Malaysian agricultural products. This is mainly due to the fact that Malaysia's import tariffs for agricultural products are already low by international standards. Import duties on a wide variety of food products have already been abolished or reduced during recent years. This is done to fulfill Malaysia's obligation to the Agreement and also as part of the government's policy to make food products available to consumers at a lower price in its efforts to control inflation.



Table 3: Malaysia pre-Uruguay and post Uruguay tariff rates for selected agricultural products

Products	Pre-Uruguay (base rate)	Post-Uruguay (bound rate)	Percentage reduction (average)
<b>Fruits and Vegetables</b>	24	13	45
fresh and dried	24	14	36
other, processed			
<b>Coffee, tea, mate, cocoa preparation</b>	26	22	18
Unprocessed	35	15	57
semi-processed	34	15	55
prepared or preserved			
<b>Sugar and confectionery</b>	18	16	13
semi-processed	35	30	14
processed			
<b>Cereals and cereal preparations</b>	21	17	17
Grant	13	10	25
Flours	25	13	46
Preparations	46	40	14
<b>Meat and meat preparations</b>			
<b>Oilseeds, fats and oils</b>	9	4	58
Unprocessed or semi processed	9	7	18
Processed			
<b>Cut flowers, plants, vegetables</b>	6	5	27
Materials	28	14	48

<b>Beverages and spirits</b>			
<b>Dairy products</b>	33	30	11
Unprocessed or semi processed	26	8	70
Processed			
<b>Other agricultural products</b>	5	4	36
Unprocessed	10	9	12
Other, processed			
<b>Aggregated <sup>1/</sup></b>	13	9	31
Unprocessed	14	5	30
Other, processed			

Source: WTO Secretariat, Mohamad Ariff, Mahani and Tan (1996)

Notes: <sup>1/</sup> Excludes tobacco and spices

For the WTO, Malaysia's general offer is an average of 19 per cent reduction on all agricultural products. The largest reductions are for processed dairy products, coffee, tea, mate and cocoa, cereals, unprocessed and semi-processed oilseeds, fats and oils and beverages and spirits (Table 2). Since Malaysia is not a large producer of these products, (except for oilseeds, fats and oils), these reductions are not going to pose a threat to the domestic agriculture. These reductions, on the other hand, will benefit the consumers.

However, there is strong possibility that the Malaysian rice sector, a heavily subsidized sector, can be significantly affected by the Agreement. The effects on the domestic rice industry is not so much related to the market access commitments but in the commitments to reduce direct support to the sector. As was described in the earlier chapters, the paddy subsector was heavily protected through a web of policy interventions including fertilizer subsidies, the GMP and also a direct price support scheme. The overall feasibility of Malaysian paddy production survival of the domestic paddy producers maybe at stake since a large share of the profits obtained from paddy production comes from price support and fertilizer subsidy. Fatimah et. al. (1983) found that both the fertilizer and the price support significantly contributed to profits and output. The price support scheme was able to increase output by 34.2 per cent and contributed to 71.5 per cent change in the level of income. Additionally, the fertilizer subsidy had been estimated to increase output by 65.8 per cent while contributing to a 38.6 per cent change in income. Tan (1987) findings also supported the study by Fatimah et. al. (1983) in that the paddy subsidy scheme had contributed to 60 per cent to the total income of paddy producers. Hence, the removal of all these subsidies and support would see many producers being displaced from the industry and a contraction in paddy national output.

The impact of the Agreement on other protected sectors such as poultry, swine, milk, tobacco, cabbages and tropical fruits are not expected to be great. Adverse effects on

domestic production are also unlikely. Most of the products from these subsectors are subjected to QRs except for tobacco where both QRs and tariffs were applied and tropical fruits where only tariffs are used. All these products are now with tarifficated bound rates and a minimum market access of 3 per cent of domestic consumption is now allowed. This will be raised to 5 per cent by 2004. Since the market access provisions requirement is quite small in relation to domestic production, the effects of the Agreement on domestic production is not expected to be significant. On the other hand, the partial opening of the domestic market for these products will initiate local producers to be aware of competition and take measures to increase productivity and efficiency. This will be beneficial to the respective industries in the long term.

Table 4 shows the in-quota imports of some of these products for the calendar year 1996. For many of these products, a total import ban was imposed prior to the Agriculture Agreement. A total of 4,923 tonnes of poultry meat and chicken wing as well as close to 3 million heads of day old chickens were imported resulting from the market access provision. In addition, in-quota imports of swine and swine meat, milk and milk products, tobacco and cabbages also take place during the year. It is expected that these imports will increase as the minimum market access opening increases. In addition, wheat and meslin flour is now opened to all exporters with only an import license requirement that is automatic and is no longer subjected to any quota volume or other restrictions.

Table 4: Market access on selected protected products, Malaysia 1996

Products	Tariff quota quantity For calendar year	In-quota imports
<b>Chicken, Live, Eggs, Meat and products</b>	1,492,725 heads	
Day-old chicks	2,985 tonnes	2,965,534 heads
<b>Meat, fresh, frozen and chilled</b>	498 tonnes	3,348 tonnes
<b>Chicken wings, fresh chilled</b>	640 tonnes	935 tonnes
<b>Other poultry cuts fresh, chilled</b>		2,414 tonnes
<b>Milk and milk Products</b>	640,000 liters	
Liquid, milk	92,000 kg	1,195,412 liters
Liquid, cream		696,000 kg
<b>Swine and Swine Meat</b>	18,417 heads	

Live Swine		226 heads
Meat of swine, salted	1,005 tonnes	
dried or smoked	25,812 tonnes	24 tonnes
- ham and shoulders	9,873 tonnes	32,378 tonnes
<b>Cabbage (round)</b>		17,197 tonnes
<b>Coffee, not roasted</b>		

Source: Ministry of Agriculture Malaysia (1997)

### 3.2 Effects from the CEPT agreement

The inclusion of unprocessed agricultural products into the CEPT scheme of AFTA can have profound effects on Malaysian agriculture and the agriculture of ASEAN member countries. Due to almost similar climatic and environmental conditions, countries in the ASEAN region produced a range of agricultural products that almost similar to one another. Thus, in the past, trade policies of each member countries is to protect their domestic agricultural industries against other member countries. The similar structure of production and the socio-economic importance of primary agriculture to these countries have resulted in hesitation among ASEAN countries to include primary agriculture into the liberalization program. However, as of 1995 unprocessed agricultural products are now included in the scheme.

#### 3.2.1 Export commodities

Among the major export commodities, such as palm oil, rubber, cocoa, forestry products and pepper, it is expected that only palm oil will substantially benefit from the CEPT. For other commodities especially rubber, cocoa and pepper, Malaysia's competitive position viz-a-viz other ASEAN countries can be considered as less competitive. Indonesia and Thailand's rubber production are of lower costs as compared to Malaysia's; so is Indonesia's pepper. In this respect, it is likely that there will reverse flows of these products into Malaysia when the CEPT is fully implemented for all agricultural products. Table 5 shows the CEPT tariff reduction schedules for member countries for fats and oils. The potential major in-roads that Malaysian palm can exploit are in the Philippines and Thailand markets, where tariff reductions are to be reduced by more than 75 per cent and 73 per cent respectively. Nevertheless, Malaysian palm oil needs to compete with palm oil from Indonesia for these markets. The only consolation is that Indonesia may have to satisfy its growing domestic demand for oils before it can aggressively expand its exports. In other products, Malaysia is not expected to gain even when the sensitive list is liberalized in the year 2010. Most of the products under the sensitive list of member consisted of products such as beverages, poultry, poultry eggs swine, tapioca, maize, and sugar, which Malaysia is not so competitive as compared to other ASEAN countries.

Table 5 : CEPT tariff reduction schedules for fats and oil

Country	1996	1998	2000	2003	Percentage Reduction
Brunei	0.00	0.00	0.00	0.00	-
Indonesia	7.93	5.43	4.74	4.63	41.61
Malaysia	1.50	1.47	1.38	1.38	8.00
Philippines	13.00	6.22	3.88	3.19	75.46
Singapore	0.00	0.00	0.00	0.00	-
Thailand	15.42	9.42	5.31	4.16	73.02
Vietnam	4.00	4.00	4.00	4.00	-

Source: ASEAN Secretariat (1996)

### 3.2.1 Import commodities and the protected subsectors

It is expected that there will not be much change for Malaysia in terms of the major import commodities such as grain maize, soybean, rice and other food crops. Except for rice, most of these commodities are sourced outside of the ASEAN region and imports of most these commodities into Malaysia already attract zero tariff. At the same time, the liberalization of the rice market under CEPT, which is considered highly sensitive by most ASEAN countries, is still uncertain and as such the patterns of trade of this commodities within the ASEAN region is expected to remain unchanged.

However, the CEPT is expected to inflict significant impacts on the protected subsectors of agriculture in Malaysia. Most of the agricultural products that are protected by Malaysia domestic and trade policies are either currently in the temporary exclusion list or the sensitive list. They will have to be liberalization by the year 2003 or at the latest by the year 2010 where that these products will by then have a tariff of not more than 5 per cent with all QRs and other NTBs removed. Current rates of protection for these products such as tobacco, poultry, swine and tropical fruits are high.

Among the protected subsectors, the most severe impact is expected be in the tobacco subsector, whereby a host of protective measures including import quotas and extremely high tariffs are used to protect the local industry. Cost of production of unmanufactured tobacco in Thailand, Indonesia and the Philippines was estimated to be at least twice as low than that of Malaysia. The liberalization of the tobacco market will certainly see the flooding of the domestic tobacco market with imports from these countries. A very substantial reduction in domestic production is expected to take place, while a larger

majority of the farmers involved in the industry will most likely have to move out of the industry and seek new sources of employment and income opportunities. The government at the same time will also lose resulting from loss of income from tax revenue.

The next subsector that is expected to be affected is the poultry industry. Poultry, which is protected by import ban, until the coming into force of the Agreement of the UR will see stiff competition from poultry imports from Thailand which is reputed to be more efficient than the local industry. However, the local poultry industry, in contrast to be tobacco industry, mainly comprise large scale integrators that are involved throughout the production and value added chain, from feed milling, poultry production and retailing. Under this structure of production, and based on the past performance of big producers in their capability to consolidate and increase productivity, the poultry industry may be more resilient in the wake of external competition. Nevertheless, producers' welfare is expected to be reduced as a result of this liberalization. On the other hand consumers will gain resulting from the expected decreased prices of chicken in the retail markets. The same line of rationalization and arguments can be applied to assess the impact on the local swine industry, which received similar protective measures as the poultry industry.

#### 4. Impacts of liberalization on the Palm Oil Industry



The palm oil subsector formed the single largest agricultural enterprise in Malaysia. The subsector has witnessed phenomenal growth since the 1960s and is now well clustered, evolving from a mere producer and exporter of crude palm oil (CPO) into a diversified entity with a host of inter-related downstream and supporting industries including milling and refining, cooking oil manufacturing and oleochemicals. At present, there are 2.5 million hectares of oil palm under both the smallholders and private estates involving 250,000 families and employing an estimated 80,000 workers. Malaysia has for many years been the top producer and exporter of palm oil in the world. Being an export oriented industry that is devoid of any subsidy, this industry is expected to gain from the trade liberalization initiatives. As the import tariffs for palm oil is reduced, making palm oil cheaper in the importing countries, there would be increase in demand in the international market. In the domestic market this increase in demand in the international market would lead to increase in domestic prices of palm. Producers would benefit from higher prices while domestic consumers would lose. The detail conceptual framework is shown in Appendix I.

To quantitatively evaluate the effects of tariffs on Malaysian palm oil, five functions are estimated viz. the domestic supply and demand functions, the export demand function and two price linkage equations. The equations were estimated using OLS. However, when evidence suggested that there are problems of autocorrelation, GLS estimates generated by the cochrane orcutt procedure were used. The price linkage equations are to ascertain the relationship between world and domestic prices of palm oil and also the relationship between domestic CPO and FFB prices. The estimated equations are exhibited in Appendix II.

### 1. Impacts on export demand of palm oil

From the export demand function, the elasticity of quantity of CPO exported from Malaysia with respect to tariff on Malaysian CPO is - 0.1315. This means that a one percent reduction in tariff will increase CPO exports by 0.1315 percent. Under a free trade environment where tariff is zero, exports of Malaysian palm oil will increase by 1.973 percent (current weighted tariff of major importers = 15%). Using the 1996 data of exports of CPO equivalent of 7,587,855 tonnes, exports of CPO will increase by 149,708 tonnes under free market conditions.

### 2. Impact on domestic prices

From equation 2, the elasticity of price transmission of domestic price of CPO with respect to the tariff is - 0.2003%. This means that a one percent reduction in tariff will increase domestic prices by 0.2003%. With total liberalization, domestic prices will increase by 3.005%. Based on the 1996 domestic CPO price of RM1191.5 per tonne, the expected domestic price under a total trade liberalization scenario for palm will be RM1227.30 per tonne or a RM35 increase in price per tonne.

In equation 3, the elasticity of price transmission of FFB price with respect to CPO calculated at the means is 1.0718 meaning that a one percent increase in price of CPO will also increase the price of FFB by 1.0718%. Since CPO price is expected to increase by 3.005% under total liberalization, FFB price to be received by farmers are expected to increase by 3.2159%. Based on the last five years average price of FFB, the FFB price under liberalization would be RM185.78 per tonne or RM191.67 per tonne based on the 1996 price of FFB.

### 3. Effects on domestic demand and supply

From the price linkage equation, linking domestic prices and tariff, it is expected that under a totally liberalized regime in palm oil trade in the international market, domestic CPO prices are expected to increase by 3.005%. With a demand elasticity estimate of 0.45 obtained, domestic demand is expected to fall by 1.352% (Equation 4, Appendix II). Based on 1996 consumption, demand will decrease by 10,504 tonnes. Consumer surplus will decrease resulting from having to pay a higher price and consuming less. Total consumer welfare loss is estimated to be RM27.4 million.

The supply elasticity computed at the means is 0.14 meaning that a one percent increase in price of FFB will increase FFB production by 0.14 percent. FFB price, however, is expected to increase by 3.2159%. With the expected increase in FFB price, production will increase by 0.4502%. Based in 1996 production, supply will increase by 201,520 tonnes. The difference in producer surplus is estimated to be RM267.8 million.

### 4. Overall assessment

From the above analyzes, the net gain of the effects of liberalization is about RM240.4 million. The analysis points to the fact that there are obvious welfare gains benefiting Malaysia resulting from liberalization of trade in palm oil in the world market. Although this analysis may suffer from data and model estimation constraints, it nevertheless, provides a good indication of the expected direction on the impacts of the liberalization

initiatives. In addition, Malaysia's benefit can be further expanded due to the requirement of other oilseed producers to reduce support to their industry which are mostly likely to put upward pressures on prices other edible oils such as the soybean and corn oil. The higher prices of these products can result in a substitution effect that will be beneficial to palm oil. Furthermore, with liberalization, Malaysian palm oil can now enter new markets, which are previously closed and protected. Titapiwatanakun (1994), for example, estimated that the implementation of AFTA would increase imports of palm oil from Malaysia into Thailand by about 770 tonnes. Further in-roads are also expected in other ASEAN markets.

#### 4.5 Policy Implications and Recommendations

The opening up of new markets and the relaxation of protection in existing traditional markets for palm oil for certain has and will present Malaysia with new economic and market opportunities. Malaysia should take advantage of the current market trends and capitalize on this opportunity. As the market for palm oil grows resulting from increase demand and freer trade, many other new producers would likely surface to also take advantage of the expanding market. This being the case, in long term, Malaysia will see new competition in the market place that it now dominates. It must not be complacent, though the gains that can be achieved in the short run can be obtained by not doing 'anything'. Continuous efforts have to be directed to maintain and enhance competitiveness of the industry. Efforts are also necessary to further promote the use of palm oil in competing against other edible oils. Among the recommendations that can be undertaken include:

- **Reducing labor requirements in the palm oil production processes.**

One of the current setbacks of the palm oil industry is the apparent lack of labor to support primary production of FFB. The industry is highly dependent on foreign labor for most of the operations in estates and to some extent in the smallholder sector. The requirement for mechanization and automation is pressing. Although at present, the government is practicing a relax labor policy, the industry cannot and must not in the long run allow itself to be forever dependent on foreign labor. As the regional economy grows and palm oil production also expands in neighboring countries, Malaysia may find itself in a position of that is highly deficient in labor for palm oil both local and foreign.

- **Enhancing competitiveness**

Recent analyses showed that the competitiveness of the Malaysian palm oil industry is declining. Tengku Ariff (1998) showed that the ratio of Malaysia f.o.b. price of palm to world price, is increasing, although is still below one. Increased efforts in gaining productivity, particularly in R&D are required for the industry to stay ahead of competitors. New emerging palm oil exporters countries such as Indonesia, Papua New Guinea and Nigeria which are considered low cost producers can pose serious threats to Malaysia.

Continuous competitiveness building and enhancing requires efficiency and quality improvements at all the four levels of palm oil production viz. primary production, milling, refining and products manufacturing. With the continuous efforts aiming to

maintain price and quality leadership for palm oil and palm oil products, in the international market, Malaysia can look forward for more many years of substantial social and economic contribution from its 'golden crop'.

- **Product development and diversification**

The majority of exports of Malaysia palm oil products are still limited to secondary processed products. With increased liberalization, which is accompanied with decreasing tariff escalation on processed and manufactured products, especially in the developed countries, there are increasing opportunities to export products that are off higher value added that would increase industry profits. Some of these products from palm oil include beta-carotene, vitamin E, cocoa butter equivalent and finished oleochemical products. Many of these sub-industries of palm in Malaysia are at the initial stages of development. Innovations and intensification of technological improvements in these sub-industries are constantly required for them to achieve excellence and be world-class.

- **Strengthening institutional support**

It cannot be denied that the phenomal growth of the industry in Malaysia which has evolved from just primary production and processing to a more diversified entity is in part due to the strong institutional support that has been initiated and provided by the government. This includes the establishment of a dedicated research institute for industry that was initially financed by the government but now funded by research cess from the producers. Regulatory and promotional agencies like PORLA and MPOPC also played significant roles. With new agendas facing the palm oil industry, the institutional support needs constant review in making sure that the support that are in place such as incentives, credit financing and technical advisory and extension continues to provide support services that are relevant to the industry.

- **Market diversification and deepening**

Liberalization also offers increased opportunities to diversify into non-traditional markets and deepen existing ones. Increased promotional campaigns to penetrate new markets will be required to introduce Malaysia palm oil, while market-positioning strategies are necessary to firmly maintain competitive market positions in traditional markets. In some of these aspects, there exist room for cooperation among major palm oil exporters to act together in promotional activities in order to capture a large share of the edible oil market.

### **3. The Paddy and Rice Industry**

The paddy and rice industry sector has always been considered strategic and accorded special treatment by the government. This is mainly due to food security and socio-economic reasons. Being a staple, Malaysia feels that an acceptable level of self-sufficiency needs to be maintained for rice. In addition, support to the sector is further justified to help enhance incomes of small farmers in the industry, many of which are poor. Its strategic role in society has made rice one of the most important agricultural commodities in the country. Massive public investments in terms of infrastructural development and support services are made available to the industry. The subsector is

also heavily supported by various subsidies including both the price and fertilizer subsidies. In short, this subsector could be characterized as one that is subjected to a high degree of market intervention as compared to other agricultural commodities.



Being a highly protected sub-sector, the paddy and rice industry in Malaysia is expected to "lose" from liberalization. The industry especially in primary production is expected to be "naturally" downsized as trade is liberalized and domestic support withdrawn. Producers are expected to lose while consumers are expected to benefit from

lower prices of rice. The conceptual framework is shown in Appendix III.

In evaluating the quantitative effects of liberalization on the paddy and rice industry, one supply equation and two price linkage equations are estimated. The first price linkage equation is to identify the relationship between the retail price and the protection while the second equation simply links the retail price to the farm price (Appendix IV). The demand equation is obtained from Ahmad Zubaidi (1990).

### 1. Impacts on Domestic Prices

The elasticity of price transmission of TE with respect to retail price is 0.2305 (Equation 1, Appendix IV). This means that a one percent decrease in TE will decrease retail prices by 0.2305%. Hence, a 40% decrease in TE will result in retail price to decrease by 9.22%. Based on the price 1996 retail price of rice, the retail price under liberalization would be RM1.34 per kg. From the estimation of equation 2, Appendix IV, the elasticity of price transmission of farm price with respect to retail price is 1.1162. This means a one-percent decrease in retail price would result in a 1.1162 % decrease in farm price. Therefore a 9.22% decrease in retail price would result farm price to decline by 10.29%. Using the 1996 farm price, liberalization would result the farm to decline to RM 1.24 per kg of rice.

### 2. Effects on supply and demand

The rice supply elasticity was estimated to be 0.13, meaning that a one percent decrease in farm price would result in a 0.13% decrease in production (Equation 3, Appendix IV). As such a 10.29 % decrease in farm price would decrease rice production by 1.34%. Based on 1996 production figure, this is equivalent to 19,280 tonnes of rice. The total loss in producer surplus is estimated to be RM228.5 million.

On the demand side, based on the elasticity of demand of 0.31 obtained by Ahmad Zubaidi (1990) and a 9.22% decrease in retail price, demand would increase by 2.86%. Based on 1996 consumption of rice, demand would increase by an additional 57,640 tonnes of rice. Total demand would have increased to 2,073,024 tonnes. the surplus is RM282.2 million. The total gain in consumer surplus brought about by the liberalization is RM286.2 million.

### 3. Analysis on farm profitability

An assessment on the impact of the withdrawal of price intervention can also be analyzed in terms of farm profitability. This would measure the final income received by

the farmers with or without price support and subsidy. Based on the reduction in farm price, the change in net income derived from paddy production in MADA for a sample farm is reduced by about 13.6 % per hectare or 15.4 % per farm of size 1.99 hectares. However based on the actual cost of production and returns from farms, the impact of the withdrawal of the various price interventions on farm income can be much higher. The impact on farm profitability for different tenure status is shown in Appendix V.

From the table it can be seen that the impact of the withdrawal of the subsidy is fairly minimal. On per farm basis this constituted income reduction of between RM210.00 for owner operator, and RM381 for tenant operator, an equivalent of 5% and 6% of total farm income respectively. However, the withdrawal of paddy price subsidy will significantly effect the farm income. For all farm categories, the paddy-price subsidy alone constituted almost 50% of farm income at RM 1,154 per hectare. For owner operator, due to higher costs of production, the paddy price subsidy component constituted about 60% of total farm income. Under a situation where all subsidies are withdrawn, the farm profitability (for all farms) declined further to RM2,034 per farm, a decline of about 58%. This means under the current structure, the subsidy components (fertilizer and price support) constituted about 58% of total farm income for all farms.

#### **4. Overall assessment**

The gain in welfare from consumer and producer surplus is RM57.7 million. However, further gains would be from savings of government expenditure for the price and fertilizer subsidy of about RM500 million a year. Nevertheless, extra expenditure has to be incurred due to increase imports resulting from the decline in supply and an increase in demand. This is estimated to be 76,920 tonnes. Based on the world price of RM851/tonne in 1996, an additional RM 65.5 million of rice will have to be spent for imported rice.

Analyses on farm profitability shows that farm income can decline from a conservative estimate of about 15% (based on the model) and to almost 60% based on the actual costs and returns from a MADA sample farm. Under the later scenario, the impacts on the Malaysian rice industry can be much more serious especially in terms of producers' welfare and its implication on food security.

#### **5.5 Policy Implications and Recommendations**

In recapitulation, the liberalization of the rice sector as expected would decrease domestic supply while increasing demand. There are all round efficiency and welfare gains that will benefit Malaysia, mainly brought about by the increase in consumer surplus and a decrease in government spending. However, imports will increase, quite significantly to cater for the increased demand-supply gap. Farm incomes, is reduced by about 15%.

The quantitative estimations of the effects of liberalization appeared to be small. Supply for example is expected to decrease only by 1.34%. However, caution must be exercised in interpreting the quantitative results. The elasticity of supply estimated, for the Malaysian case mostly captured the supply response due to price increase since price controls and GMP was always revised upwards. Thus, the behavior of supply if price goes down has never been captured in the time series data that was used. As such the

decrease in supply can be under estimated. Notwithstanding this reality, the fact remains that liberalization in the rice sector, in the long run would be beneficial to Malaysia. However, the government needs to carefully consider two main issues before liberalization. Firstly, the concerns on food security, and secondly the income and poverty issues in the rice sector. From the analysis, it appeared that the food security objective is not very much compromised even if total liberalization takes place. However the poverty and income issue is a more delicate issue to handle. While the analysis indicated a fairly small implication on farm incomes, any declines in the incomes of the poor without compensation, however small, can lead to serious political and social consequences. Furthermore, there is this strong possibility that the actual decline in income by this study can be underestimated, resulting from the underestimation of the level of protection in rice section (the TE). The previous analyses on the farm profitability based on the actual survey on the farmers indicated significant financial implications on the farmers. Depending on the tenure status and farm size, the farm income could be reduced by as much as 68 % per season.

Based on these arguments, the following recommendations can be considered:

- ***New and additional infrastructure***

New and additional investments in new areas especially in the states of Sabah and Sarawak as well as infrastructure improvements in existing areas to induce productivity and efficiency gains to increase competitiveness are needed as a long-term solution. The savings from the allocation to support price support program could be channeled to increase paddy production dramatically by the construction of new irrigation schemes. The government can put in this one-time investment that will open up further investment opportunities in production by the private sector. In this manner the economies of scale in rice farming are allowed to operate.

- ***Farm consolidation***

Reduced farm income could be compensated by increasing the farm holdings. This could be done through land consolidation exercise fully supported or sponsored by the government. Special funds could be established to provide assistance for efficient and enterprising farmers to acquire paddy lands from inactive, part time farmers. The number of farmers should be drastically reduced, inefficient farmers with uneconomic holdings are moved out from the sector and compensated for in the form of direct income support programs, especially those support measures that are acceptable to WTO.

- ***Enhancing rural employment opportunities***

The real problem relating to the issue of poverty and low incomes in the rice sector is not actually farm profitability but rather scale of operations. The farm size of an average farmer in most cases cannot sustain an income above the relative poverty income line. Other sources of incomes, off-farm and non-farm are needed. Intensifying rural industrialization would fit nicely into the scenario, considering that the man-days required for paddy cultivation is getting lesser due to increased mechanization. More employment opportunities need to be created so that the reduction of income from paddy can be compensated with alternative sources of income.

- ***Strengthening institutional support***

Another long-term solution is again aimed at gaining productivity and efficiency. Investments by the government in R&D, extension and technology transfer must continue and be strengthened. Funds for R&D in traditional areas such as breeding and farm management practices must continue to be made available while new and additional funding in new emerging areas such as in genetic engineering and biotechnology has to be allocated. Additionally, credits and loans need to be made available to allow present farmers and new investors to expand operation in rice cultivation.

### **3. Conclusion**

The study on the effects of liberalization on Malaysian agriculture confirmed the fact that local industries that are competitive will gain while inefficient domestic industries will lose from the liberalization initiatives. Palm oil in Malaysia, reputed to be the most efficient in the world will benefit in all aspects including increased exports, higher earnings to the industry and better competitive footing in the international market as other edible oil producers need to scale down their support to the respective industries. Uncompetitive industries, in the Malaysian case, like rice. The uncompetitive industries are expected to be 'naturally' downsized as the effects of liberalization work its way through the economy. Eventually there will be on all-round efficiency gains to the economy as resources are re-allocated to the more productive sectors of the economy.

Nevertheless, evaluation of gains from a purely economic sense can be misleading as nations also have other objectives other than economic and pure wealth creation for society. Evaluation from income and equity distribution aspects to all levels of society also needs to seriously viewed. In agricultural enterprises, the use of policy instruments to protect agriculture is mainly for the reason of protecting and enhancing income of the rural poor. It will take painful adjustments for the affected farming population resulting from liberalization.

In facing the challenges and opportunities in agricultural trade liberalization, the approach that has to be adopted in further developing the industries must be market-based. Society-based strategies may no longer be applicable in this globalization era. Strategies and programs to develop specific enterprises may now need to be differentiated from social programs like helping the poor. Competitiveness is not the same as welfare.

One of the market-based strategies that developing countries like Malaysia need to adopt would be to strengthen the five pillars of economic foundation, i.e. infrastructure, finance and capital institutional support, R&D and technology as well as human resource development. Strengthening the economic foundation in a particular sector would enable the sector to be more efficient. Previous allocation that is used to support subsidies should now be re-allocated towards the strengthening these foundations.

In summary the following recommendations that are globally applicable to all sectors can be considered:

- Strengthening economic foundation to increase efficiency of agricultural industries;

- preparing for adjustments in the affected sectors including planning for income support programs;
- widening product range and value-added to increase product competitiveness and industry profits;
- enhance marketing efforts for market diversification and deepening;
- re-structure the structure of production to allow farm consolidation and operation of better economic of scales, and
- rural industrialization to create better employment and income generating activities from competitive industries.

In conclusion, it can be said that economics tell us that there are gains to be made from free trade. However, the true outcome of the liberalization measures evaluated from all aspects that are important to society, especially in developing countries is too early to know. Only the passage of time will tell.

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