NEW DIMENSION FOR MALAYSIAN AGRICULTURE AMIDST INDUSTRIALIZATION

Dimensi Baru Pertanian Malaysia di Tengah Kemajuan Perindustrian

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Abstract

This paper presents a discussion on the policy direction for Malaysian agriculture amidst industrialization, changing global economic scenario and development paradigm. Several key strategies are highlighted to help agricultural and rural development policy makers design appropriate mechanisms to enhance the multifunctional aspects of agriculture in promoting food production, socio-cultural preservation and environmental goals simultaneously. A related appraisal is with respect to how the GATT Green Box provisions would have relevancy in Malaysian agricultural policies.

INTRODUCTION

It has been argued that biotechnology and maintenance of environmental amenities constitute the core of the current techno-socio-economic paradigm. There is little wonder about this expectation when we consider the dramatic changes affecting the socio-economic and environmental spheres around us, both globally and locally. Undoubtedly, much progress has been made in the pursuit of economic growth and material wealth based on industrialization and technological innovation. However, as technological civilization reaches its zenith, while natural resources continue to deplete, food supply-demand gap widens, and
marked consequences of environmental deterioration, we found ourselves in an unprecedented era where our judgment regarding what constitute human development are undergoing marked changes.

In this respect, individuals have become increasingly aware that adequate and reliable food supply and environmental amenities (among many others) are essential aspects for a sustained well-being. These are manifested through the strong advocates of agri-environmental schemes or the multifunctional dimension of agriculture and rural areas by many countries, as well as the "green consumerism" issues especially in the developed countries. The former has been reinforced by the "GATT Green Box" provisions in the Final Act of the Uruguay Round GATT negotiations (Agreement on Agriculture), which allows agricultural support programs under environmental objectives.

In the past, Malaysian rural development policies have focused on the twin strategies of enhancing agricultural production and rural industrialization in efforts at reducing poverty and restructuring society. To date, Malaysian agriculture is still besieged by a host of fundamental problems that have long existed since independence. It basically relates to the incapacity of the sector to generate adequate farm income due to factors such as land diseconomies (fragmentation), large marketing margins, lack of intra-sectoral integration, subsistence based, etc. Numerous public development agencies have been established to spearhead the development of farmers but to little or no avail. The problem facing agriculture is even more acute today due to the vulnerability of the sector to increasing economic opportunities in the non-agricultural sectors which leads to the dependency on foreign labor for production sustenance. The latest National Agricultural Policy (Third NAP – 1998-2010) acknowledges the traditional problems facing the sector but with the exception of the agro-forestry approach the NAP3 still lacks policy innovation to address the fundamental problems.

Agriculture (in particular production agriculture) and rural dwellers are inevitably linked due to the inter-dependency of the two in terms of rural resources and economic opportunities. Therefore, in the rapid changing global policy environment and consumers charged with environmental issues, there is a need for a better understanding of how agriculture and the rural sector can be revitalized to contribute on the development of Malaysian economy and society as a whole.

The overall aim of this paper is to present a discussion on the policy direction for Malaysian agriculture amidst changing domestic and global economic scenario and development paradigm. Several key issues are highlighted to help both agricultural and rural development policy-makers design appropriate framework to enhance the multidimensional aspects of agriculture in promoting food production, socio-cultural preservation and environmental goals simultaneously.
OVERVIEW OF MALAYSIA’S AGRICULTURAL SECTOR

During the 2000-2005 period (Eight Malaysia Plan period), agriculture valued added grew at an average of 3 percent. This compares to 2 percent during the prior Plan period. The growth was mainly attributed to the performance of the oil palm sub-sector. While value added increased from RM18.7 billion to RM21.6 billion, the share of agriculture to GDP declined from 8.9 percent in 2000 to 8.2 percent in 2005. The combined value added of agriculture and related industry constituted 14.7 percent of GDP in 2005 with the later growing at an average of 4.5 percent annually during the 2000-2005 period. Export earnings from agriculture and agro-based products also increased impressively by an average of 9.5 percent per annum.

Malaysia’s labor growth was negative in the 1980s and in the 1990s it became more pronounced. These reflect the marked shift in resource allocation from the agricultural sector to other sectors as a result of economy-wide policy measures during the period which focused on industrial sector. Labor shortages have been especially very critical in the oil palm plantation sector. Migrant workers have constituted the bulk of the estimated 470,000 labor force in the oil palm farm sub-sector, most of whom are from neighboring Indonesia.

During the 2000-2005 period, employment in the agricultural sector continued to decline at 0.2 percent annually, reaching 1.4 million in 2005 (13.3 percent). The Agricultural Census 2005 identified a total of 816,813 individuals working in the agricultural sector, representing some 7 percent of the total labor force. While total employment in both agriculture and agro-based industry would continue to increase from 2.38 million in 2005 to 2.43 million in 2010, the share to total employment is projected to decline from 21.9 percent in 2005 to 20.3 percent by 2010.

Agricultural land-use in Malaysia increased by some 2.2 percent from 1960-2000 and 1.4 percent between 2000 and 2005 annually. This growth has been largely a result of oil palm expansion. The commodity constitutes 63 percent of total agricultural land use of 6.5 million hectares in 2005. Recent government policies on halting the openings of new forest lands for large land development schemes (except for Sabah and Sarawak) and concentrating on in-situ development suggest that Peninsular Malaysia may have reached a deadlock in terms of forest conversion for aggregate agricultural development. It is expected that oil palm expansion would continue (if fundamental economic factors remain desirable), particularly in Sabah and Sarawak where forest area is still in abundance.

The East ASIAN financial crisis of 1997/98 has led Malaysian policymakers to call for the so-called "sun set" agricultural sector to provide a renewed role as a growth catalyst. This is due to the vitality of the agricultural sector in cushioning the effects of the crisis. For instance, the positive GDP growth of 4 percent in the second quarter of 1999 has been largely attributed to the robustness of the agricultural sector, particularly the oil palm sub-sector.
Following the crisis, Malaysian policy makers have called for the expansion of oil palm to benefit from the weaker local currency (Ringgit) and greater comparative advantage potential under freer vegetable oils trade.

Currently, the government has also affirmed a new growth strategy, with more reliance on domestic resources. Under the Ninth Malaysia Plan (2006-2010) the agricultural sector has been set to be the third engine of growth following the service and manufacturing sectors. This entails the following policy thrusts:

- Increasing agricultural production via expansion of large scale commercial farming by the private sector,
- Expanding value added agro-based processing activities,
- Strengthening marketing and global networking,
- Enhancing incomes of small farmers,
- Improving service delivery mechanism, and
- Utilizing the potential of biotechnology.

Malaysia’s agriculture thus far has been characterized by the dominance of the major commodities – oil palm, rubber, rice, cocoa, fisheries and forestry products. Under the latest country development plan, new sources of growth in agriculture have been identified. This includes large-scale production of tuna, ornamental fish and plants, floriculture, herbs and seaweeds. Provision of economic incentives, basic infrastructure, extension and marketing facilities, and the promotion of downstream activities will be the main strategies towards this aim.

The Malaysian agricultural sector is expected to grow at a higher rate of 5 percent annually for the 2006-2010 periods. Table 1 shows the performance of the Malaysian agricultural sector, vis a vis other sectors and inter-country comparison.

Table 1: Inter Country Comparison of Agricultural Performance (1990-2004)

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Agriculture, Rural Development and the Environment

Environmental issues in agriculture basically relate to the dominance of agriculture with respect to natural resource use and its resulting environmental externalities. Agricultural growth necessitates extensive land factor, water, and chemicals. For instance, a shift of one percent in the net export demand for Malaysia’s most important industrial commodity, palm oil, leads to an increase in demand for land and agricultural chemicals by 0.25 and 0.3 percent, respectively (Jamal, 1997).

Growth in Malaysian agriculture and rural development has not been without problems. There exists marked trade-off between increased agricultural production (including related downstream activities) and rural development on one hand and changes in the social foundation of rural areas, rural landscape and environmental services on the other hand. These conflicts are manifested through degradation of ecosystems, loss of species and habitat, and increased accumulation of agricultural run-off in soil and water ecosystems. Degradation in watershed protection function of forests and the over-exploitation of water resources which is evident through supply shortage is increasingly become common problems. In many areas extensive farms and natural livestock grazing lands have been abandoned as farmers and rural development institutions are unable, or unwilling, to compete against industrial employment opportunities or agricultural imports from abroad. Further, rural industrialization and urbanization leads to a loss of natural rural aesthetic value. Many of these problems have gone unhindered due to the imperative desire to generate "short-term" high economic growth in the pursuit of a full-fledged industrial nation status.

Agriculture and rural areas in Malaysia and most parts of the world are inevitably a symbiosis due to the inter-dependency of the two in terms of resources and economic opportunities. Rural areas will lose its traditional mix of agricultural landscape and socio-cultural attributes if agriculture no longer becomes the mainstay of the rural economy. Given increasing consciousness on environmental quality and natural amenities in the light of sustainable development, it can be hypothesized that the general public expects two important things of agriculture and rural resources. First, for rural areas to provide adequate, safe and stable food supplies at reasonable price and (ii) to provide multi social and environmental functions including the preservation of biodiversity, environmental amenities, and traditional culture – popularly known as agricultural multifunctionality. This relates to the proposition that agriculture produces not only agricultural produce but also various joint non-marketed commodities (externalities). In the broadest sense components of multifunctional agriculture encompass rural landscape; biodiversity; scenic vistas; ecological functions such as flood control, groundwater recharge, water purification, watershed protection, and soil conservation; wildlife habitat; economic functions of rural areas.
including employment opportunities; cultural and historical heritage; national food security; and food safety.

The second expectation of agriculture and rural resources has strong theoretical support, specifically within the domain of environmental economics. Environmental economics has long recognized a spectrum of economic values as it relates to environmental services. This includes the notion of option, non-use and bequest values of environmental amenities. Increasing public support for environmental legislation in recent years and the numerous social conflicts that result from environmental issues suggest that environmental goods are highly valued by the public.

It can be directly observed that Malaysian agriculture and rural areas produces marketed goods (such as rice, rubber, oil palm) and further they embody a myriad of agricultural externalities such as natural amenities, rural development and employment, and social attributes such as traditional rural life, small farm holdings, and cultural heritage. The economic values of the flows of services emanated by these goods can be highly substantial. In Japan for instance, studies have shown that the economic values for the various environmental externalities of rice fields (such as flood prevention, fostering of water resources, soil erosion prevention, soil purification, rural landscape and recreational amenities, and air purification) were highly considerable, amounting to more than 2 trillion Yen annually. Studies in Sweden and Finland also demonstrates that Swedes and Finnish are willing to pay a substantial amount of money for the maintenance of existing agricultural landscape and some other elements of agricultural multifunctionality. A study in South Korea further shows that the aggregate values of non-marketed attributes provided by rice farms in the country exceed that of the market value of rice output itself. A Malaysian study by on mangroves also points that the general public highly values the non-market attribute of employment provided by forest resources as well for an array of other forest attributes. Jamal found that on average households were willing to pay some RM1.36 for a one percent increase in employment opportunities provided by Matang Mangroves in Perak. More interestingly, the implicit price for employment attribute was highest relative to other non-market attributes such as recreational opportunity and the existence of migratory birds. Jamal et al. (2005) also found that the economic value for heat reduction function of the MADA granary (rice) area amounts to RM40,000 annually.

AGRICULTURE AND TRADE LIBERALIZATION

Standard trade theory asserts that free trade would be beneficial to all parties. It contends that all resources would be fully utilized and joint maximum welfare attained when all parties forego trade distortions or protectionism. Numerous empirical studies have ascertained the potential gains from agricultural trade liberalization. But the basic question remains - why countries have been so reluctant in freeing up agricultural trade? Why do countries continue to insist on
support measures and protectionism in agriculture? Indeed, the experiences of free trade negotiations in agriculture were never an easy one. The delays in the GATT rounds, the arguments and difficulties in the subsequent 1999 Seattle, 2001 Doha and 2003 Cancun WTO Conferences had been mainly on agriculture, though agriculture comprises only about 10 percent of world trade share. The viewpoints of agricultural multifunctionality advocated by many developed and developing countries alike are central to the uncertainties surrounding agricultural trade liberalization.

Traditionally, agriculture has been firmly associated with farm output production and its efficiency and competitiveness are generally being assessed the same way as any industrial or private commodities. This view, and for that matter the gist of the agricultural economics discipline has now undergone marked changes, given the advent of agricultural multifunctionality. In the context of WTO rules, these elements of agriculture have been viewed as a major subset of the so-called non-trade concerns (NTCs).

Current developments indicate that the concept of multifunctional agriculture has increasingly become a new frontier in international agricultural policy, perhaps ending the euphoria of general trade liberalization agreed upon during the 1994 GATT Uruguay Round (UR) negotiations. As a snapshot, the UR Agreement on Agriculture (AoA) has provisions that allow countries to exercise non-trade distorting agricultural support measures under explicit environmental goals – so called GATT Green Box. The AoA (Article 20) also agreed that the agricultural reforms would be further negotiated in subsequent WTO meetings taking into account non-trade concerns. The preamble to this agreement states that “…commitments under the reform programme should be made in an equitable way among all members, having regard to non-trade concerns, including food security and the need to protect the environment…” . The AoA and related text does not define specifically what constitutes NTCs. This was perhaps due to the extensive and elusive nature of its conceptualization. At the time delegates might reasoned that it would be best left to the subsequent WTO Conferences to particularize the definition and how it impinges agricultural production and trade liberalization. In the 2001 Doha WTO Ministerial Meeting, it was agreed that the NTCs will be negotiated in the forthcoming round (WTO 2001). However, at the latest 2003 Cancun WTO Conferences, progress on NTCs has been hardly noticeable. While countries had acknowledged in the Doha meeting that agriculture is important in preserving the economic and social environment to sustain rural population, there has been virtually no progress on the definition, measures and implication of NTCs as it relates to agriculture. Hence, these issues inevitably remain open for further deliberations in forthcomings WTO Conferences.

Strong proponents of agricultural multifunctionality have been the EU, Switzerland, Norway, Japan, Korea and Mauritius. These countries seek flexibility to address issues affecting the environment, social and rural development, and food security through agriculture and land-use in an integrated manner. On the other hand, the Cairms Group which includes many ASEAN
member countries has been rather reluctant to fully embrace the notion. While they recognized the importance of NTCs and need for country-specific objectives, they were concerned that the concept would amount to protectionism under the guise of “multifunctionality”.

Undoubtedly today, the idea of agricultural multifunctionality has been influencing agricultural policy decisions in many countries, most notably in European, South Korean and Japanese agriculture. In the EU, a broad range of agricultural multifunctional elements has become key components that shape the future direction of CAP. Amongst them is the payment scheme that links the environment, food safety, animal and plant health and animal welfare standard. It is expected that the new CAP will be implemented in 2005.

The viewpoint of agriculture as a multifunctional resource implies that in the course of formulating policies, it would be very unlikely that agricultural policymakers consider the political or welfare weights (marginal welfare) of domestic interest groups or stakeholders as equal. Given this presumption, Jamal (2003) using a game theoretic trade model illustrates that trade liberalization would not be to the best interest of all parties.

In his paper, Jamal argued that the objective of agricultural policymakers in a country is to select levels for a set of domestic and trade policy variables which maximize its welfare as represented by a preference function. The preference function for the policy maker is expressed as:

\[
W_i = \sum_{t=1}^{N} \gamma_t \mu_t^i, (i = 1, \ldots, N)
\]  

(1)

where \(W_i\) denotes the welfare of the policymaker, \(\mu_t^i\) is the welfare criterion for the various interest groups in country \(i\), and \(\gamma_t\) specifies the relative weight (marginal welfare) attached to the \(t\)th group's welfare by the policymaker in country \(i\). These weights describe the policymakers' perspective toward the importance of the welfare of various domestic interest groups. The welfare criterion for the various specific interest groups \((\mu_t^i)\) is derived by assuming optimizing (maximizing) behavior for consumers, producers, and taxpayers. The above welfare criterion assumes each interest group may face a different price which is affected by public policies. Producer and consumer prices are both affected by production and trade policies. Taxpayer's welfare is expressed as net revenue to the government as a result of policies levied on the commodity. The policymakers' preference function, \(dW_i\), for an individual country with domestic and trade policy options can therefore be expressed as:

\[
dW_i = (\gamma_i^C d \mu_i^C + \gamma_i^P d \mu_i^P + \gamma_i^T d \mu_i^T) \ (i = 1, \ldots, N)
\]  

(2)
where \( dW_i \) represents the change in the policy makers' criterion function and \( d\mu_i^C \), \( d\mu_i^P \), and \( d\mu_i^T \) represent changes in consumers surplus, producers surplus and taxpayers surplus, respectively.

The policymaker in country \( i \) is assumed to select levels for a set of policies that maximize his/her welfare as given by (2). When the policymaker in country \( i \) believes all other countries will not impose policies, the optimal policy levels for \( i \) can be determined as a function of only one country \( i \)'s policies and interest group weights. However, Jamal asserted that in a game theoretic framework agricultural policies are not only made within a national policy context, but interact with other international relationships. To allow for possible interaction of policy makers between countries, a global welfare criterion is formulated. This is done by extending (2) to represent global welfare, which is a weighted average of welfare in all countries.

\[
dGW = \sum_\gamma \sum_i \theta_i \gamma_i \int d\mu_i^g (i = 1,..., N), (g = C, P, T)
\]  

(3)

where \( dGW \) is the change in global welfare, where \( \theta_i \) is the weight attached to each country.

In a non-cooperative Nash game (equivalent to a Cournot equilibrium), where it is assumed that all countries set policies assuming optimal policies in each country, Equation 2 is maximized simultaneously for all the countries.

If all trading countries wish to maximize joint welfare, equation 3 is maximized. In this case, the policymakers’ welfare criterion is no longer relevant. This will be equivalent to a free trade scenario where all interest groups in all countries are equally weighted and \( \theta_i = 1 \). A free trade model assumes that all countries cooperate to maximize joint welfare, defined as the sum of the national welfare gains in all countries. With equal weights assigned to the welfare of each political interest group in each country \( \{ \forall \gamma_i^j = 1, \theta_i = 1 \} \), the global welfare criterion (3) is equivalent to the sum of national welfare in all countries. Therefore, maximizing global welfare requires maximizing (3) with \( \{ \theta_i, \gamma_i^g = 1 \} \). In this trade scenario, maximum joint welfare would be attained if all countries decided not to impose trade enhancing or protectionism policies, meaning that the best policy option for all countries is free trade.

Model simulation has demonstrated explicitly that “distortionary” policies will continue to be instituted by trading countries so long as countries consider a particular interest group is relatively more important than the other within and across countries. This finding is crucial as it demonstrates that agricultural
multifunctionality is a rationale policy basis. Interested readers are referred to Jamal (2003) for the detailed construct and an empirical illustration of the model.

THE NEW DIMENSION OF AGRICULTURE: AGRI-ENVIRONMENTAL SERVICES

In the light of the changes that area taking place, the importance of Malaysian agriculture needs to be realized no more in terms of its growth and employment statistics (which is inevitably dwindling as the economy matures) - rather in a proactive and unconventional manner. The new dimension is to view the agricultural sector especially the farming sub-sector in terms of social and environmental services and its contribution to the overall sustainable macro-economic development. But, this leads to the question; how would policymakers address the issue of low farm income in rural areas without relying on the traditional agricultural support measures?

Traditionally, agriculture has been a heavily supported sector either through direct or indirect measures. Support policies, in particular distortions in "macroeconomic pricing" tend to have multiple effects on the environment. Notable examples for Malaysia include too low royalties on harvesting of mature timber which led to "timber-booms" with immense deforestation impacts in the 1960s and 1970s; water, energy and agricultural inputs subsidies which resulted in intensified resource use and environmental pollution. In the light of growing issues affecting the WTO rules affecting freer trade, agricultural policymakers in many mature economies have engaged in reforms to reduce broad agricultural support and focus on specific policies, which are less production and trade distorting. Various payment schemes have been established and offered to farmers for environmental objectives. Such payments are normally intended to compensate farmers for the costs of reducing polluting activities or to enhance the provision of environmental services.

Following the GATT Green Box provisions, it should be obvious that only agricultural policies or support measures meant for environmental purposes, and/or those without significant impacts on trade flows would be allowed. Currently, the major agricultural support measures and trade related policies which have some relevancy to the GATT Green Box include output and fertilizer, water and irrigation subsidies for rice production, producer subsidies for rubber replanting and credit facilities for palm oil exports.

One can argue that these policies are a direct violation of the WTO rules to reduce or eliminate trade distortionary measures. Using a modeling framework, it can be shown that input or production subsidies, regardless of the specific intent they were designed, would pose significant distortionary trade effects. Therefore, while traditional support policies may be essential to sustain agricultural production and farmer income, it cannot be shown as trade neutral. Jamal (1996) has shown that should Malaysia abolishes its direct support measures in the rice
sector, rice production would decline by 20 percent and the level of self-sufficiency reduces to 57 percent from the current 77 percent.

In the face of national policy focus towards industrialization processes, farmers and landowners have find farming increasingly less attractive. Over the time, more and more agricultural lands have given way to conversion to alternative uses, which might not be compatible with the natural environment and rural landscape. In this context, we argue that any agri-environmental schemes that support farmers for sustaining both agriculture and environmental services should well be consistent with the general spirit of the GATT Green Box, regardless of whether or not there is agricultural production. However, following the essence of the GATT Green Box, it has to be shown that both agricultural output and environmental services in the economic sense are a joint product, i.e., Pareto Efficient or the very least Pareto Improving. For instance, perennial crops like rubber, cocoa and oil palm have long benefited both domestic and global environment in terms of carbon sequestration, and biodiversity. If we were to sustain agriculture and the rural environment, in the face of competing land-use options, local farmers may deserve some form of welfare compensation for the loss in direct benefits foregone from the best land use option.

The preceding discussions argue that while there can exists trade-offs between agricultural growth and environmental quality, sustainable agriculture is necessarily complementary. Environmentally sustainable agriculture yields greater benefits to society relative to the option of allowing the land undisturbed by human activities. In this context, the GATT Green Box provisions shall be relevant not only in terms of providing direct welfare compensation to farmers but also with appropriate incentives to forego the benefit foregone in alternative environmentally unfriendly investments. However, such support program shall emanate from a clearly-defined governmental environmental or conservation program. Inevitably, this must come through macro-policy reforms and a strong political will on the part of the government to redistribute the federal budget to promote more sustainable forms of agricultural and rural development.

Both agricultural land and farmers, once they are lost will be difficult to be recovered in the short-run. If rural areas continue to face a decline in agricultural production and their multifunctional roles affected, we are concerned that this trend will lead to the vulnerability of the entire Malaysian economy and society, considering the “brittle” or “hollow” structure of the non-agricultural-based sectors, manifested in the very low local value added and overly dependency on foreign technology, market access and human resources.

MALAYSIAN AGRI-ENVIRONMENTAL SERVICES – FUTURE AGENDA

Malaysia has introduced various legal and regulatory framework affecting multi-facets of environmental management such as the National Environment
Policy, National Conservation Strategy, National Policy on Biological Diversity, Environmental Quality Act, National Agricultural Policy (NAP), National Eco-tourism Plan, National Forestry Policy and regulations on EIA. While the environmental aspect of agriculture has received considerable attention in the latest NAP (Third NAP), it still lacks in the consideration of the agricultural multi-functionality dimension as a strategic tool in the promotion of agriculture, rural areas and the environment. This is an area where future research and policy discourse in agriculture should be directed. The unique nature of Malaysia's agriculture, which focuses on industrial perennial crops (oil palm, rubber, cocoa) and minor food crops (rice, vegetables and other grains) poses an interesting research question; What is the economic value of the various environmental externalities provided by our agriculture? It is quite clear that for the perennial crops and the "wetlands-based" crop - rice, agricultural output and some environmental services can somewhat be regarded as a "joint product".

**POLICY IMPLICATIONS**

Apart from the current policy thrusts, an important role accorded to the Malaysian agriculture in the face of the sector's dwindling GDP contribution and renewed role as engine of growth would be in terms of environmental services or the multifunctional aspects of agriculture. Agriculture and agricultural policies should not be viewed in isolation from its environmental, social and macro-economic effects. A mix of mechanisms to encourage environmentally sustainable agriculture needs to be established. We advocate the pursuance of the following policies and strategies:

- The new roles for the Ministry and Department of Agriculture in the changing global economic environment would be to assure that agriculture operates in a way that serves not only the farmers, but also the broader interest of the country to include adequate food supplies and quality rural environmental amenities. Agricultural policy should relate to the aggregate economy and the environment rather than on a sectoral basis.

- The vitality of rural areas as the place for agricultural production activities and other roles including the preservation of cultural heritage and environmental externalities need to be enhanced through appropriate policies and economic incentives.

- Basic protection and maintenance of the wider countryside, such as the sensitive management of critical rural landscape should be encouraged through appropriate policies and incentives.

- Policy objectives for both agricultural and rural development should ensure complementarily relationships between economic, social and environmental interests.

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1 See Appendix 1 for a full discourse on the Malaysian Third Agricultural Policy
♦ The full potential of agriculture in terms of cultural-environmental services and sustainable development has to be fully researched. The ASEAN-MAFF project on multifunction agriculture (2003-2006) provides a strong impetus for more comprehensive studies. Further, a set of country/ASEAN agri-environmental indicators for sustainable agriculture and rural development needs also be established.

♦ The GATT Green Box and NTCs shall form the basis for the development of a comprehensive welfare compensation framework for farmers to forego the benefit foregone in environmentally unfriendly non-farm investments. However, a public policy discourse and in-depth deliberation is crucial to establish an appropriate framework as it entails large transfers and budgetary outlays. This includes a national regulatory framework for the implementation of an environmental valuation mechanism to evaluate public preferences towards agricultural externalities.

♦ Agriculture ought not be equated with conventional industrial goods, as it embodies environmental externalities and socio-cultural attributes highly valued by society. Policymakers need to recognize this reality and identify a common stance or framework across like-minded countries in related trade negotiations.

♦ In identifying comparative advantage of economic sectors relative to her trading partners, the relevant supply or benefits schedule that internalized externalities ought to be used.

REFERENCES

Appendix 1

THE THIRD MALAYSIAN AGRICULTURAL POLICY (NAP3)

Source: Adapted from Agrolink, Ministry of Agriculture and Agro-based Industries

1. EVOLUTION OF MALAYSIAN AGRICULTURAL POLICY

1.01 The first National Agricultural Policy (NAP1) was formulated in 1984. With abundant land, the country continued to pursue expansionist policies on export crops, in particular oil palm and cocoa. The Government undertook heavy investments in infrastructure, institutional building and new land development to develop these crops in order to earn foreign exchange, create employment and income earning opportunities and reduce poverty. Attention was also given to in-situ development to resolve the problems of uneconomic farm size, non-remunerative crops and low productivity especially among smallholders.

1.02 The NAP1 period (1984-91) saw the rapid expansion of the manufacturing sector and altered the relative importance of the agricultural sector in the economy. The overall development of the agricultural sector was beset with problems including labour shortages and rising wages, and increasing competition of land for other uses. Favourable policies towards industrialization also created conditions not attractive for agricultural investments and consequently led to the outflow of resources from agriculture.

1.03 Subsequently, NAP1 was reviewed and NAP2 (1992-2010) was introduced. Greater emphasis was given to address productivity, efficiency and competitiveness issues in the context of sustainable development and linkages with other sectors of the economy. The National Forestry Policy was also revised in 1992 to place greater emphasis on the importance of biological diversity, conservation and sustainable management of forests for the well being of current and future generations.

1.04 During the 1992-96 period, further structural changes in the economy have led to increasing resource constraints for agricultural and forestry development. In addition, emerging trends in trade relationships via WTO as well growing concerns for sustainable development have led to concerns on trade liberalization and conservation of natural resources.

1.05 The 1997/98 financial crisis in the country and the region has negatively affected the stability and security of the country’s food supply. In 1997, food trade excluding palm oil experienced a negative balance of RM4.74 billion representing 49 percent of the current account deficit in goods and services.

1.06 The above developments posed new challenges to the agricultural sector. The formulation of NAP2 did not anticipate such rapid and sudden changes in the domestic and international economy and therefore did not adequately address the new issues and challenges. Furthermore, the NAP2 lacks focus on priority areas of agricultural development, a plan of action and mechanisms for its implementation.

2.01 In the NAP3, two new strategic approaches are employed. The first is the **agroforestry approach**. This approach is aimed at addressing the increasingly scarce resources including land and raw material availability. In this approach, agriculture and forestry are viewed as mutually compatible and complementary, thereby providing a scope for joint development. The integration of agriculture and forestry is also aimed to create a larger productive base for both sectors.

2.02 The second new strategic approach is the **product-based approach**. This approach is adopted to reinforce and complement the cluster-based agro-industrial development as identified in the Second Industrial Master Plan 1996-2005 through strengthening both inter and intra-sectoral linkages including the development and expansion of intermediate and supporting industries. This approach differs from the conventional commodity-based approach which limits the effectiveness to serve markets that are of higher value and more segmented. The product-based approach emphasizes in satisfying the specific needs of niche markets and consumers worldwide who are increasingly demanding products that are more specific to their needs and preferences. In this approach key products and markets are identified based on market demand, preferences and potential. This market demand and preferences are translated into strategies for upstream primary agricultural production to enhance production and marketing of the agricultural produce.

2.03 Under the NAP3 new policy thrusts, strategies and implementing mechanisms are put in place to address national concerns on agricultural development and the economy as a whole. These concerns are on food security, productivity, inflation, private sector investment in agriculture, enhancing exports and reducing unproductive imports and conservation and sustainable use of natural resources.

**ENHANCING FOOD SECURITY AND COMBATING INFLATION**

2.04 The country’s food import bill is continuously increasing. In 1997, total food imports amounted to RM10.0 billion, up from RM4.6 billion in 1990. The high demand for food has led to increases in food prices. In 1997, increased prices of food accounted for 51.9 per cent of the increase in Consumer Price Index.

2.05 The financial crisis has highlighted a more urgent need to enhance food security through expansion in domestic food production and lesser dependence on imports. A new round of import substitution measures will be necessary to encourage domestic food production with special focus on the establishment of an integrated cluster of production, processing, marketing and supporting services industries. Where imports are necessary, strategic sourcing will be adopted to secure supply and complement domestic production.

2.06 Domestic food production will be enhanced through the following measures:

- Focusing production on major food products which are cost competitive such as fishery products, selected fruits, vegetable and livestock products as well as selective imported food products.
- Zoning of areas specific for food production.
- Provision of special incentives and strengthening of other supporting measures for food production including infrastructure.
• Intensification of R&D to increase yield and reduce post-harvest losses and promote the utilization of good agricultural practices to increase efficiency of production.

• Strengthening the development of supplier sector and parastatal support institutions to establish stronger linkages with the food sub-sector and facilitate clustering in the sub-sector.

2.07 Strategic sourcing of essential food products will be undertaken through the following:

• Facilitating reverse investment and joint ventures in food production in low cost countries including investments in the ASEAN Growth Areas and Mekong River Basin.

• Bilateral Government to Government arrangements on the supply of food to the country.

2.08 The marketing efficiency of food products will be improved through the reduction of marketing margins and the removal of market imperfections.

INCREASING PRODUCTIVITY

2.09 Currently, labour productivity in agriculture is only about 60 per cent of the labour productivity in the manufacturing sector. New strategies to increase productivity in the agricultural sector include:

New Products and Future Industries

2.10 NAP3 will focus on the development of biotechnology products, extraction of specialty natural chemicals from biological resources, the utilization of oil palm biomass, floricultural products and aquarium fish to generate sources of future growth for agriculture and create new higher value industries. This will be achieved by establishing a strong economic foundation, enhancing knowledge building and technological capabilities and mobilizing the necessary resources for the development of these products.

Reducing Labour Requirements in Agriculture

2.11 Total workforce in agriculture will be reduced from 1.4 million workers in 1995 to 0.9 million workers in the year 2010. This will be attained through reduction of labour intensive agricultural enterprises; promotion and cultivation of new crops that require less labour inputs; promoting controlled environment, automated and mechanized intensive production systems such as aeroponics and hydroponics for high value crops; and intensifying R&D and technology transfer efforts in labour saving technologies, in particular the harvesting operations of oil palm, fruits, flowers, vegetables and tapping of rubber.
Maximizing Land Resource Use

2.12 Utilization of the limited land resources will be maximized through:

- Promoting agriforestry enterprises.
- Integrating livestock with plantation crops.
- Promoting large scale technology intensive mixed farming ventures.

Increasing Farm Income

2.13 Strategies to increase farm income will focus on:

- Encouraging vertical integration and internalizing value-added activities at the farm level through large scale commercial farming.
- Maximizing the utilization of agricultural waste and by-products such as oil palm fronds, trunks, empty fruit bunches and paddy straws and husks.

PROMOTING PRIVATE SECTOR PARTICIPATION

2.14 More definite mechanisms will be established to encourage greater private sector participation in the development of the agricultural sector. Among the mechanisms are:

Establishment of Agro-technology Parks

2.15 Agro-technology parks will be developed to promote high technology agricultural production systems by the private sector. Such production systems involve mechanised operations, precision control of inputs and growing environment, production of quality and high value products such as fruits, vegetables, aquarium fish, flowers, fishery and livestock products.

Incubation Centres

2.16 Incubation centres will be established for technology transfer and the commercialization of research findings by the private sector, in particular the production of biotechnology products and the extraction of specialty natural chemicals.

Land Bank / Land Leases

2.17 A comprehensive data base on land will be established to provide information on the availability of land for private sector to venture into agricultural production. State Governments will be encouraged to zone specific areas for food production and make available land on long term lease basis.
PROMOTING PRIVATE SECTOR INVESTMENT IN AGRICULTURE

2.18 Guidelines to promote foreign investment in agriculture was formulated. The list of promoted activities and products was reviewed in line with the new focus and direction of agricultural development. A one stop centre in the Ministry of Agriculture and Agrobased industries was established to serve the needs of the private sector. The role of Agrolink and Integrated Commodity Information Services was strengthened to provide local and global information to all parties involved in agricultural development.

ENHANCING AGRICULTURAL EXPORTS

International Halal Food Hub

2.19 Malaysia’s potential as an international halal food hub will be developed. Capacity for inspection, monitoring, standardization and certification of Malaysian Halal Standard will be strengthened and this standard will be internationally promoted. Relevant government agencies together with private sector will aggressively promote international marketing of halal products and industrial based halal inputs.

Market Access

2.20 Bilateral arrangements will be pursued to gain greater market accessibility for Malaysian-made products. Palm Oil Credit Payment Arrangement will be used to penetrate new palm oil markets especially among small developing countries who are in need of credit.

Direct Marketing

2.21 Direct marketing approach will be undertaken to export Malaysian products to consuming countries without going through third countries. For palm oil, the private sector will be encouraged to establish refining, bulking as well as packaging facilities for distribution in consuming countries.

Positioning Malaysia as a Major Regional Distribution Centre For Tropical Floriculture Products and Aquarium Fish

2.22 Facilities and support services will be established at the Kuala Lumpur International Airport to promote Malaysia as a regional distribution centre for tropical floriculture products and aquarium fish. This will involve the establishment of appropriate warehousing facilities and global market networking as well as the strengthening of quarantine services.
Campaign to promote Malaysian Own Brand Products internationally

2.23 Efforts will be directed towards promoting Malaysian Own Brand Products in the local and international markets. This will involve the production of high-end products with superior technical qualities and unique product design by local manufacturers. This campaign will be undertaken through economic/technical seminars and workshops, exhibitions and participation in international trade fairs.

HUMAN RESOURCE DEVELOPMENT

2.24 The rapid transformation from commodity-based to product-based approach to agriculture development requires an increasing reliance on knowledge and information. This requires more professional and skilled manpower to strengthen and facilitate further development of products and product diversification.

2.25 HRD will focus on the provision of more skilled workers in the new emerging areas of biotechnology, mechanization and automation, production systems under modified environment, enforcement of sanitary and phytosanitary measures, standards and grades, resource conservation and good farming and aquaculture practices.

MECHANISMS FOR THE IMPLEMENTATION OF NAP3

2.26 The implementation of the NAP3 requires mechanisms that provide for greater focus, specialisation and policy co-ordination among the key institutions, stakeholders and players involved in agricultural development. The NAP3 has set up the following mechanisms for its effective implementation:

Action Plan

2.27 An action plan has been formulated to layout the specific actions to be undertaken by the relevant institutions, stakeholders and players and the time frame for their implementation.

Main Elements of the Action Plan

2.28 The action plan comprises short, medium and long term actions that will be systematically undertaken to implement the policies of the NAP3.

- The main short term measures include identifying and zoning of areas for production of short term food crops and aquaculture and providing appropriate infrastructure and facilities in these areas; establishing one stop information centre to provide relevant information pertaining to agriculture to enhance private sector participation in food production and providing additional marketing channels such as farmers’ markets and other direct market outlets to reduce marketing margins.

- The major medium term measures include the provision of marketing infrastructure such as wholesale markets, collection and selling centres with handling and packaging facilities in production areas; increasing retail outlets
through the gazette of permanent sites for farmers’ markets; consolidation of land towards large scale food crop production; reducing post-harvest losses; establishment of incubator centres to accelerate the commercialization of research findings; promoting export-led growth through developing Malaysia as a halal food hub and promoting Malaysian brand names as well as the strategic sourcing of cheaper raw materials and food products through reverse investments and bilateral arrangements.

- Among the important long term actions include focusing development on perennial fruits and ruminants as well as new products and future industries; strengthening human resource development in new emerging areas in agriculture; introducing import substitution measures and enhancing R&D efforts.

2.29 The implement NAP3 and its action plans, the following institutional arrangements will be put in place:

- Establishment of a Public-Private Sector Co-ordinating Council

2.30 This Council is chaired by the Prime Minister or a Senior Minister and consists of the relevant Ministers, Federal Agencies, State Government and the private sector. This Council will steer, guide and review the progress in the implementation of NAP3 and will be supported by dedicated secretariats in the Ministry of Agriculture and Ministry of Primary Industries.

- Establishment of a Higher Planning and Implementation Committee

2.31 This Committee, chaired by the Minister of Agriculture and Agrobased Industries consists of representatives of the state governments and relevant federal agencies. This committee will undertake to foster a closer working relationship between state governments and relevant federal agencies in the implementation of the NAP3, especially in relation to the allocation of land and water resources for food and agriculture production.

**Review and Rationalisation of Government Institutions**

2.32 The government institutions involved in agriculture will be reviewed and rationalized to enhance the effectiveness of the development programmes and delivery of support services to agriculture enterprises to achieve their business objectives and enhance their international competitiveness. This will include:

- Consolidating different institutions that undertake the management and development of similar commodities into a single entity.

- Government involvement in agriculture will be focused only in providing critical support services to facilitate and enhance the business development activities carried out by the private sector.

- R&D program will focus on conducting industrial-driven technologies in collaboration with the private sector, in particular labour-saving technologies, mechanization and automation, biotechnology and other emerging technologies of the agricultural sector.
• Establishment of a National Agricultural Information Centre with a centralized and electronically link database to support decision making, business development and marketing activities.

• Infrastructure support will focus on providing a stronger foundation for precision agriculture or precision farming, improved marketing efficiency, enhanced research capability and the conservation of water resources for sustainable agriculture.

• A National Food Safety initiative will be formulated to improve the safety of the nation’s food supply.

**Allocation of Resources**

2.33 There will be need to allocate resources, fund and manpower in line with the new policies and functional responsibilities of government departments and agencies. This will involve:

• The repackaging of subsidies into infrastructure development to provide a stronger foundation for improved productivity and efficiency.

• Resources from production of inputs and direct trading by government agencies will be reallocated to regulatory and enforcement, R&D in new emerging areas, credit to critical areas and marketing intelligence.

2.34 Resource allocation will focus on the development of commodities and products of oil palm, fisheries, selected fruits, vegetables and livestock, agriforestry and selected forestry products and the new industries of biotechnology, specialty natural products, floriculture and aquarium fish as well as selective imported food products.