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Review of Malaysian Agricultural Policies with Regards to Sustainability

[1]Md. Wahid Murad, [1]Nik Hashim Nik Mustapha and [2]Chamhuri Siwar
[1]Department of Economics, Faculty of Management and Economics,
University of Malaysia Terengganu (UMT), 21030 Kuala Terengganu, Malaysia
[2]Institute for Environment and Development (LESTARI), National University of Malaysia,
43600 UKM Bangi, Selangor Darul Ehsan, Malaysia

Abstract: The new scientific knowledge coupled with concerns for the environmental, economic and social aspects of agriculture brought Malaysian agriculture into a state of transition. The need for reviewing Malaysian agricultural policies has arisen due to that fact that current agricultural practices in the country are found to be related to environmental, economic and social problems. This study is an effort to review the current Malaysian agricultural policies with regards to sustainability. The Third National Agricultural Policy (3NAP), which is the latest one and relevant secondary materials have primarily been reviewed to substantiate our arguments in this paper. The study, however, argues that the latest Malaysian agricultural policies are compatible with the standards of sustainable agriculture, but the current agricultural practices in the country differ, to some extent, from sustainability principles. The study ends up with some concluding remarks.

Key words: Sustainable agriculture; environmental, economic and social sustainability; Third National Agricultural Policy; and Malaysia.

INTRODUCTION

Agriculture has been playing an important role in our livelihood and economic development and it is different from other economic activities. Unlike other economic activities agriculture is essential to human survival. This is because food is essential to life and agriculture is the basis of eco-systems and rural landscapes. What happens in agriculture is not only an economic issue; it also has important biological, environmental, social, cultural and ethical aspects. If agriculture is practiced in an unsustainable fashion, vital natural and cultural resources and qualities will be lost. Therefore the policies that apply to agriculture must be sustainable. In fact, sustainable agriculture is a term that has been used to indicate a more economically and environmentally sound and socially responsible system of agricultural production. Although there are literally hundreds of definitions of sustainable agriculture, one of the more widely accepted definitions, developed by the United States Department of Agriculture (USDA), is an integrated system of plant and animal production practices having a site-specific application that will, over the long-term: (i) satisfy human food and fiber needs; (ii) enhance environmental quality and the natural resource base upon which the agricultural economy depends; (iii) make the most efficient use of non-renewable resources and integrate, where appropriate, natural biological cycles and controls; (iv) sustain the economic viability of farm operations; and (v) enhance the quality of life for farmers and society as a whole. The above definition includes the three dimensions most closely associated with sustainable agriculture. These are the economic dimension, the environmental dimension and the social and community dimension. Therefore it can be argued that a truly sustainable agriculture is one that is economically profitable for farmers, preserves and enhances environmental quality, contributes to the well being of farm households and nurtures local community development. Sustainable agriculture denotes a holistic, systems-oriented approach to farming that focuses on the interrelationships of social, economic and environmental processes.

The need for reviewing Malaysian agricultural policies has arisen due to that fact that current agricultural practices in the country are found to be related to environmental, social and economic problems. There has also been a growing perception among Malaysian researchers and scientists to find solutions to such environmental, social and economic problems that have resulted transformation of economic

Corresponding Author: Md. Wahid Murad, Department of Economics, Faculty of Management and Economics, University of Malaysia Terengganu (UMT), 21030 Kuala Terengganu, Terengganu, Malaysia

activities from agriculture sector to manufacturing sector. There is no doubt that new scientific knowledge coupled with concerns for the environmental, social and economic aspects of agriculture brought Malaysian agriculture into a state of transition. Market pressures at home and abroad, costs of production and concern for food security have prompted an increased concern for more competitive, profitable and ecologically beneficial ways of producing food and fiber. Hence, the critical question that arises is: Can Malaysian agriculture be practiced in a manner that satisfies demands for both food and fiber and is environmentally and economically sound and socially acceptable?

Malaysia is still basically an agricultural country though it is fast developing into an industrial country[1]. It has 4.06 million hectares of agricultural land distributed throughout 13 states. Eighty% of this land is cultivated with industrial crops such as palm oil, rubber, cocoa, coconut and pepper. In 2006, Malaysian agricultural sector contributed significantly to country's Gross Domestic Product (GDP) and it became the third engine of growth next to the manufacturing sector and service sector. Thus Malaysian agriculture has a profound impact on the country's environment, economy and people.

MATERIALS AND METHODS

This study has summarized below the three major facets of agricultural sustainability that are broken down into component parts. However, these features are commonly found in the vast literature on agricultural sustainability and the sources cited beside these components are just to indicate the diverse range of sources in which these facets are typically identified.

Improved farm-level social and economic sustainability enhances farmers quality of life[2], increases farmers self-reliance[3] and sustains the viability/profitability of the farm[2,3,4].

Improved wider social and economic sustainability improves equity[3], socially supportive[4] and meets society's needs for food and fiber[2].

Increased yields and reduced losses while minimizing off-farm inputs[2,3,5], minimizing inputs from non-renewable sources[2,4,5], maximizing use of (knowledge of) natural biological processes[2,3] and promoting local biodiversity/environmental quality[2,3,5].

The Swedish Society for Nature Conservation[6] quoted "We should not allow ourselves to produce and consume our food at the expense of people and ecosystems in other parts of the world". Farming the world over is interlinked via trade of both inputs and outputs. If we consumers purchase environmentally damaging products, we are contributing to environmental pollution and depletion, albeit it may occur in other parts of the world.

The Third National Agricultural Policy (1998-2010)[7,8] of Malaysia focuses on agricultural programs, which aim at high productivity while ensuring conservation and utilization of natural resources on a sustainable basis. This policy recognized that organic agriculture can offer export opportunities in the organic market, particularly for fruits and vegetables. The government also encourages small-scale producers to venture into organic farming as part of the strategy to raise producers' income, overcome problems of chemical residues in food production, protect the environment, reduce food imports as well as enhance the country's export of high quality safe food. Under the Ninth Malaysia Plan (2006-2010)[9], the government is targeting the organic farming industry to be worth MYR800 million in 5 years time. The Ministry of Agriculture plans to have 20,000 hectares under organic farming methods by year 2010, increasing local production by 4,000 hectares per year. Organic consumption is expected to grow by 20% per annum.

The problems experienced by Malaysian agriculture sector have been sketched by many researchers. In recent years, as a result of growing concern on health hazards posed by chemical fertilizers used by the agricultural farmers in Malaysia, there is now a concerted effort to review the use of these fertilizers and to place more emphasis on the use of organic fertilizers[10]. It is worthwhile to mention here that Malaysia still does not have self sufficiency in many food items due to lack of comparative advantage in food production. By comparative advantage, it is cheaper to import food from neighboring countries than to produce them in Malaysia[10]. In fact, increase in price of imported foods from other countries has also caused Malaysia to experience an outflow of a significant amount of foreign currencies in the recent years. The food bill has increased from MYR3.5 billion in 1985 to MYR11.3 billion in 2000 and it is still increasing[11]. This has caused tremendous strain on the economy due to lost of foreign exchange, the attendant ill-effect brought about by inflation [10]. The changing needs in the economy in particular are acute labor shortage, limited availability of suitable land, increasing cost of production, decline in the exchange rates, the establishment of World Trade Organization (WTO) and the rapid liberalization of agricultural trade, which have brought new issues and challenges in Malaysian agricultural sector[10].

In view of the above challenges, the Third National Agricultural Policy (1998-2010) was endorsed with the overriding objective of maximizing income through the optimal utilization of resources in the sector. The

specific objectives of the policy are to enhance food security; to increase productivity and competitiveness of the sector; to deepen linkages with other sectors; to create new sources of growth for the sector; and to conserve and utilize natural resources in a sustainable basis[7]. In Malaysia, although smallholders contribution in agriculture sector is significant, they constitute the bulk of low income groups in the country and suffer the most due to uneconomic land size, price decline in commodities like rubber, cocoa and oil palm, rising production cost and persistent low productivity and income[10]. The area of agricultural land in Malaysia is also decreasing. In conventional rubber planting, 85% of the exposed areas is drastically reduced to 45% in second year and completely covered at the end of third year[12]. The state of organic food products is not good in Malaysia. While there is a large market for organic food products in the West, the interest of Malaysian consumers in organic foods is growing too, as they become more health conscious. Since chemical fertilizers and pesticides are not used, labor requirement is high in organic farming leading to high cost of production[10]. If organic foods can be sold at competitive prices, higher to some degree but not too much higher than non-organic products, then there would be a market and demand-driven basis for the food sector to be based increasingly on sustainable agriculture. Observation reveals that under the Malaysian Farms Good Agricultural Practice Scheme (SALM), which was launched on 31 January 2002, the Department of Agriculture has already taken efforts to promote some of the sustainable agricultural practices. Since it was a voluntary scheme the majority of the farm holders were reluctant to comply with the SALM guidelines. In recent years, as a result of increasing awareness on health and environment issues, systematic programs have been introduced to optimize the use of resources on a sustainable basis including the recycling of waste products for food production and environment protection[10]. In the context of efficient land use, which is the element of soil and water conservation, much need to be done to ensure the prolonged use of the land on a sustainable basis[10]. Whether the nation achieves the sustained agricultural productivity growth in the coming years will depend on the current policies that are being planned and implemented[13].

RESULTS AND DISCUSSION

This study is based on both quantitative and qualitative analysis using secondary materials as the sources of data and basis of arguments. The relevant secondary materials used by the study are published by local authorities such as Government of Malaysia, Ministry of Agriculture, Department of Statistics, Ministry of Trade and Industry and Malaysian Agricultural Research and Development Institute and international authorities such as United States Department of Agriculture, United States Farm Bill, Swedish Society for Nature Conservation, Population Action International and United Nations Development Program, all which promote sustainable agricultural practices and policies. The latest, which is also the third, Malaysian Agricultural Policy (1998-2010) has primarily been reviewed to substantiate our arguments in this paper.

Review of Malaysian Agricultural Policies: It is already evidenced that Malaysian agricultural sector is now significantly contributing to the national economy. This sector experienced a decline in its output particularly in 1990s. The value-added contribution of agricultural sector to the national gross domestic product (GDP) in 1980-1990 declined from 22.9-18.7% and that share declined further to 13.6% in 1995. The share of employment in the agricultural sector fell from 39.7% in 1980-27.8% in 1990. While manufacturing sector, in contrast, increased its value added by 13.3% a year during 1991-1995 and by 1995 it was contributing 33.1% to GDP. However, the agricultural value added grew at an average rate of 3.0% per annum during the Ninth Malaysia Plan period (2006-2010) and it is higher than the target of 2.0%, as shown in Table 1. In fact, the higher growth was due to better performance of the agricultural industrial commodities sub-sector, particularly palm oil and rubber. The share of the sector to gross domestic product (GDP) decreased slightly from 8.9% in 2000-8.2 per cent in 2005. Nevertheless, total agricultural value added increased from MYR18.7 billion in 2000 to MYR21.6 billion in 2005. The value added of agro-based industry grew at an average rate of 4.5% per annum to reach MYR16.9 billion in 2005. The combined value added of the agriculture and agro-based industry was MYR38.5 billion or 14.7% of GDP in 2005.

The Ministry of Agriculture of Malaysia had taken the First National Agricultural Policy in 1984 with the view to maximize income from agriculture sector through efficient utilization of domestic resources and recovery of the sectors contribution to the overall economic development of the country. The emphasis was given on the increase of farms productivity by choosing remunerative crops and employing the most efficient technologies. But the First National

Table 1: Value Added of Malaysian Agriculture and Agro-based Industry (2000-2010)

Commodity	MYR million (In 1987 prices)			% of Total			Average annual growth rate (%) 8MP		9MP
	2000	2005	2010	2000	2005	2010	Target	Achieved	target
Agriculture	18.662	21.585	27.517	100.0	100.0	100.0	2.0	3.0	5.0
Industrial Commodities	11.033	13.278	15.521	59.1	60.6	56.4	0.7	3.8	3.2
Food Commodities	7.629	8.308	11.996	40.9	39.4	43.6	4.0	1.7	7.6
Agro-based Industries	13.584	16.928	22.221	100.0	100.0	100.0	4.0	4.5	5.6
Total Agriculture and Agro-based Industries	32.246	38.513	49.738	-	-	-	2.7	3.6	5.2
Gross Domestic Product at Purchasers Price	210.558	262.029	351.297	-	-	-		4.5	6.0

Source: Malaysia[9]

Table 2: Productivity of Malaysian Agricultural Commodities, 2000-2010 (%)

Commodity	2000	2005	2010
Industrial Commodities			
Oil Palm FFB (metric tonnes/hectare/year)	19.1	22.5	25.0
Rubber (metric tonnes/hectare/year)	1.2	1.3	1.7
Pepper (metric tonnes/hectare/year)	2.1	1.5	1.8
Cocoa (metric tonnes/hectare/year)	0.9	1.2	1.6
Tobacco Grower-Curer System (metric tonnes/hectare/season)	1.1	1.4	1.5
Food Commodities			
Paddy (metric tonnes/hectare/season)			
Granary	3.8	4.5	6.5
Non-Granary	2.2	5.0	5.0
Aquaculture (metric tonnes/hectare/cycle)			
Freshwater	0.4	0.4	0.5
Brackish Water	1.0	1.1	1.1
Miscellaneous			
Pineapple (metric tonnes/hectare/cycle)	16.9	21.1	22.1
Flowers (thousand stalks/hectare/season)	155.6	162.9	190.4
Fruits (metric tonnes/hectare/season)	3.3	4.8	6.8
Vegetables (metric tonnes/hectare/cycle)	10.1	12.1	13.2
Coconut (metric tonnes/hectare/year)	3.0	3.3	3.7

Source: Malaysia[9]

Agricultural Policy was failed to look into increasing income and productivity disparity between the agriculture sector and the rest of the economy, especially the manufacturing sector. But under the Third National Agricultural Policy efforts to enhance productivity have been taken through the utilization of high yielding clones and improvements in agronomic practices among smallholders and plantations as well as increased mechanization. In addition, the provision of adequate support services and infrastructure in the agricultural production areas is expected to further improve productivity in the sector, as shown in Table 2. It is also envisaged that productivity will also be increased through wider application of the latest technology and knowledge-based production systems.

It is useful to mention here that implementation of the previous two national agricultural policies since 1984 has enabled the agricultural sector to attain a growth rate of 3.2% per annum for the period from 1985-1995. The strategies taken under these two agricultural policies deserve good merit due to the fact, among others, that during the period of these two policies the authorities developed new agricultural land to enable the establishment of economic farm units. Efficient agricultural practices have been fostered and land has been provided to agricultural farmers for growing new crops. Institutional development of land was also carried out in order to resolve the problems of uneconomic farm sizes, uneconomical crops and low levels of productivity. Agricultural support services such as research, extension, marketing, fiscal incentives and social and institutional development were also provided by the Ministry of Agriculture.

The agricultural sector of Malaysia had experienced several problems and challenges in 1980s. The land problem was then considered as foremost. It can reasonably be argued that the best way for agriculture to expand is through the conversion of new land for planting. In Malaysia, more agricultural land was taken over for industrial, infrastructural and housing purposes. Moreover there was less market protection for agriculture sector as it enjoyed very little in contrast to the manufacturing sector. Export taxes had been imposed on palm oil, rubber and pepper and

agricultural production had declined as the result. On the other hand, trade protection for manufacturing sector enhanced the credit worthiness, made manufacturing sector easier to obtain financing. With such advantages in manufacturing sector, it was not difficult to observe why there had been a persistent outflow of resources from agricultural sector to manufacturing sector, thus exploiting agricultural growth. Worth noting here is that manufacturing sector was then able to offer higher wages and better conditions of work. As a result agricultural workers were then discouraged and the sector had to offer higher wages merely to mitigate the outflow. Agricultural employment in 1990 was almost at the same level as in 1985 despite a larger workforce in the country. The agricultural sector also experienced challenges of natural problems as it never had comparative advantage in the production of food. Production of beef and mutton, for example, suffered from a lack of grazing land, low production through reduced food intake by animals as a result of the hot and humid climate and the high import costs of animals. The production of rice has continued to fall short of a series of successively lower targets. Table 3 shows that Malaysia still does not have self-sufficiency in many important food commodities including rice, vegetables, beef, mutton and milk.

Upon realizing shortfalls and inefficiencies of the agricultural sector the Second National Agricultural Policy (1992-1997) was revised in 1998 and subsequently the Third National Agricultural Policy (1998-2010) was introduced. This new agricultural policy was founded on a vision of sustainable development of a dynamic agricultural sector in the way that the growth of agriculture was to be market-led, commercialized, efficient and competitive. The principal aim was to maximize income through optimal utilization of resources. However, the objectives of this new policy were to achieve a balanced development between agriculture and the other sectors of the economy; to enhance the economic/structural integration of the sector with the rest of the economy and in particular with the manufacturing sector; to achieve a higher level of expansion and development of the food industry sub sector; to achieve a wider and more effective representation and participation of the *Bumiputra* (indigenous) community in modern and commercial agriculture, agribusiness and agricultural trade; and to ensure sustainable development in agriculture. To achieve the above objectives nine main strategies were taken under the Third National Agricultural Policy and these strategies are briefly reviewed below:

Table 3: Malaysia's Self-sufficiency Levels in Food Commodities, 2000-2010 (%)

	Percentage		
Commodity	2000	2005	2010
Rice	70	72	90
Fruits	94	117	138
Vegetables	95	74	108
Fisheries	86	91	104
Beef	15	23	28
Mutton	6	8	10
Poultry	113	121	122
Eggs	116	113	115
Pork	100	107	132
Milk	3	5	5

Source: Malaysia[9]

Optimizing resource use: This strategy stressed on efficient use of land, labor and capital resources. The strategy outlined that the program for development of idle land was to be improved and such land was to be turned into mini-estates and the farmers and farmers' institutions were to be provided with financing and other credit resources for operating such schemes. The strategy also outlined that the smallholder productivity was to be increased through replanting with new agricultural material, improved management and agronomic practices, increasing farm sizes, mechanization and other measures and a formal labor market was to be created to smooth out the areas of need and availability of labor.

Accelerated agro-based industrial development: This strategy stressed on acceleration of agro-based industrial development outlining that agriculture was to be integrated with the manufacturing sector so that downstream processing of raw products could be undertaken to produce higher value added products. The strategy also outlined that a synergistic relationship between the agricultural and the manufacturing sectors was also to be developed and raw materials were to be supplied to the manufacturers who, in turn, would supply agricultural inputs such as farm machinery and agrochemicals.

Enhancement of research and development efforts and technological diffusion: This strategy emphasized on enhancement of research and development efforts and technological diffusion outlining that research and development efforts were to be considered necessary to maintaining the competitiveness of the agricultural and manufacturing sectors and such efforts were to be market driven, commercially oriented and environmentally friendly.

Greater role of the private sector: This strategy stressed on greater role of the private sector outlining

Table 4: Malaysian Exports and Imports of Food, 2000-2010

	MYR Million			% of Total			Average Annual Growth Rate (%)	
	2000	2005	2010	2000	2005	2010	8MP achieved	9MP target
Exports	5,268.6	7,986.8	15,501.0	100.0	100.0	100.0	8.7	14.2
Imports	10,543.5	15,435.0	14,276.9	100.0	100.0	100.0	7.9	-1.5

Source: Malaysia[9]

that the transformation of agriculture into a competitive and efficient sector would require investment by the private sector. Incentives and other promotional packages were seen as necessary not only to check the outflow of resources from agriculture but also to attract investment into the sector.

Reform of marketing strategy: This strategy emphasized on reform of agricultural marketing strategy outlining that increased output of agricultural production would require markets and thus a more aggressive marketing strategy was to be adopted.

Expanded food production: Malaysia is still a net importer of food commodities (Table 4) with the self-sufficiency rates in foods have generally increased in recent years (Table 3). Therefore this strategy further stressed on the expansion of food production with the view to provide import substitution and meet domestic demand, while also taking advantage of export opportunities. Under this strategy the self-sufficiency targets were also proposed for selected food items. Realizing that the country might experience a comparative advantage in the production of food, the total self-sufficiency level by the year 2010 has been targeted (Table 3).

Human resource development: This strategy emphasized on human resource development, particularly in the agricultural sector and outlined that new technological processes and methods, high-tech equipment and new demands were to be introduced. It also outlined that to ensure the success of this strategy, a pool of adequately trained and skilled manpower was to be employed in the agricultural sector. In fact, under the Third National Agricultural Policy a comprehensive plan was formulated to establish manpower training for efficient agribusiness, resource management and agro-based processing.

Development of viable and self-reliant farmers and fishermen's institutions: This strategy stressed on development of viable and self-reliant farmers and fishermen's institution outlining that a large number of farmers/fishermen's associations exist in the country, but they have small capital bases and limited managerial/technical capabilities which constrain their role in the development and modernization of the agricultural sector. Therefore the Third National Agricultural Policy proposed the establishment of a formal financial institution, the formulation of a specific human resource development program and the formation of a federation of farmers and fishermen's institutions.

Restructuring management capacity and including greater *Bumiputra* participation: This strategy emphasized on restructuring of management capacity and inclusion of greater *Bumiputra* (indigenous people) participation in the agricultural sector. As discussed earlier that the expanding opportunities for private enterprises demanded greater self-reliance, entrepreneurship and management capabilities. The strategy, however, outlined that businesses were to be run strictly on commercial lines driven by market forces and with limited capital and management capabilities there was a need to establish priorities for activities and ensure greater number of *Bumiputra* participation. As also outlined, *Bumiputra* involvement was to be emphasized mainly through equity and employment requirements and in line with this an investment trust was proposed that would invest in and initiate projects and take up *Bumiputra* quota shares in existing and new companies.

CONCLUSION

Upon reviewing the recent agricultural policies of Malaysia and comparing them with the widely accepted standard of sustainable agriculture, it can be argued that Malaysian agricultural policies are supportive for sustainable agricultural practices in the country. But the current agricultural practices in the country, to some extent, differ from the standard of sustainability as evidenced by recent and available literatures. Appropriate efforts such as more intensive monitoring and investigating the agricultural practices and assisting the stakeholders by the respective authorities would enable Malaysia to achieve sustainability in its agricultural sector. As stated earlier that Malaysia is currently experiencing the lack of comparative advantage in producing many food commodities, it is

highly expected that achievement of agricultural sustainability would bring about self sufficiency in foods. Observations reveal that with introduction of the Third National Agricultural Policy, the Malaysian agriculture sector has been given a new lease of life in order to become an engine of economic growth. Agriculture is, in fact, the main economic driver for Malaysian rural communities. It is also evidenced in this study that during the Ninth Malaysian Plan period (2006-2010), the agriculture sector achieved a higher rate of growth than targeted and contributed towards economic growth and export earnings, in which there was increased involvement of the private sector in large-scale commercial food production and agro-based industry. Also during the same period, the development of the agriculture sector has been intensified to serve as the third engine of growth. In fact, the contribution of Malaysian agricultural sector to the national economy is remarkable particularly in creating employment, alleviating rural poverty and reducing net export deficit. The Ministry of Agriculture of Malaysia is expected to implement more target specific policies and strategies to further expedite the transformation of the agriculture sector into a modern, dynamic and competitive sector with respect to agro-based processing activities and agricultural entrepreneur development.

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