CHAPTER 9

Approaches to Agricultural Development in Malaysia

9.1 Introduction

The agricultural sector has contributed significantly to the growth and development of the Malaysian economy. We must ensure that the sector’s contribution to the national economy and its global competitiveness remain strong in the future. The Third National Agricultural Policy and its Action Plan is a testimony of the government’s commitment to provide for better quality of life for all Malaysians, consistent with our vision to become a fully developed nation by the year 2020. In tandem with the National Development Policy, the Second Industrial Master Plan, Science and Technology Policy, and National Biodiversity Policy, NAP3 to provide the policy framework for the future growth of the agricultural sector into the next millennium. (adapted from the message of the then Malaysian Prime Minister, Tun Mahathir Mohamad, 1999).

NAP3 covers the period from 1998 to 2010 and seeks to provide for the gradual but effective transformation of the agricultural and forestry sectors as we move into the next millennium. The formulation of the policy was largely guided by the objectives and strategies of the National Development Policy and incorporates several new strategies to deal with expected challenges and changes to the international economy.

The policy retains the objective of NAP2 to maximize income through optimal utilization of resources in the sector. This includes maximizing agriculture’s contribution to national income and export earnings as well as maximizing income of producers. This objective will be achieved in NAP3 through two new approaches to agricultural development. The first is the agroforestry approach which aims at addressing the increasing scarce resources including land and raw material availability. The agroforestry development strategy is also in consonant with sustainable agricultural practices. The second approach is the product-based approach which is 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. These approaches to agricultural development will enable a more effective formulation of policy thrusts to meet the challenges facing the sector and for it to remain competitive in the world market. (adapted from the then Minister of Agriculture, Datuk Amar Dr. Sulaiman Daud’s message, 1999).

Moving into the 21st Century, agriculture and forestry will be revitalized as a sector that not only supplies food for the population but also raw materials for the downstream manufacturing industries. In addition, this sector will continue to sustain, conserve and protect the environment. The Federal and State Government Departments and Agencies responsible for agriculture and forestry, the private sectors, and farmers should work as a team to translate the policy and strategies into reality. In pursuit for agricultural excellence, the whole industries should be prepared to adopt new technologies and approaches in production, processing and marketing in order to enable them to sustain and enhance their performance. This is critical since the country is going through a
period of increasing competitive environment, domestically, regionally and internationally. (adapted from the message of the then Minister of Primary Industry, Dato’ Seri Dr. Lim Keng Yaik, 1999).

9.2 National Agricultural Policy (NAP)

Agriculture in the 60s was mainly focused on the production of food and export oriented raw materials for the industrialized countries. Approaching the 80s, Malaysia embarked into the utilization of its own raw materials for its industrialization agenda, i.e. downstream activities. The government was looking at agricultural development from two angles, namely as a way of making a living with a self-sufficiency in food and as a source of income with a commercial produce.

The era of agricultural development can be traced through three stages:

**The Early Years (1960-70s)**

The indigenous Bumiputras are traditionally subsistence farmers working on smallholdings not more than 5 hectares that are usually planted with rubber, oil palm, fruits, padi, and other miscellaneous crops. These lands are either inherited or customary/indigenous rights. The Colonials were owners of large rubber and oil palm plantations. The majority of Indians work on these estates as labourers, while the Chinese mainly operate at the management level. The Chinese also acted as middlemen for agricultural produce, grew cash crops, raised animals such as pigs and poultry, and work on rented and abandoned land owned by the Bumiputras.

**The Awakening Decades (1970-80s)**

Although Bumiputras continued to work on their smallholdings, many migrated into new agricultural land development schemes managed by government agencies. The Indians remained as estate workers although quite a number have started raising cattle and goats. The Chinese, while remaining as middlemen, moved a step further by opening rubber estates followed later by oil palm and cocoa. They also intensified pigs raising and poultry which then has become a big business.

**The “Small Dragon” Era (1980s and beyond)**

In mid-1980, the robust economic growth was catalyzed by the manufacturing sector. The parameter of the nation’s macroeconomy began to change, principally transforming the structure from agro-based to an economy that was fast moving towards an industrialised nation, an economic dragon. The Far Eastern Economic Review (1983-84) had published an article relating to the transformation of Malaysia to an industrialised economy.

Agriculturally related manufacturing plants have begun to mushroom, especially in industrial parks and other designated centres throughout the nation. The Federal government has entered into the business and formed Malaysia Incorporated, consisting of government-linked companies (GLCs), which operate as the official government business arm. Malaysians have bought over all the plantations from the British, for
example, Guthries, Sime Darby, Dunlop (now IOI), Harrison and Crossfield (now Golden Hope). Malaysia is now the major world producers of rubber and palm oil; IOI was then the largest palm oil producer in the world, now it is Sime Darby. Agro-based manufacturing activities in rubber and oil palm have increased with many Malaysian made products such as latex gloves and condoms dominating world markets.

The nation's industrialization has been catalysed by revenue earned from newfound "black gold" petroleum. However, the food crop sector is still lagging in terms of hectarage and export revenue, whether in the form of fresh or processed items. This sector badly needs support in view of its importance for the nation’s food security.

Government support has led to the emergence of some new agricultural sectors:

1) **Fisheries** involving coastal riverine and deep sea fishing activities have commenced, with new new fishing harbours in Penang and Sarawak opened. Aquaculture activities in inland water bodies have increased with cultivation of commercial species. Mariculture has also expanded in islands such as Langkawi. Recreational fisheries and ornamental fisheries are new business ventures.

2) **Tourism** industry has been given a new lease of life in the form of agrotourism involving tours to forests, nature reserves, farms and homestays.

Today, agriculture has again attained a position as an important engine for the transformation and growth of the Malaysian economy, and not as a sunset industry.

### 9.2.1 Evolution of Agriculture and Forestry Policies

To date Malaysia has witnessed the formulation of three agricultural policies, namely NAP1 (1984-91), NAP2 (1992-1997) and NAP3 (1998-2010). We are currently governed by NAP3 which has evolved from the previous two NAPs whereby NAP 1 equates with the “small dragon” era mentioned earlier.

In 1984 when NAP1 was promulgated, new agricultural lands were opened with emphasis on export crops, in particular oil palm and cocoa in order to increase foreign exchange, create employment and eradicate poverty. This era saw the rapid expansion of the manufacturing sector at the expense of agriculture sector whereby labour shortages, rising wages and competition of land resulted.

Subsequently, NAP1 was reviewed and NAP2 introduced. This second agricultural policy placed greater emphasis on sustainable agriculture, expanding food production, agro-based industrial development, and greater role of the private sector, biodiversity and conservation. At the international level, the World Trade Organisation (WTO) was established with rapid liberalization of agricultural trade creating increased competition albeit new market opportunities. A financial crisis occurred during this period which negatively affected Malaysia's food security. NAP2 did not anticipate such rapid and sudden changes in the domestic and international economy and therefore unable to adequately address the issues. This called for the formulation of new policies and strategies (NAP3) to enhance the nation’s global competitiveness and to ensure continuous growth of agriculture.
In NAP3, two new strategic approaches are adopted. The first is the agroforestry approach in which agriculture and forestry are viewed as an integrated entity, mutually compatible and complementary, thereby providing a scope for joint development. For example, it allows for the production of both agricultural and forestry products on the same land such as rattan and bamboo together with rubber trees.

The second approach is the product-based approach. In this approach key products and markets are identified based on market demand. Strategies to enhance upstream agricultural production and downstream agricultural produce together with niche marketing are implemented. This differs from the conventional commodity-based approach which deals only with primary produce.

9.2.2 Plan of Action Formulated To Implement NAP3

*Enhancing Food Security and Combating Inflation*

The financial crisis has highlighted the urgent need to enhance food security through expansion in domestic food production and lesser dependence on imports. This import substitution measure focuses on establishment of integrated cluster of production, processing, marketing and supporting services industry.

**a) Domestic food production** will be enhanced through:

i. Focusing production on major food products that are cost competitive such as fishery products, selected fruits, vegetables and livestock.

ii. Zoning for food production areas.

iii. Provision of infrastructure.

iv. Promoting R & D and good agricultural practices (GAP).

v. To increase yield and efficiency.

vi. Establishing stronger linkages between the producers and the market.

**b) Strategic sourcing** of essential food products will be undertaken through:

i. Facilitating joint venture with low-cost countries, for example in the ASEAN Growth Areas and Mekong River Basin.

ii. Government to government arrangement on supply of food to the country.

**c) Improving marketing efficiency** through reduction of marketing margins and removal of imperfections by:

i. Reducing market intermediaries with direct marketing and contract farming.

ii. Improving marketing infrastructure such as collection centres and wholesale markets in production areas.

iii. Improving market intelligence.
d) Increasing Productivity

Productivity gains in agriculture have not matched up with increases in wages; for example in the early and mid-90s productivity increased by 4.5% per annum while farm wages increased by 49%.

There are several new strategies to increase productivity:

i. **New products and future industries** will focus on biotechnology products, extraction of chemicals from biological resources, utilization of oil palm biomass, floricultural products, and aquarium fish.

ii. **Reducing labour in agriculture** from 1.5 million workers in 1995 to 1.0 million workers in 2010 through:

   - Reduction in hectarage of rubber by 505,000 hectares, coconuts by 70,000 hectares, and cocoa by 60,000 hectares.
   - Cultivation of new crops that require less labour such as timber species, bamboo and rattan.
   - Promotion of controlled environment automated and mechanized systems such as hydroponics.
   - Intensification of R & D in labour-saving technologies in harvesting and tapping.

iii. **Maximising land resource use** by:

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

vii. **Increasing farm income** by:

   - Encouraging vertical integration by promoting value added activities at farm level through large scale commercial farming.
   - Maximizing utilization of agricultural wastes and by-products such as oil palm empty fruit bunches and padi straw.

iv. **Promoting Private Sector Participation.**

Several mechanisms will be put in place to encourage private sector input:

- **Establishment of agrotechnology parks** involves high technology production systems by the private sector such as mechanized operations, controlled environment, and high value materials production.
- Establishment of incubation centres promotes technology transfer and commercialization of research findings by the private sector particularly in biotechnology products and specialty natural chemicals.

- Land banks or land leases particularly for food production will be made available for private sector participation facilitated by a comprehensive data base.

- Providing private sector investment in agriculture will be aided by guidelines. A one-stop centre will be established in MoA to serve the private sector. Information services will be strengthened to assist all parties involved in agricultural development.

v. Enhancing Agricultural Export.
Several strategies have been formulated to enhance agricultural exports:

- International halal food hub will be developed in Malaysia. Capacity for inspection, monitoring, Standardization and certification of Malaysian halal standard will be strengthened. This standard will be aggressively promoted internationally.

- Market access will be pursued through bilateral arrangements for Malaysian made products such as palm oil. Credit facilities will also be made available for new palm oil markets.

- Direct marketing approach will be undertaken to export Malaysian products without going through third countries.

- Malaysia as a major regional distribution centre for tropical floricultural products and aquarium fish will be pursued. Appropriate warehousing facilities, global market networking and quarantine services will be established.

- Malaysian own brand products will be promoted internationally in a campaign with workshops, exhibitions and trade fairs conducted.

Efforts will focused on producing more skill workers in biotechnology, precision agriculture, mechanisation and automation, sistems engineering and computer, deep sea fishery, and animal husbandary.

The previous two NAPs lack proper and effective mechanisms for their implementations. In NAP3, more concerted effort will be required to strengthen both public and private sector participation. The following mechanisms have been set up.

- Action plans have been formulated comprising short, medium and long term actions. Short term actions include zoning and providing infrastructure and
facilities for production of short term food crops and aquaculture. Medium term actions include provision of marketing infrastructure such as wholesale markets; increasing farmers markets; creating food crop estates; reducing post-harvest losses; establishing incubator centres; promoting Malaysia as a Halal Food Hub and Malaysian Brand Names; and sourcing cheaper raw materials. Long term actions focus on perennial fruits, ruminants and new products; strengthening human resource; introducing import substitution measures; and enhancing R & D.

- **Implementation** of the action plan involves institutional arrangements being put in place. A public-private sector coordinating council and a high level planning and implementation committee will be established. Government institutions involved in agriculture will be reviewed and rationalized. Resources and manpower will be allocated in line with the new policies.

### 9.3 Education, research and development institutions, and extension services

**Education**

There are centres and institutes that cater to the dissemination and acquisition of knowledge and skills in agriculture. These establishments include Universities, Colleges, Vocational Institutes, In-service Training Centres in various ministries (MARDI, FELDA, RISDA, FRIM) and societies such as the Incorporated Society of Planters. A degree, diploma or certificate will be issued on successful completion of the course pursued.

**Research and Development Institutions**

Agricultural R & D institutions can be found in both the public and private sectors. They are more concerned with working towards practical solutions to problems rather than approaching them from purely an academic angle.

**a. Public Sector**

Institutions within the public sector engaged in R & D include Malaysian Agricultural Research Development Institute (MARDI), Malaysian Cocoa Board (MCB), Malaysian Palm Oil Board (MPOB), Malaysian Rubber Board (MRB), Farmer’s Organisation Authority (FOA), Federal Agricultural Marketing Authority (FAMA), Fisheries Development Authority of Malaysia (LKIM), Muda Agricultural Development Authority (MADA), Kemubu Agricultural Development Authority (KADA), Forest Research Institute Malaysia (FRIM), Federal Land Development Authority (FELDA) (Sungai Tekam), Malaysian Rubber
Development Board (MARDEC), and Veterinary Research Institute (VRI) (Ipoh-ruminant, Johor Bahru-poultry), State Agricultural Research Centres.

b. Private Sector

Organisations include Golden Hope (OPRS, Banting), Applied Agricultural Research Sdn. Bhd. (Sungai Buloh), FELDA Tun Razak Agricultural Services Sdn. Bhd. (Jerantut, Pahang), United Plantation Research (Teluk Intan, Perak), Guthrie Research Chemara (Negri Sembilan), Agricultural Chemical (M) (Prai, Penang; Selama, Kedah), Applied Agricultural Research (Sungai Buloh, KLK & Boustead), DUPONT Malaysia Research (Prai, Penang) and Sime Darby EBOR Research (Klang, Selangor).

c. Non-Government Organisation

Among the active organisations are Centre for Environment, Technology and Development Malaysia (CETDEM Organic Farm, Selangor), Malaysian Environmental NGO (MENGO, Selangor), Malaysian Nature Society (MNS, KL), and Southeast Asian Fisheries Development Centre (SEAFDEC, Terengganu).

d. Extension Services

Extension services are provided for transfer of technology (TOT) in agriculture from research institutions to farmers. TOT is principally the duty of the Department of Agriculture (DoA), however other Research Institutes also provide such service directly through training and outreach programmes. Such institutions are Pusat Latihan dan Pembangunan Pengembangan (Telok Chengai, Kedah), MARDI, MRB, MCB, FELDA, Rubber Industries Smallholders Development Authority (RISDA), MADA, KADA, LKIM, FAMA, and National Association of Smallholders (NASH).

9.4 Legislations, Policies and Standards

Legislation and Policies

Legislation is formulated to regulate the agro-forestry sector with respect to the environment and health of human, plants and animals. There are several Acts which have been enacted such as Pesticide Act (1974), Food Act (1983), Poison Act (1952), Food Regulation (1985), Environmental Quality Act (1974), and Quarantine Act (1976).

Malaysia is a signatory to the Cartagena Protocol (May, 2000), concerned with biosafety. The release of genetically modified organisms (GMO) into the environment is governed by the Biosafety Bill that was approved by the Malaysian government in November 2005.

Malaysia also subscribes to the ASEAN Policy on Zero Burning (2003) that promotes zero burning by plantation and timber companies.

Malaysia has a national policy on biological diversity formulated in 1998 that aims to transform the nation into a world centre of excellence in conservation, research and utilization of tropical biological diversity by 2020. There are various legislations which
safeguard the biological diversity in the country such as Wildlife Protection Act (1972), Forestry Act (1984), and Fisheries Act (1985).

**Standards**

Under the overall contexts of quality assurance and control, several guidelines have been laid down as the basis for maintenance of standards which are in accordance with CODEX Standards in the agricultural industry. A few examples of such Standards, Guidelines and Certification Agencies for such standards are Good Agricultural Practices (GAP), Best Management Practices (BMP), Skema Amalan Ladang Baik Malaysia (SALM), Skema Organik Malaysia (SOM), Good Fumigation Practices (GFP), and Hazard Analysis Critical Control Point (HACCP).

9.5 **Economic Transformation Programme (ETP)**

The Economic Transformation Program is an initiative by the Malaysian government to turn Malaysia into a high income economy by the year of 2020. It is managed by the Performance Management and Delivery Unit (PEMANDU), an agency under the Prime Minister Department of Malaysia. Launched on September 21, 2010, it is a comprehensive economic transformation plan to propel Malaysia's economy into high income economy. The program will lift Malaysia's Gross National Income (GNI) to US$523 billion by 2020, and raise per capita income from US$6,700 to at least US$15,000, meeting the World Bank's threshold for high income nation. It is projected that Malaysia will be able to achieve the targets set if GNI grows by 6% per annum.

Set to revitalize Malaysia's private sector, the 60% of the blueprint's investment would derived from private sector, 32% from government linked companies and the remaining 8% from the government. Various sectors for development have been identified and are called National Key Economic Activities (NKEA).

9.5.1 **National Key Economic Areas (NKEA)**

Since 92% of the total investments will originate from private sector, the sector is much involved in the planning of this transformation blueprint. A workshop had been organised by Performance and Delivery Unit (PEMANDU) to identify the 12 National Key Economic Activities (NKEA). The NKEA is the key driver to the success of this program as such activities have the potential to contribute significantly to the growth of the economy of Malaysia.

There are 131 entry point projects (EPP) identified under the NKEA. Economic activities that are categorized as NKEA will be prioritized in government planning and funds will be allocated. Policies will be amended to facilitate fast track implementation of such activities, including liberalizing the market and removal of bottlenecks.

Among the 12 NKEAs, two of them touch on the agriculture sector: The Palm Oil NKEA and the Agriculture NKEA:
Palm Oil NKEA

As of 2010 Malaysia’s palm oil industry is the fourth largest component of the national economy and accounts for RM53 billion of gross national income. The industry covers the value chain from plantations to processing. The development of this industry is mainly private and remains heavily oriented towards plantations. With limited land available to continue the expansion of plantations, the government desires to increase efficiency in production and focus on providing great value through downstream activities. The Palm Oil NKEA is designed to increase total contributions to national income from the palm oil industry by RM125 billion to reach RM178 billion by 2020. The government hopes that 41,000 new jobs will be created in this sector.

Palm oil related EPPs will focus on upstream productivity and downstream expansion. These EPPs will focus on replanting of aging oil palms, mechanising plantations, stringently enforcing best practices to enhance yields, implementing strict quality control to enhance oil extraction, and developing biogas facilities at palm mills to capture the methane released during milling. Downstream expansion and sustainability will be achieved by capturing the lucrative market segments that focus more on refined products such as oleo-derivatives, food, health products, and bio-fuels. The government says these projects will require funding of RM124 billion over the next 10 years with 98 percent of the funding coming from the private sector.

Agriculture NKEA

The Agriculture National Key Economic Area (NKEA) aims to double the agriculture sector’s GNI contribution to RM49.1 billion by 2010, through 16 Entry Point Projects (EPPs) and 11 business opportunities (= increase in GNI of RM28.9 billion by 2020). This includes RM7.4 billion of GNI from the multiplier effect created by EPPs from other sectors.

The investment required to implement the EPPs and business opportunities is estimated to be RM21.8 billion, of which RM18.9 billion will go towards the 16 EPPs. Some 62% or RM13.4 billion of the total investment will come from the private sector and the balance is from the government.

The Agriculture NKEA targets the creation of 74,000 job opportunities and to increase the income of farmers by 2 to 4 times.

The largest sources of the multiplier effect on the Agriculture NKEA are the Palm Oil and Wholesale and Retail NKEAs, estimated to contribute 37% and 27%, respectively.
9.5.2 EPPs under agriculture

**EPP 1: Unlocking value from Malaysia’s biodiversity through high-value herbal products**

- Strengthen product quality and marketing efforts to penetrate global export markets for nutraceutical and botanical products with a targeted GNI of RM2.2 billion by 2010 and creation of 1,800 jobs.

**EPP 2: Expanding the production of swiftlet nests**

- Capture 40% of the global market share by 2020 with increased production to 870 tonnes from 290 tonnes and increased downstream products. Targetted GNI of RM4.5 billion and creation of 20,800 jobs.

**EPP 3: Venturing into commercial-scale seaweed farming in Sabah**

- Increase dried seaweed production to 5 metric tonnes from 1.5 metric tonnes in 2009. Targetted GNI of RM1.4 billion and creation of 12,700 jobs.

**EPP 4: Farming through integrated cage aquaculture systems**

- Promote large-scale, anchor company-driven cage farming focusing on three species that have high export value. This is expected to generate GNI of RM1.4 billion and create 10,000 jobs.

**EPP 5: Rearing cattle in oil palm estates**

- Focus on structured, rotational grazing to ensure profitability and sustainability. Targetted GNI of 150 million and creation of 3,600 job

**EPP 6: Replicating integrated aquaculture model (IZAQs) to tap the market for premium shrimp**

- Strong anchor companies to champion production of fully certified and traceable seafood in a sustainable manner through IZAQs, a network of industrial scale, land-based aquaculture zones. Targetted GNI of RM1.3 billion and creation of 11,900 rural jobs.
EPP 7: Upgrading capabilities to produce fruit and vegetable for premium markets

- Increase production of better quality and better tasting fruit and vegetables to access premium markets in the Middle East and Europe. Targetted GNI of RM1.6 billion and creation of 9,100 jobs.

EPP 8: Strengthening export capabilities of the processed food industry through an integrated processed food park

- Recognise and scale up the industry through domestic anchor companies that will establish integrated food parks and pursue the involvement of foreign partners. Targetted GNI of RM884 million and creation of 4,900 jobs.

EPP 9: Introducing fragrant rice variety for non-irrigated areas

- Tap the higher-end rice market through a new rice variety, MRQ76. Targetted GNI of RM100 million.

EPP 10: Scaling up and strengthening productivity of paddy farming in the Muda area

- Promote commercial-scale farming, improve irrigation density and accelerate the use of new technologies to increase average yield to 8 tonnes per hectare by 2020. Targetted GNI of RM1 billion and reduction of 14,900 low-value jobs.

EPP 11: Scaling up, strengthening paddy farming productivity in other areas

- Initial focus on incentives to encourage outsourcing of land management. Targetted GNI of RM1.4 billion and reduction of 9,600 low-value jobs.

EPP 12: Strengthening current anchor companies in cattle feedlots

- Expand feedlot capacity by 240,000 heads by increasing small-scale feedloters. Targetted GNI of RM183 million and creation of 2,000 jobs.

EPP 13: Partnering with a large foreign dairy company to establish dairy clusters

- Develop 3 dairy clusters with 27,000 heads of dairy
cattle and downstream processing facilities to increase the country’s milk sufficiency to 5% by 2020. Targetted GNI of RM326 million and creation of 800 jobs.

**EPP 14: Establishing a leadership position in regional breeding services**

- Capitalise on the expected growth of the agriculture sector in the region and establish a regional breeding centre in Malaysia. Targetted GNI of RM467 million and creation of 5,400 jobs.

**EPP 15: Securing foreign direct investment in agriculture biotechnology**

- Leverage on existing bio-nexus incentives to attract potential investors in agriculture biotechnology. Targetted GNI of RM820 million and creation of 1,200 jobs.

**EPP 16: Investing in a foreign cattle farming company**

- Acquire 4 overseas cattle operations to ensure a steady supply of breeder cattle for local feedlots. Targetted GNI contribution of RM117 million.