

# MALAYSIA

T O D A Y

towards the new

# Millennium

“... an excellent overview of the achievements of the nation.  
The reader can discover the extraordinary  
transformation of Malaysia.”

**DR MAHATHIR MOHAMAD** *Prime Minister of Malaysia*



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TOWARDS THE NEW MILLENNIUM

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## FOREWORD

*Dr Mahathir Mohamad*  
*Prime Minister of Malaysia*

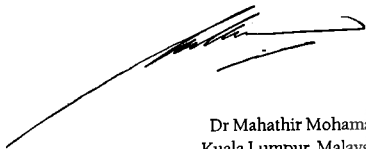
FIRSTLY, let me congratulate the Asian Strategy & Leadership Institute (ASLI) for initiating the publication of *Malaysia Today* which provides a useful insight into present Malaysia and its future direction.

*Malaysia Today* will provide an excellent overview of the achievements of the nation. The reader can discover the extraordinary transformation of Malaysia. The collection of articles is, therefore, timely for it serves as a useful source of reference to organisations, governments and corporate libraries as well as individuals locally and abroad.

Malaysia has formulated a strategic plan known as Vision 2020 to become a fully-developed nation by the year 2020. It requires concerted development in all areas: political, economic, social, spiritual, psychological and cultural.

To remain globally competitive, Malaysia will have to depend on its ability to promote new sources of growth. Capital-intensive and high value-added technologically sophisticated industries will be the cornerstone of Malaysia's economic development strategy. Great strides in technology and management sciences will demand a well-trained and highly-skilled workforce to achieve greater productivity and efficiency.

Therefore, ASLI's effort to produce *Malaysia Today* is highly commendable.



Dr Mahathir Mohamad  
Kuala Lumpur, Malaysia



## PREFACE

*Mirzan Mahathir*  
*President*  
*Asian Strategy & Leadership Institute*

TIME and time again, visitors to Malaysia have asked the question: "What is the formula for success? The formula that turned this nation from an agricultural-based economy just ten years ago to one of the most dynamic and fast industrialising economies of the world." They also wonder about our strategies to continue this phenomenal growth in the face of new challenges in order to achieve fully-developed nation status by the year 2020.

Questions were raised on the social, environmental, cultural and political impact of this growth. Time and time again, we at the Asian Strategy & Leadership Institute (ASLI) were asked these questions and we found that it was difficult to find a single publication that gave a reasonable understanding of this subject.

We, therefore, decided to embark on a publishing project which brings together in one publication articles written by those who are directly involved in formulating or implementing policies that direct our nation along the development path. Our writers were enthusiastic in wanting to shed light on the many initiatives which contributed towards our nation-building effort. Their articles together paint a picture of far-sighted strategic thinking and planning, determined leadership and innovative solutions to age-old problems.

We are deeply grateful for the time and effort put in by our distinguished writers for producing articles of such outstanding quality.

Malaysia has indeed come a long way. We hope this book gives the reader a snapshot of our situation, the journey to where we are today and the kinds of initiatives that are now being undertaken that will move us towards our goal. Admittedly, we did not cover everything as the situation is indeed dynamic and new initiatives are announced and promoted by the day.

We hope that through this publication, the reader will have a better understanding of the myriad initiatives that in total make up our recipe for success in nation-building.

## ACKNOWLEDGEMENT

*Michael Yeoh*  
*Executive Vice-President*  
*Asian Strategy & Leadership Institute*

MALAYSIA'S economic transformation has been described as nothing short of remarkable. Within the span of one generation, Malaysia has become a newly-industrialised country with manufacturing exports outstripping agricultural produce. Malaysia has emerged the world's 19th largest trading nation in less than 40 years of independence.

Malaysia today is a nation in transition as we become a more mature economy, moving up the development ladder, with a greater focus on services and value-added manufacturing. The push towards high-technology industries away from labour-intensive assembly-line operations brings forth new challenges for Malaysia. The Malaysian economy continues to chug along at a buoyant 8 per cent growth rate. At the same time, new stresses and strains have emerged as a result of the nation's economic success. The acute labour shortage has caused wage costs to spiral, whilst the dependence on foreign labour has created a myriad social problems.

Nevertheless, the future of Malaysia remains bright. Malaysia is indeed a shining star in Southeast Asia. The new millennium brings forth both challenges and opportunities. The Asian Strategy & Leadership Institute (ASLI), in line with its vision of being the foremost knowledge channel, is proud to undertake this special publication to chronicle the many facets of life in Malaysia today—economically, politically, socially and culturally.

*Malaysia Today* is a multi-faceted, one-stop reference on the state of the Malaysian nation and its future vision, hopes, strategies and directions. By chronicling the achievements and successes of the nation, it provides a glimpse into what the future will look like. It feels the pulse of the Malaysian economy and the rhythm of development.

*Malaysia Today* comprises forty-three articles on a broad spectrum of subjects. The articles are listed under five broad categories: Economic Development, Infrastructure Development, Industrial Development, Defence and Foreign Policy, and the Malaysian Experience. These articles by CEO's of leading corporations, cabinet ministers, senior government officials, academicians and strategic thinkers provide a kaleidoscope of views into various aspects of Malaysia. We are indebted to them for their contributions. These are the people who are the prime-movers of modern Malaysia. They are the architects of the new Malaysian society. And it is their efforts that have provided the building blocks for a dynamic, progressive and confident nation that will emerge as a global player and a world-class nation in the new millennium.

The publishers would like to thank all the contributors for sharing their thoughts and perspectives with us. Their analyses provide useful insights and up-to-date information. ASLI also wishes to acknowledge the sponsorship of Rashid Hussain Bhd, TA Enterprises Bhd and Hongkong Bank Malaysia.

Finally, I wish to place on record ASLI's appreciation to the team that worked so hard to produce this publication, in particular Jean Wong, Thayalan Nathan and Iris Yeoh. Their cooperation and dedication were invaluable. We also wish to thank the Prime Minister of Malaysia, Dato' Seri Dr Mahathir Mohamad for his Foreword.

This publication serves as a testimony to the efforts of the many who contributed towards its success and, hopefully, will be a useful guide for anyone interested in learning more about Malaysia. I hope this publication will provide some useful ideas and complement the reader's knowledge of the strategic challenges, future prospects and business opportunities in Malaysia.

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ECONOMIC  
DEVELOPMENT



1  
DEVELOPING WORLD-CLASS  
MALAYSIAN BRANDS

*Rafidah Aziz*

UNDER the Seventh Malaysia Plan, a major future challenge faced by the nation is to encourage a global approach to industrialisation to enable firms to venture into large-scale operations so that the benefits of economies of scale can be enjoyed through increased production for export to the world market.

During the Seventh Malaysia Plan period, the export-oriented strategy will continue to be emphasised. The liberalisation of the international trading environment and the removal of the GSP schemes by the United States of America in 1997 will provide both opportunities and challenges for the country's export. In this respect, there is still considerable scope for the expansion of manufactured exports, considering that the country's share of manufactured exports in the global market is only about 1.0 per cent. In order to sustain the growth of export-oriented industries, there is a need to build upon existing comparative advantages, diversify exports and penetrate new markets.

Malaysian manufacturers need to strengthen their efforts in promoting Malaysian brands and designs in order to gain greater market niches. Intensive advertising and marketing need to be undertaken to promote Malaysian brand names. Brand promotion will provide opportunities for Malaysian products to penetrate higher segments and specific niches in the international market. Malaysian manufacturers must target production for the global market. There is a need for industries to emphasise R&D and quality standards as well as intensify efforts on a sustained basis in product development and process innovation. The strategic changes in production will have to be accompanied by concerted and aggressive marketing of Malaysian products, using their own brand names in traditional and new markets.

Malaysian manufacturers have successfully produced a wide range of quality branded products, for foreign brand owners. Malaysian manufacturers are already producing popular brand names, like Ralph Laurent, YSL, Van Heusen and Christian Dior under contract manufacturing. The fact that Malaysian companies can produce for established brand names, reflect their capabilities.

Malaysian manufacturers have proved their capabilities to market quality products, using their own brand names. As an illustration, Malaysian manufacturers in the garment sector have been successful in producing and marketing indigenous brands such as Orlando, John Masters, Uomo, Donna and AnakKu. The time has come for more Malaysian manufacturers to come up with globally acceptable Malaysian brands. Manufacturers must be able to identify niche markets, set up their own marketing network and introduce their own indigenous brand names. To assist them, the government has set up several General Trading Companies (GTCs) from amongst large Malaysian firms, to undertake feasibility studies, fact-finding missions, establish distribution centres as well as advertise and promote the export of Malaysian products and services.

Certainly the developing and marketing of world-class Malaysian brands of products must require the necessary research into the markets for which the products are being designed. To a certain extent, such Malaysian-made commodities can benefit from the success of several export products that have become synonymous with Malaysia and that have earned strong market acceptance. In other words, they can ride on the goodwill already generated by Malaysian-made products which already are enjoying successful market niches abroad.

However, competition dictates that the process of creating a strong awareness of and confidence in Malaysian brands must be a continuous one, with the main objective of making those products synonymous with quality, reliability and value for money. In particular, care should be taken to identify and cater for whatever unique characteristics of the markets being targeted, to ensure market acceptability and avoid any sensitivities resulting from cultural, religious or any set of local factors.

It is also extremely important for manufacturers and exporters to sensitise and respond quickly to the various developments in the global market, where consumers and consumer lobbies are becoming more concerned about factors such as the environment, workers' rights, health and sanitary, considerations and protection of the flora and fauna.

Thus increasingly, manufacturers must monitor these new developments, to ensure conformity with the market requirements in terms of standards and quality. This would also require that the technology and processes used are able to meet universally-accepted standards, in addition to particular standards demanded by individual countries. A good example is the need to use acceptable substitutes for ozone-depleting substances, and non-biodegradable packaging materials in the process of making some electrical and consumer goods. Today a new standard, the ISO 14000 series is being mooted for application to protect the global environment, and thus, manufacturers must be ready to accommodate such new developments.

Malaysia has the potential to make an impact on the regional and global markets with a wide range of Malaysian-made products that carry with them world-class Malaysian brands. What is important is that manufacturers really adopt a global perspective of manufacturing and marketing operations, investing in the right type of technology and processes that can create highly efficient production as well as in R&D in order to develop the right type of products and the most suitable Malaysian brands. If we are able to do this, Malaysian products will then be able to gain strong footholds in the international market.



2  
SUSTAINABLE FOREST  
MANAGEMENT IN MALAYSIA

*Lim Keng Yaik*

EVER since the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil in June 1992, forestry issues have been very much in the forefront of international debates on global economic and environmental matters. In this connection, global deforestation and related problems such as environmental degradation and the conservation of biodiversity are now seen as issues that require global remedial efforts that transcend national boundaries. Thus the management of forests, is subjected to close scrutiny. Calls for sustainable forest management have now become the order of the day, with tropical forests in particular coming under intense pressure for compliance. Countries with such forests have been and continue to be berated with allegations of vast deforestation, over-exploitation and uncontrolled destruction of their forest resources.

One of the most negative consequences of the above-mentioned sequence of events is the linkage of trade with the issue of sustainable forest management. This has led to unilateral actions such as bans and boycotts against tropical timber and timber products in many of the developed countries in the North which impede trade for those in the South. These actions are clearly discriminatory and protectionist in nature and very often are based on misinformation and misinterpretation of facts concerning tropical forests. Even more insidious are the various attempts by certain parties to list so-called endangered species of timber in Appendix 2 of the Convention on International Trade in Endangered Species (CITES), while other more subtle measures like linking trade with environment and social clauses (including the rights of forest dwellers) will have long-term and direct impact on Third World trade in timber and other forest products.

The principle of sustainable forest management has increasingly become an imposed requirement before a country's timber and other forest products can be allowed to participate in certain segments of the international market, particularly those in the North. Radical NGOs and environmentalists continue to single out tropical forests as the main target for their allegations without understanding that sanctions and biased conditionalities impose greater burdens on tropical timber countries, depriving them of the rightful revenues from the forests. This in turn has the perverse effect of discouraging long-term investments which may add value to the very forests that such radical quarters profess to "protect", reversing the whole process of sustainability.

Sustainable management of forests must, therefore, be evaluated in a more balanced view than is being done with the current myopic vision that certain radical quarters possess. It must balance the many functions of the forests and not tilt the scales totally in favour of just conservational and environmental considerations, without sufficient regard for the economic realities of Third World countries. Sustainable forest management must be holistic in its approach and should cover not only tropical forests but all types of forests, temperate and boreal included. Blaming all the environmental ills of global warming on tropical forests, which cover only 7 per cent of the earth's surface, is no panacea as it will work against sustainable forest management in that the boycotts of tropical timber will reduce the means for those very countries to institute sustainable forest management.

Malaysia is as concerned as other nations over environmental degradation and the urgent need to arrest this process of decline in order to conserve the environment as we develop. Malaysia is committed to manage her forests in a sustainable manner not just for economic reasons but also for maintaining environmental stability and ecological balance. To achieve this, Malaysia is committed to maintain 50 per cent of its land area under forest cover. With a land mass of 32.9 million hectares, the natural forests base is 18.9 million hectares. Out of this, a total of 14.1 million hectares of natural forests have been designated as Permanent Forest Estate or PFE which will be managed to ensure that a proper balance for various purposes such as production, protection, social and educational objectives is achieved. In addition, 3.39 million hectares have also been allocated for forest protection in the form of national parks, wildlife sanctuaries and nature reserves. These protected areas

bear testimony to Malaysia's commitment to the maintenance of suitable habitats for flora and fauna to ensure the preservation of biodiversity.

In the PFE designated as Production Forests, commercial logging is undertaken on a rotational cycle, under a sustained-yield management system. Only a few mature trees (7 to 12 trees per hectare) are earmarked for felling at each rotational round of harvesting thus giving the logged over area time for recovery and regeneration before the subsequent round of harvesting. Under this selective logging system, Malaysian forests have the ability to return to their former eco-balance, thereby allowing better biological functioning of the forests.

Besides the natural forest base, Malaysia has also established a total of 0.17 million hectares of forest plantations as well as 4.8 million hectares of agricultural tree crops which are similar to reforested land. These forests and tree crop plantations are an integral part of sustainable forest management as they represent an important alternative source of renewable timber and fibre materials, which can contribute to reducing the pressures on natural forests. Taking these plantations into consideration, the total area under tree cover in Malaysia is estimated to be 23.86 million hectares or 72.6 per cent of its land area.

Since the turn of the twentieth century, Malaysia has introduced a systematic and sustainable yield policy with regard to the management of her forests with the establishment of the Forestry Department in 1901. Over the years, ecologically and environmentally-sound forest conservation and management policies have been developed to ensure that forest resources in the country are managed for a sustainable yield of timber and non-timber products, the enhancement of climatic stability and ecological balance as well as the safeguarding of water resources and conservation of biodiversity. This is evident in the various legislations promulgated over the years to strengthen the institutionalisation, management and utilisation of forests. Thus, a strong institutional framework has been established between the State governments (under which forest jurisdiction lies) and the Federal Government which is responsible for the country's national policy. In this regard, the National Forestry Council (NFC) was established in December 1971, comprising the Chief Ministers of the thirteen states and chaired by the Deputy Prime Minister. The NFC provides a vital forum for the formulation of forest policies which are coordinated to be consistent with the national goals of sustainable forest management.

In line with the country's aspirations, a National Forestry Policy was promulgated and approved by the NFC in 1977. This policy paved the way for greater uniformity in the implementation of strategies for the achievement of forest conservation, management and development in the country. The Policy represents an important legislation, which is unequivocal in maintaining that forest management must fulfil environmental and conservational needs besides meeting rational economic production goals. The balance that must be achieved among these objectives is thus spelt out in distinct terms in the Policy through the multi-pronged strategies embodied therein. Under the Policy, strategic and sufficient areas are allocated not just for production but for protection as well as social and educational needs. In tandem with this Policy, enactments and rules were formulated and enforced at the various state and district levels to give substance to the national stance.

To further strengthen the country's capacity to implement sustainable forestry practices, a National Forestry Act was subsequently formulated and passed by Parliament in October 1984. In Sabah, the Sabah Forest Enactment 1968 provides the legal backing to ensure that the status of the PFE is secured while in Sarawak, the Sarawak Forest Ordinance 1954 provides the necessary legal framework. The current enforcement of these legislations will go a long way towards the achievement of national objectives, as they now embody a vital change in the philosophy of forest management, away from just ensuring sustainable yield to sustainable management. Henceforth, forest management will be judged not just on the basis of the forests' capacity to produce output in perpetuity, but more so on how the forests are managed to achieve the ever so delicate balance among its various functions. As we move towards the 21st century, the dictates of these multi-varied functions will assume greater importance, particularly those pertaining to environmental and conservational considerations.

The National Forestry Policy was revised in 1992 to accord greater emphasis for environmental protection and the conservation of biological diversity. Furthermore, the National Forestry Act 1984 was amended to strengthen its effectiveness in dealing with forest encroachment and illegal logging. Thus the penalty for any forest offence has been increased from a maximum of RM10,000 or imprisonment for a term not exceeding 3 years to a maximum of RM500,000 and imprisonment not exceeding 20 years with a mandatory imprisonment of at least one year. Provi-

sion for the Police and Armed Forces to undertake surveillance of forestry activities was incorporated in the new Act and this, together with the stiff penalties, have helped to curb illegal logging and forestry encroachment.

As a member of the International Tropical Timber Organisation (ITTO), Malaysia is fully committed to the achievement of sustainable forest management by the year 2000. In this respect, Malaysia has taken several measures to operationalise the ITTO guidelines for the sustainable management of Natural Tropical Forests and its criteria for the Measurement of Sustainable Tropical Forest Management. Towards this end, a National Committee on Sustainable Forest Management in Malaysia has been established in 1994 under the Ministry of Primary Industries to ensure that the criteria, indicators and activities related to sustainable forest management are implemented. The National Committee has also formulated a total of 88 activities, based on 5 criteria and 27 indicators to operationalise the ITTO criteria at the national level. Of these, 64 activities are considered priority activities while 20 others have been identified as the minimum required to achieve sustainable forest management. At the same time, steps have also been taken to identify 48 activities under 6 criteria and 23 indicators for the Forest Management Unit (FMU) level. These activities will be tested on the ground to establish their applicability. Institutional plans and capacity-building are currently being undertaken to monitor the implementation of these activities at the state and FMU level.

In recognition of the need to strengthen sustainable forest management, Malaysia has also undertaken the critical step to reduce the annual coupe or allowable cutting rate in the country. Thus, the annual coupe will be reduced from 52,250 hectares per annum for Peninsular Malaysia during the Sixth Malaysia Plan (1991-1995) to 46,040 hectares per annum during the Seventh Malaysia Plan (1996-2000). This planned reduction in logging rate will help to ensure that the extraction of forest resources is in line with the sustainable capacity of the forests.

The tropical rainforests of Malaysia are a unique natural heritage which has evolved over millions of years. To conserve this invaluable forest resource, Malaysia has established a network of protected areas for the protection of biological diversity such as national parks, wildlife reserves and sanctuaries, nature parks, bird sanctuaries and marine parks, some of which have been set up since the 1930s. Currently, Malaysia has

2.13 million hectares of conservation areas protected by law. Of these, 1.8 million hectares are located outside the PFE whilst another 0.33 million hectares are within the PFE. In addition, Malaysia has also set aside pockets of Virgin Jungle Reserves (VJRs) to serve as permanent nature reserves and natural arboreta. Since its inception, a total of 120 VJRs covering 111,726 hectares have been established in Malaysia. Taking into account the network of protected areas and the VJRs, the area that Malaysia has designated for the conservation of biological diversity totals about 5.19 million hectares or 27.3 per cent of its total forested land.

For the protection of endangered plants and animals, the Government of Malaysia has compiled a comprehensive list of plants and animals to be protected. Furthermore, as a follow-up to the United Nations Conference on Environment and Development (UNCED), a National Committee on the Convention on Biological Diversity has been established to plan, coordinate and implement follow-up actions required under the Convention. A National Conservation Strategy has also been formulated by the Government of Malaysia as part of the overall national conservational objectives.

Recognising the negative impact of forest-harvesting, the Environmental Quality Act 1974 was amended to include the need for Environmental Impact Assessment (EIA) with effect from 1987 for activities that involve forest land use. Thus, EIA is required for activities which involve logging and land development schemes which would convert an area of 500 hectares or more of forest land into different land use, industrial, housing, agricultural and aquaculture projects, accompanied by the clearing of mangrove swamp forest covering 50 hectares or more. It would also cover logging or conversion of forest land to other land use within catchment areas or reservoirs.

To further reduce the detrimental effects of forest-harvesting on the environment, Malaysia has embarked on helicopter-logging in the Sarawak since 1993. In addition, the continuous Forest Resources Monitoring System (CONFORMS) has also been developed for Peninsular Malaysia and made operational in 1993 for the continuous monitoring of the forest resources using an integrated system of remote sensing, geographical information system and field data. R&D have also been strengthened in the field of forestry to provide the scientific backing towards improving forest management technologies.

Despite the wealth of knowledge in tropical forest management, Malaysia recognises that it is a constantly evolving field and thus will continue to welcome the transfer of technology. Malaysia, therefore, pursues positive external collaboration in strengthening its forest management and conservation endeavours. To this end, several multilateral and bilateral cooperative projects have been undertaken with foreign partners. The Asean Institute of Forest Management was established with technical and financial support from the Canadian International Development Authority to assist Malaysia and other Asean countries in forestry planning and management techniques. Other undertakings on a collaborative basis include projects in forest conservation, manpower training and research activities with ITTO, Germany, the United Kingdom, the Netherlands, Denmark, Japan and other OECD countries.

To reduce wastage and to encourage greater efficiency in the utilisation of timber resources, increasing focus has been given by the government to the development of secondary and tertiary wood processing and to increase added value among the wood-based industries. Towards this end, the export of sawlogs from Peninsular Malaysia and Sabah has been banned while in Sarawak the export of this product will be reduced over time.

Despite the many efforts made by Malaysia to evolve towards full sustainable forest management by the year 2000, we continue to be subjected to pressure to certify or eco-label our timber products. In recent years, several European municipalities have instituted measures to ban tropical timber products in public construction and building projects. Mounting pressure on consumers and governments have heightened the demand for certified timber from sustainably-managed forests. Malaysia views this development with concern and is reviewing options to address these boycotts and the demand for certified timber. Malaysia will therefore, expedite its efforts to bring about sustainable forest management which underpins the whole process of certification. Malaysia is now working towards the establishment of a timber certification scheme based on the ITTO criteria and indicators altered to suit local conditions. In this connection, a Committee on Timber Certification (CTC) has been established to operationalise a certification scheme in the country. The CTC has recommended that a National Certification Board that is independent be established for this purpose. Malaysia intends to run a pilot project soon as part of a plan to introduce certification in phases.

Whilst these measures are being undertaken, Malaysia's stance continues to be that certification should not be used as a unilateral trade barrier in the guise of sustainability and that certification moves should also encompass all other types of timber and competing materials. Furthermore, any certification process should not be financially burdensome to producer countries and should be based on scientifically established and internationally negotiated criteria and indicators. Thus, certification should not be an end in itself but rather, an ultimate objective to promote sustainable forest management.

Malaysia continues to strongly support international efforts to promote and ensure sustainability in forest management. However, if the global community wishes to halt deforestation, improve forest management and conserve biodiversity, it should be willing to share the cost entailed. An amount of US\$125 billion a year is estimated to be required to achieve the necessary improvement in forestry management practices worldwide. Despite the formation of UNCED in 1992, the additional resources pledged by the developed nations to assist Third World countries in this field are not forthcoming. Presently, tropical forests are undervalued. The international community which values tropical forests for their biodiversity as a carbon sink is still unprepared to pay for these services. In Peninsular Malaysia alone the estimated cost of implementing sustainable forest management is about RM1.7 billion which will have to be financed through royalties and levies imposed on forestry products. The achievement of sustainability cannot be attained overnight nor are the goals static. The whole process is dynamic and evolving. As Malaysia remains committed to ITTO's Objective Year 2000, definite steps are already in place to pave the way towards this direction, notwithstanding the lack of transfer of resources, as promised, from the developed North. The package of measures that have been agreed upon and are being implemented represents a comprehensive and concerted effort by all segments of the community and stakeholders towards sustainability. Malaysia is confident that it will achieve sustainable forest management within the given time frame and that the country will remain "green" for future generations.

MALAYSIAN NATURE CONSERVATION  
AND ENVIRONMENT POLICY

*Law Hieng Ding*

NATURE conservation in Malaysia started in the early part of this century when a series of wildlife reserves and national parks were set aside for protection of indigenous flora and fauna. However, forest exploitation activities that took place between the 1930s and 1970s had resulted in the reduction of forest habitats and endangered several species of wildlife. The Javan rhinoceros, banteng and green peafowl have become extinct during this period. According to the World Conservation Union (IUCN) Red Data Book (1994), 13 species are endangered, 17 vulnerable, 14 rare and 24 insufficiently known in Malaysia.

Malaysia, one of the 12 megadiversity countries in the world, has about 60 per cent of the total land area under natural forest. The diversity of species includes 8000 species of flowering plants, 500 species of ferns, 300 species of fungi, 286 species of mammals, 736 species of birds, 268 species of reptiles, 158 species of amphibians, 449 species of fish and over 150,000 species of invertebrates.

With the federalisation of the Department of Wildlife and National Parks (DWNP) in 1972, the establishment of the Ministry of Science, Technology and Environment in 1974, and the subsequent formation of the Department of Environment, serious considerations have been given towards nature conservation. Although Sabah and Sarawak were not involved in the federalisation of DWNP, they have been working very closely with the DWNP in areas of common interests.

The creation of a series of protected areas has ensured the in-situ conservation of representative habitats, their fauna and flora species. Out of the 19 million hectares of forested land in Malaysia, there are more than 2 million hectares of National Parks and Wildlife Reserves. Among the well-known protected areas are Taman Negara National Park and Endau-Rompin National Park in Peninsular Malaysia, Kinabalu Park in

Sabah and Mulu National Park in Sarawak. Other in-situ conservation measures taken are translocation of elephants, research of the proboscis monkey and the rehabilitation of affected orang utans.

For selected species, ex-situ conservation programmes are being carried out to complement the on-going in-situ conservation. The Sumatran Rhinoceros Conservation Centres have been established in Peninsular Malaysia, Sabah and Sarawak to save animals affected by development, and to breed them in captivity. In Peninsular Malaysia, the endangered Malaysian tiger has been successfully bred in captivity.

As a follow-up of the rectification of the Biological Diversity Convention, Malaysia is presently in the process of drawing up a National Policy on Biological Diversity to conserve the country's biological diversity, and to ensure that its components are utilised in a sustainable manner for the continued progress and socio-economic development of the nation.

With regard to the National Policy on the Environment, it is currently being finalised. The proposed National Policy will aim at promoting economic, social and cultural progress of Malaysia, and the enhancement of the quality of life of its people through environmentally sound and sustainable development. It is emphasised that in pursuit of attaining developed-nation status, adequate attention must also be given to the protection of the environment and the ecology so as to maintain the long-term sustainability of the country's development. Malaysia pursues a policy based on the premise that sound environmental management can reinforce its aim for strong and sustained economic development over the long term.

Malaysia will continue to place emphasis on the proper management of the environment and natural resource base during the Seventh Malaysia Plan period. Environmental considerations will be integrated into the development planning process to give due emphasis to the need for sustainable development. A comprehensive approach, which takes into account the population's socio-economic needs as well as the enhancement of the quality of life through improvements in productivity and the natural environment, will be adopted.

A combination of legislative and innovative economic instruments will be used to encourage the adoption and development of environmentally-sound technologies and environment-friendly products. The government will step up environmental education and public awareness

programmes, in cooperation with NGOs and the private sector, to educate the public on environmental and conservation issues and on the need for all parties and the government to work closely to realise the goal of sustainable development. In addition, Malaysia became party to several international environmental conventions including those promulgated at the United Nations Conference on Environment and Development (UNCED), as well as played an active role in promoting partnership between the North and South in combating global environmental deterioration, particularly through the transfer of financial resources and environmentally-sound technologies from the North and the rationalisation of trade and environment linkages.



## HUMAN RESOURCES TRANSFORMATION: MEETING FUTURE CAPABILITIES

*Lim Ah Lek*

MALAYSIA aspires to become a fully-developed country by the year 2020, i.e. not only in the economic sense but politically, socially, psychologically and culturally as well. Among the challenges is the establishment of a prosperous society, with an economy that is fully competitive, dynamic, robust and resilient.

While our national goals have been spelt out, at the same time, cognizance must be taken of the fact that we are living in the era of globalisation, which is characterised by rapid mobility of resources, intense competition and the explosion of information. Peter Drucker regards it as the rise of the "Knowledge Society".

Currently, Malaysia is facing tightness in the labour market with full employment having been achieved as far back as 1991, resulting in some pressure on wage movements.

In light of the above scenario, as well as the long-term development goals of the country, the Seventh Malaysia Plan seeks to transform the Malaysian economy from one that is investment-driven to one that is productivity-driven. The focus of the Plan is on "total factor productivity" which refers to additional output being generated through enhancements in efficiency arising from advancement in workers' education, skills and expertise, acquisition of superior management techniques and know-how, improvements in organisation, gains from specialisation, introduction of new technology and innovation and upgrading of existing technology as well as utilisation and enhancement of information technology.

Technological innovation and utilisation critically depend on the stock and quality of human resources, from management to shop-floor levels and include the area of research and development. Recognising the importance of human resources development in the quest for productiv-

ity growth, under the current Five-Year Development Plan, the government has allocated 15.1 per cent of total development expenditure to further enhance the capacity and efficiency of the education and training delivery systems. In this regard, a new emphasis is being placed on engineering and technical disciplines in view of the growing demand for engineers and technicians. Likewise, programmes to promote industrial and vocational training are also under way to meet the anticipated demand for highly skilled manpower, especially in new and emerging fields of technology such as automated manufacturing technology, communication and information technology, advanced materials technology, biotechnology, aviation and aerospace technology.

The supply of the requisite skilled manpower, both in terms of quality and quantity, depends on the number of factors that facilitate timely delivery of skills for industrial progress. Under the Ministry of Human Resources, the number of industrial training institutes will be doubled and the existing training facilities, equipment and machinery will be upgraded and expanded to match the market demand. The development of trade and occupational skills standards is being vigorously pursued to expand its base and revise existing standards in consonance with the changing work processes in the industry. The National Apprenticeship Programme which is being reviewed, is anticipated to provide greater flexibility to meet industry-specific needs.

To complement public sector efforts, greater private sector participation in education and training is also being encouraged through a number of tax and incentive schemes targeted at promoting technical, industrial and vocational training. This package is made available for private training institutions, industry-based training centres and individual employers that provide in-house training. Greater public-private sector collaboration in skills training is also being pursued with the government providing the initial thrust such as start-up grants and land while the industry undertakes the follow-through.

Whilst public and private education and training institutions provide the education and skills base, retraining and skills upgrading programmes are equally important for those already in the workforce to keep in step with changing systems and practices of management and production. In this regard, the Human Resources Development Council (HRDC), which administers the Human Resources Development Fund (HRDF), will continue to play an important role in employee-retraining

activities. The HRDF is basically a levy-grant system where employers contribute one per cent of their employees' payroll into the Fund for re-training. Employers are reimbursed for allowable expenses on a graduated scale depending on course relevance.

While various measures are being implemented to enhance skill formation, there is a need for continuous reassessment of these measures to take note of market conditions and technology changes to ensure that we meet both the quantitative and qualitative requirements of industry. All these measures are designed to facilitate sustained growth of the Malaysian economy.



## THE MALAYSIAN ECONOMY: CHALLENGES AND PROSPECTS

*Sulaiman Mahbob*

THE nation launched its Seventh Malaysia Development Plan early in May 1996, laying the path and foundation of the macroeconomy for the next five years. The Plan forecasts an economic growth of 8 per cent per annum during the Plan period, building upon its successes of rapid growth and relative price stability during the last eight years. With the pronouncements of the planned strategies and programmes to address the various concerns faced in the management of the economy, Malaysia is set for another period of continued social and economic development.

### **The Macroeconomy**

During the last five years, the nation's total product expanded by 8.7 per cent annually, far exceeding the average growth of 6.7 per cent per annum attained during the 1971-90 decades. This is even much higher than the growth of 7 per cent projected for the Second Outline Perspective Plan 1991-2000. A considerable transformation took place within the economy resulting in the manufacturing sector becoming more significant in generating the growth process. Employment expanded by about 3.4 per cent during the Sixth Plan period, resulting in the overall unemployment rate to decline to 2.8 per cent in 1995 and the labour market becoming tighter. The all-round improvement resulted in an increase in the nation's per capita income by 60 per cent to RM9,786 from RM6,099 in 1990.

What is equally salient is the attainment of this rapid growth with relative price stability and the Consumer Price Index accelerating between 3 and 4 per cent during the 1991-95 period. But for most Malaysians, this performance is not good enough; zero inflation is now the target to be achieved.

In terms of the supply, manufacturing grew by about 13.3 per cent while the growth in construction and services, by 10.2 and 8.4 per cent, respectively. The share of manufacturing increased to 33.1 per cent in 1995 compared to 26.9 per cent in 1990s, while that of agriculture declined from 18.7 to 13.6 per cent. Manufacturing accounted for the bulk of the growth process, employment generation and exports.

On the expenditure side, both public and private investments have been buoyant, contributing to the rapid growth in output. Private investments increased by 16.6 per cent per annum and that of the public sector by 14.7 per cent during the Sixth Plan period. In addition, consumption expenditures were equally strong, growing by 7.6 per cent for the private sector and 9.5 per cent for the public sector.

This rapid growth was not without strains. They appear in the nation's resource gap, deficits in the current account and labour shortages. The deficit in the current account of the balance of payments amounted to 8.8 per cent of GNP, while the public sector finance is in deficit by about 0.4 per cent of GNP. The deficit in the trade balance is due to the importation of capital and investment goods as well as intermediate goods needed for industrialisation and infrastructural developments. The major cause of the current account deficit is the large services deficit constituting about 7.7 per cent of GNP.

### Socio-economic Developments

It would be incomplete if this write-up does not provide a picture on the developments in other spheres of our life. It is reported that the overall poverty rate declined further from 16.5 per cent in 1990 to 8.9 per cent in 1995. Poverty incidence in the rural areas declined from 21 per cent to 15 per cent while in the urban areas from 7 per cent to 3.7 per cent. A concentration of efforts has been focused directly on the eradication of hard-core poverty estimated to affect about 88,000 households in 1995 compared with 137,000 households in 1990.

However, inequality seems to have increased with the good economic growth during 1991-1995. The overall Gini coefficient, which measures inequality, increased, albeit marginally from 0.446 to 0.464 during the 1990-1995 period. However, absolute incomes expanded for all income groups, the lowest 40 per cent of the population experienced the slowest expansion, at 8 per cent compared with the income growth of the middle 40 per cent at 10 per cent, and top 20 per cent at 9.2 per

cent. Income disparity between ethnic groups and between sectors have also widened.

The progress in employment creation, especially in manufacturing and services, has contributed positively to poverty redressal and income improvements efforts. This experience is similar to that of Taiwan and South Korea.

In addition to the above concerns, there have also been increasing social ills within the community which equally need attention if we are to achieve a balanced society in the fullest sense of the word. Increasing wealth, rapid urbanisation and industrialisation have also led to increasing occurrence of anti-social activities such as drug addiction, child abuse and juvenile delinquencies as well as strains on the family unit. The government will establish a high-level inter-agency committee to plan effective measures and coordination to address these issues.

### Major Issues of Concern

Malaysia is said to experience a set of concerns associated with economic success. Some of the more direct problems are mentioned here at the outset. The impressive economic growth has led to distinct labour shortages putting pressures on wages and reliance on foreign workers. The shortages have been overcome mainly by importing labour from neighbouring labour-surplus countries, such as Indonesia, Bangladesh and the Philippines. About 8-10 per cent of the workforce are made up of foreigners especially in the plantations and construction industries. But this has led to concerns in the areas of housing for these workers and other social issues such as health.

The other major concern is the shortage of skilled workers in growth areas which demand accelerated absorption of technology such as electronics, automobile, telecommunications and information technology as well as in selected services such as health services and education. The Industrial Master Plan 1985-1995 has led to expansion of jobs but the concentration has been in the low-skilled and assembly-related occupations generating low value added. As the nation aims to venture into new high-tech industries such as aerospace and further capital deepening in the existing industries, skill shortages will become a major constraint. The future path of development and growth will rely on the way we address the skill and manpower issue in order to increase the value-added content of industries.

The other areas of macroeconomic management equally demand policy attention. First, the deficit in the trade balance. The heavy reliance on imported components amongst our export-oriented industries has led to this position. Malaysia is also importing machinery and transport equipment to meet our infrastructural requirements. In the long run, the inadequate capacity of our machinery industry may impose some setbacks on the drive towards further industrial deepening. In addition, related to the balance of payments is the current account deficit estimated at about 8.9 per cent of GNP on account of services payments outflow. To some extent the simultaneous implementation of major projects, the new Kuala Lumpur international airport, the Kuala Lumpur City Centre, the sports complex, and the light rail transit, has put further pressures on the external account.

Maintenance of price stability will remain a challenge for the next few years given the sustained strong growth and labour shortages in the short run. So far, the overall rise in CPI has been brought under control through the coordination of monetary and fiscal policies. However, the price pressures remain a concern and the authorities have to continue to be vigilant on this matter in view of the state of the overall macroeconomy which is booming and fast growing as well as experiencing a tight-labour market.

A more important concern is the need to enhance factor productivity over the next few years. Total Factor Productivity (TFP) for the country has been low or negative in the past, implying that the nature of growth in the country has so far been largely input-driven in nature. In other words, the contribution of R&D, innovations, entrepreneurship, skill and knowledge, and organisational changes, have been minimal. A growth of this nature may not be sustainable in the long run as it merely relies on the injection of inputs, such as capital and labour.

Maintenance of the economy's competitiveness in the next few years will pose a major challenge to economic management especially in the context of globalisation and competition for capital. Increasing costs especially wages and shortages of workers may demand the implementation of right policies to promote less labour-intensive industries whilst encouraging existing enterprises to accelerate adoption of capital-intensive industries and technology. If the transition is successfully managed, a new set of investments which are capital-intensive will flow into the economy to provide the impetus for sustained growth in the near future.

Lastly, economic planning and management will also have to ensure a balanced approach to development consistent with the thrust of the National Development Policy, namely to achieve a balanced development. In this regard, the need then is to ensure the protection of the environment for long-term sustainability of our socio-economic advancements and the maintenance of positive values so as to strengthen the social and moral fabric of our society. These positive values are equally important to ensure a high level of resilience of the society.

### The Seventh Malaysia Plan

The Seventh Malaysia Plan (7MP) is an important national blueprint for a few reasons. First, it is formulated to address many of those concerns, especially of the need to enhance productivity. Second, the 7MP is expected to prepare the nation to enter the next millennium. Third, the 7MP is prepared in the context of a more competitive and more liberal trading environment. The major strategies of the 7MP include: maintaining high growth through prudent fiscal and monetary policies; emphasising productivity enhancement in all economic activities; promoting high levels of domestic savings; emphasising large-scale production for exports and encouraging technology and knowledge-based industries; implementing measures to address current account deficit, including efforts to strengthen the services sector; and establishing strategic alliances and strengthening niche markets abroad.

The external environment for the implementation is generally supportive. World output is expected to expand by 3.3 per cent annually with the OECD countries growing by 2.8 per cent per annum. Inflation is expected to be under control, rising by about 2.7 per cent. World trade is forecasted to expand by 6 per cent with the World Trade Organization contributing to a more liberal trading environment. In this environment the contributions of the developing countries to world economic growth are expected to increase. Collectively, these countries will expand by 4.9 per cent per annum. The East Asian economies will, expectedly, grow by 7.7 per cent and their combined share in world output will reach 28 per cent by the year 2000, thus making the region an important economic entity.

The Asia-Pacific region will continue to become more significant as a place of investments. Within this context, the Asean region will increasingly become more prominent especially as a centre of capital in-

flow for investments and as efforts are taken by member countries to prepare for the coming of AFTA by 2003.

The Malaysian domestic economy is forecasted to expand by an average of 8 per cent per year. The continuation of infrastructural projects, the efforts to increase the supply of skilled manpower and the shift to capital and technology-based activities as well as the more supportive trading environment, will facilitate and give impetus to the overall economic performance and the attainment of the projected rate of growth of 8 per cent per annum.

The 7MP will give focus to the role of TFP which is expected to contribute 41.3 per cent of output growth compared to 28.7 per cent during the Sixth Malaysia Plan period. To enhance TFP, more efforts to strengthen R&D, technology diffusion and adoption, skills formation and efficient management, and use of factors of production and resources will be essential.

In terms of sectoral output, manufacturing will expand by 10.7 per cent annually and will, by the end of the plan period, contribute 37.5 per cent of the total output. The major industries dominating the sectoral performance will be the electrical machinery and apparatus, industrial chemical and other chemical products, wood-based products, transport equipment and fabricated products. The export orientation of these industries will be given more thrusts to enable manufacturing to account for 88.6 per cent of merchandise exports compared with 79.6 per cent in 1995.

The services industries are expected to expand further especially with the general modernisation in the economy and output increases in the real sectors. Trade, financial services, transportation, storage and communications, tourism, education and health services will become increasingly important and will help contribute to sustained rises in economic output. The services sector collectively will increase by 8.4 per cent annually and will contribute 43.9 per cent of the GDP by 2000. It is important we enhance the efficiency and tradeability of the sector, especially with the coming into effect of the General Agreement on Trade in Services (GATS) in WTO and the need to address the large deficit in services income in the balance of payments.

In terms of demand, private investment will expand by 7.8 per cent annually and its share rising to 73.6 per cent of total investments. Public investments will just expand by a marginal 0.6 per cent. A total of

RM384.8 billion of private investments and RM150.8 billion of public sector investments will be incurred during the 7MP. In current terms the size of private investment will exceed the quantum registered in the Sixth Plan by 85.5 per cent.

Consumption will also expand at strong rates of about 7 to 7.4 per cent during the Plan period given the continued prospects for employment and income improvements arising from continued economic growth.

The picture on the external account seems to be more optimistic with the current account expected to register a surplus of about 0.5 per cent of GNP by the end of the 7MP, with the expectations of gross exports demand expanding by 14.4 per cent, improvements in terms of trade, and the measures to cut services deficit. Attaining a surplus in the current account by 2000 can be another major challenge in view of the magnitudes of the services deficit.

In order to finance the needs for capital formation, the levels of national savings have to be high. Gross national savings are expected to be about 34.9 per cent of GNP with private savings about 24 per cent while public savings estimated at about 10.9 per cent. Because gross investments are estimated at 37.9 per cent, exceeding overall savings, there is a resource gap of about 3 per cent of GNP and is expected to be financed by capital inflows.

Finally, in the area of price concern, the government will continue to maintain its anti-inflationary policies with efforts to enhance supplies and maintain prudent fiscal policy with a tight monetary stance. Efforts to increase capital-intensive techniques will relieve labour and wage pressures. In addition, the government will formulate a separate CPI for the low-income groups and try to aim for zero inflation for basic necessities.

### Prospects

Having seen the macroeconomic performance in the last eight years and the robust private sector responses as well as pragmatic public sector posture in the face of opportunities and challenges, the prospects for continued strong economic growth of the country are indeed bright. The projected expansion of 8 per cent per annum throughout the 7MP is attainable. However, a major stimulus to this growth will still remain to be input-driven, especially in the form of investments and construction of

Table 5.1: Gross Domestic Product by Industry of Origin, 1990-2000

Sector	RM million (in 1978 prices)			Average Annual Growth Rate (%)			Contribution to Growth (%)			Share of GDP (%)		
	1990	1995	2000	Target GMP	Achieved GMP	Target 7MP	6MP	7MP	1990	1995	2000	
Agriculture, Forestry, Livestock & Fishing	14,827	16,406	18,460	2.1	2.0	2.4	0.3	0.3	18.7	13.6	10.5	
Mining & Quarrying	7,757	8,938	10,023	1.1	2.9	2.3	0.3	0.2	9.8	7.4	5.7	
Manufacturing	21,340	39,825	66,251	12.2	13.3	10.7	3.9	3.7	26.9	33.1	37.5	
Construction	2,832	5,277	8,560	12.8	13.3	10.2	3.5	0.5	3.6	4.4	4.8	
Electricity, Gas & Water	1,526	2,823	4,686	12.3	13.1	10.7	0.3	0.3	1.9	2.3	2.7	
Transport, Storage & Communication	5,487	8,787	14,599	10.0	9.9	10.7	0.7	0.8	6.9	7.3	8.3	
Wholesale & Retail Trade, Hotels & Restaurants	8,806	14,568	22,378	11.4	10.6	9.0	1.2	1.1	11.1	12.1	12.7	
Finance, Insurance, Real Estate & Business Services	7,758	12,884	20,977	11.0	10.7	10.2	1.1	1.1	9.8	10.7	11.9	
Government Services	8,447	11,683	14,354	4.5	6.7	4.2	0.7	0.4	10.6	9.7	8.1	
Other Services	1,678	2,436	3,749	8.1	7.7	9.0	0.2	0.2	2.1	2.0	2.1	
(-) Imputed Bank Service Charges	4,076	8,414	13,242	14.8	15.6	9.5	0.9	0.7	5.1	7.0	7.5	
(+) Imputed Duties	2,947	5,101	5,840	9.9	11.6	2.7	0.4	0.1	3.7	4.3	3.2	
GDP at Purchasers' Value	79,329	120,316	176,635	8.1	8.7	8.0	8.7	8.0	100.0	100.0	100.0	
Adjusted for Imputed Duties less Imputed Bank Service Charges												
Primary Sector	22,267	24,665	27,337	1.5	2.1	2.1	0.5	0.4	28.1	20.5	15.5	
Secondary Sector	23,832	43,894	71,802	11.9	13.0	10.3	4.3	4.0	30.0	36.5	40.6	
Tertiary Sector	33,230	51,757	77,496	9.1	9.3	8.4	3.9	3.6	41.9	43.0	43.9	

Source: Seventh Malaysia Plan 1996-2000, p. 52

infrastructural facilities right into 1998. A few new major projects will be implemented which will help sustain economic activities.

Table 5.2: Contribution of Factors of Production (%)

	1971-1990	6MP	7MP
GDP Growth	6.7	8.7	8.0
Labour	2.3	2.5	1.7
Capital	3.2	3.7	3.0
TFP*	1.2	2.5	3.3

Note: \* TFP is estimated by using the Cobb-Douglas Production Function by subtracting from output growth the portion of growth which is accounted for by increases in labour and capital.

Source: *Seventh Malaysia Plan 1996-2000*, p. 37

Table 5.3: Resource Balance, 1990-2000 (% of GNP)

Sector				Cumulative	
	1990	1995	2000	6MP	7MP
<b>Public</b>					
Savings	12.7	15.5	9.1	14.0	10.9
Investments	12.0	14.4	13.2	10.7	10.7
<i>Resource Balance</i>	0.7	1.1	-0.5	0.8	0.2
<b>Private</b>					
Savings	17.8	18.7	27.4	18.5	24.0
Investments	20.7	28.6	26.4	26.0	27.2
<i>Resource Balance</i>	-2.9	-9.9	1.0	-7.5	-3.2
<b>Total</b>					
Savings	30.5	34.2	36.5	32.5	34.9
Investments	32.7	43.0	36.0	39.2	37.9
<i>Resource Balance</i>	-2.2	-8.8	0.5	-6.7	-3.0

Source: *Seventh Malaysia Plan 1996-2000*, p. 64

On the macroeconomic front, the attainment of growth with price stability will pose a challenge. Both the monetary and fiscal policies have to be well coordinated to manage aggregate demand and improve the supply side, as well as to maintain overall price stability. An average CPI of about 3.5-4 per cent is reasonable with the growth scenario and the la-

bour market situation prevailing in the medium term. But to attain zero inflation for basic necessities can be difficult as these goods, such as food items, have been experiencing faster increases in the past due to shortages in domestic supplies and seasonal price changes.

The attainment of the overall objectives of the Plan will, in large measure, depend on the response of the private sector, especially the entrepreneurs, to take advantage of the opportunities and overcome the challenges. Public policy and programmes have been designed to promote economic growth and further increase social development.

A major impetus to the Plan will be the thrust on productivity enhancement so as to increase the contributions of TFP. This is critical and the need is to ensure that all players, both the public and private sectors, internalise this concern and begin to put in place concrete measures for human resources development, R&D, the implementation of IT systems, promote innovations and automation in order to facilitate the transitions to capital-intensive and automated work processes which are manned by knowledge-intensive workforce. Given the short product life cycle now, these measures are indeed essential to increase resilience and competitiveness of our enterprises and products. Related to this concern is the need for successful orchestrated adjustment measures to modernise the small- and medium-scale industries (SMIs) to help them evolve into competitive export-oriented industries.

The cluster approach adopted for the future industrialisation plan in which selected industries with strong core competencies are promoted based on their potential and strength can become a new stimulus for manufacturing growth and transformation and deepening of the industrialisation process as we prepare for the new millennium. The concept of the value-chain in planning for technology and value-added creation is a logical approach to future wealth creation especially in the manufacturing sector which has the role of the leading sector in the decades to come.

It is also important for the private sector and our entrepreneurs to have a strong global outlook in order to undertake networking and alliances to ensure niches for our products and services in the market place. This practice of networking and forming international and regional alliances among our enterprises is still at the infant stage if compared with the practices of the other East Asian nationals. However, the political leadership strongly supports this drive through the south-south network

and direct bilateral relations. The opening of markets as a result of liberalisation and deregulation should spur our enterprises to position themselves strategically in niche areas. Some of our entrepreneurs have done so and the prospects for more of our enterprises taking global and regional connections are promising.

Finally, it is also essential that we further develop the capital market in order to help mobilise resources to finance the implementation of development projects by both the public and private sectors. This does not only involve further development of financial institutions and the capital market but also the strengthening of new modes of financing, such as securitisation.

### Conclusion

Malaysia is at a critical point of its development. It has attained impressive growth which has to be sustained. However, with growth comes a new set of challenges which has to be attended so as to bring the country to new heights. Among these challenges the issue of human resources development to enhance the supply of skilled and trained manpower is, to me, the most important factor. Countries with generally limited resources, such as Taiwan and South Korea have invested in their manpower to bring them to where they are now. Malaysia may not have the limitations of natural resources, but it has to accelerate efforts to increase the supply of trained and technologically competent manpower to undertake the restructuring and adjustments needed in the modern sectors and the projected levels of factor productivity to propel the economy to the targets of 2020.



## THE MALAYSIA INCORPORATED CONCEPT

*Abdullah Abdul Rahman*

THE Malaysia Incorporated concept was launched by the Prime Minister, Dato' Seri Dr Mahathir Mohamad on February 25, 1983. It represents a new way of approaching the task of national development. It is a concept of close cooperation and mutual understanding between the public and private sectors, where the two behave and operate as one huge "corporation".

The Malaysia Incorporated concept is based on the philosophy that cooperation between the private and public sectors is a key ingredient for successful national economic development. As partners in development and shareholders in the "corporation", both sectors must work closely with each other and develop mutual understanding to ensure the success of the "corporation".

In Malaysia, the term "Malaysia Incorporated" is used to describe the special relationship the nation aspires to achieve between the public and private sectors as a means to mould the nation into an advanced, affluent industrial society.

The rationale for such closer cooperation and collaboration is clear. It lies in the interdependence between the public and private sectors. The latter forms the commercial and economic arm of the nation, while the former provides the major policy framework and direction to enable the private sector to perform well. The more successful the private sector, the larger the number of private businesses, the greater the employment opportunities and the higher the government's revenue. Ultimately, the nation as a whole gains.

This concept of smart partnership between the public and private sectors is more important now than ever as there is consensus between both parties that the private sector should play a more active role in national development. This consensus has been considerably strengthened

with the enunciation of "Vision 2020" in early 1991 which stressed the importance of the Malaysia Incorporated Policy in achieving the national goal of becoming an industrialised nation. The Second Outline Perspective Plan (1991-2000) also emphasises Malaysia Incorporated as an integral strategy for the attainment of a competitive, dynamic, robust and resilient economy. The country needs to develop closer ties and mutual support between both sectors to produce and sustain the long-term high economic growth needed to effectively achieve developed-nation status by the year 2020.

### The Essential Features of the Malaysia Incorporated Concept

The concept calls for both sectors to redefine, develop and operationalise a new pattern of thinking and behaviour. For the public sector, it means a change in their perception and behaviour towards the private sector. Given the national agenda to establish a competitive, dynamic and resilient economy, it is inevitable that the public sector be in a position to continuously respond proactively to the needs of its partner in development. The primary responsibility of the public sector in this instance is to create a conducive environment that would be catalytic in providing the right impetus for rapid economic growth within the given legal and regulatory framework. For the private sector, since its role is at the forefront of the economy as the primary engine of growth, it must be strong, dynamic, robust, self-reliant and competent in its economic undertakings.

### Policy Implementation

The success of the Malaysia Incorporated policy depends a great deal on the ability of both sectors to establish and maintain a relationship based on the spirit of cooperation, mutual understanding and consensus. The private sector must understand the policies, objectives, rules and regulations as well as systems and procedures of the various government agencies it deals with. The public sector must, on the other hand, be sensitive to the needs and goals of the private sector and has a duty to ensure no undue hindrance is put in the way of the private sector.

Towards this end, the public sector has introduced various initiatives in facilitating its partner, the private sector, to play the leading role in development. The thrust of these efforts is to create an environment

that will spur economic growth while at the same time, improve the country's competitiveness in the international market. Some of the major initiatives undertaken are as follows:

- (1) Strengthening public-private sector working relationship.
- (2) Improving the quality of services rendered to the private sector.
- (3) Improving information dissemination.
- (4) Enhancing understanding among the public sector personnel on the Malaysia Incorporated concept.

**Strengthening public-private sector working relationship.** Extensive and intensive public-private sector consultation and cooperation are crucial in promoting an environment that stimulates private enterprise as well as confidence in the Malaysian economy. Consensus-building through the public-private sector nexus is critical especially in the formulation of effective public policies and strategies that will directly affect the private sector. At the same time, the private sector's input and feedback are important for the policy-formulation process.

Realising the need for a close working relationship, the public sector has taken the leading role in establishing the structural mechanisms necessary to promote consultation and cooperation. This includes the establishment of consultative panels and the promotion of dialogue sessions at various levels in the public sector machinery.

Results from feedback indicate that public-private sector working relationship has contributed successfully towards strengthening cooperation between both sectors. Such activities allow leading personalities of both the public and private sectors to be closely acquainted and to foster a congenial relationship which consequently will help to facilitate a better working relationship.

**Improving the quality of services.** Consultative mechanisms by themselves are inadequate to ensure the successful implementation of the Malaysia Incorporated policy. Improvements to administrative rules and regulations as well as to systems and procedures are integral to foster greater collaboration. In recognition of the inter-relation between structures, systems, procedures as well as personnel who are responsible for their functioning, the public sector has continued to step up its efforts to improve these dimensions of public administration. The public sector holds the view that efficient, timely and expeditious service delivery is a

necessary prerequisite, not only to support but also to promote private-sector activities.

Consequently, the public sector continues to assess its performance through internal reviews of its administrative systems, rules, regulations and procedures consistent with the need to remove red tape and bureaucracy that often hinder the efficient functioning of private-sector activities. Various improvements to the administrative machinery have been introduced such as the streamlining of rules and regulations, upgrading counter services, the implementation of the client's charter and the institutionalisation of a "paperless" culture in the Civil Service.

**Information sharing and dissemination.** One of the common complaints received from the private sector is the difficulty in obtaining government information. Information kept in various government agencies is only accessible separately and it is often not managed well or in a form required by the private sector. As an initial step to overcome the problem, the public sector has published a book entitled *Dealing With the Malaysian Civil Service*. First published in 1993 and updated in 1994, it contains information on the Civil Service required by the private sector.

As an extension to the publication, the public sector in 1994 introduced the Civil Service Link (CSL) with the aim to provide more efficient and fast retrieval of government information by using up-to-date information technology. The CSL is a central database which contains information on various aspects of the Civil Service which is of importance to the private sector in facilitating their planning towards meeting competitive challenges. Information that can be obtained from the CSL includes profiles of government agencies, rules and regulations relating to various incentives and the issuance of licences, transcripts of selected laws including Acts on taxation, business and trade and various other types of information considered useful to the private sector.

The introduction of CSL has helped local as well as foreign businessmen and investors to obtain relevant government information either on-line or through the facsimile machine or delivered to their required destinations. They can also use the CSL as a resource centre. Information stored in the CSL is constantly expanded and updated to facilitate businessmen and investors in obtaining relevant up-to-date government information on-line.

**Training.** Another important factor that has contributed to the successful implementation of the Malaysia Incorporated policy is the com-

mitment of the Civil Service in ensuring that public sector personnel understands the importance of cooperation and collaboration with the private sector. Towards this goal, various training programmes on Malaysia Incorporated have been organised. Most of these programmes are conducted by the National Institute of Public Administration (INTAN). Other government training institutions have also incorporated a module on Malaysia Incorporated in their training programmes.

As part of the effort to expand training opportunities, especially to the support services group, a "training franchise system" has also been introduced. Under the system, a training package on the Malaysia Incorporated prepared by INTAN was supplied to government agencies to be used as a standard guide for their in-house training programmes. This system does not only ensure standardisation in the contents of the course but also enables government agencies to run training for their staff. More training programmes thus, can be conducted in a shorter period. Besides INTAN, the same training package is also used by other government training institutes. During the last five years, about 9,000 public personnel at all levels have been given training on the Malaysia Incorporated policy.

### The Future

The public sector will continue to focus on fostering close cooperation with the private sector in the pursuit of national development. The country's success in sustaining dynamic economic growth for the past eight consecutive years has been, in no small part, the result of close cooperation and collaboration between the two sectors and the relentless efforts at administrative reforms by the public service. The implementation of the Malaysia Incorporated policy has certainly succeeded in improving the nation's competitiveness in the international arena. As such, efforts in the implementation of the policy will be further intensified and strengthened in future with a view to provide a more conducive environment for the private sector to effectively play its role as the main engine of growth.

With the aim of providing high quality services to the private sector, the public sector will embark on two major programmes, namely, the enhancement of the quality management system and the provision of more sophisticated delivery systems.

### **Enhancing the Quality Management System: Implementation of ISO 9000**

The public service will continue to introduce new initiative to improve the quality management system in the public sector. While the existing measures have successfully improved the quality of services delivered, the rising expectations of the private sector for more efficient, fast and timely services have spurred the public service to introduce new measures to further improve the provision of services that will meet, or even exceed the requirements of the private sector.

One of the major initiatives to be undertaken in the near future is the implementation of the ISO 9000 series of standards in the whole of the public service. The implementation of these standards will enable the public service to develop a well-planned, well-executed quality assurance and management system in the public sector. Detailed guidelines have already been prepared and this will be followed by training programmes to create awareness and enhancement in the understanding of ISO 9000 among the public sector personnel. By the year 2000, it is envisaged that all government agencies would have adopted ISO 9000.

The implementation of ISO 9000 will ensure that products and/or services provided by government agencies will meet the needs and expectations of customers, particularly the private sector. It will also help in enhancing the effectiveness and efficiency of process management, thereby strengthening the implementation of Total Quality Management in the public sector.

### **Provision of More Sophisticated Delivery Systems**

Rapid developments in information technology and telecommunication systems have impelled the public sector to continuously look for more sophisticated methods of service delivery in its quest for excellence. One of the initiatives that is actively being undertaken is the establishment of a comprehensive telecommunications infrastructure known as the Government Integrated Telecommunication Network (GITN). When fully operational, the GITN, which is capable of linking electronically the administrative systems at the federal, state and district levels, will become the backbone of a more efficient and effective government machinery. The GITN will provide, among others, services such as video conferencing, electronic mail, bulletin boards, distance learning, tele-medicine, workflow automation and workgroup applications. Such a network is

expected to expedite and improve the efficiency and effectiveness of inter-departmental and intra-departmental communication. At the same time, the implementation of GITN will also provide communication channels between the government and the private sector and thus assisting the private sector and the general public in their dealings with government agencies. Such applications will also spearhead the government's efforts at reducing the use of paper and thus promote the establishment of a "paperless" Civil Service.

Steps are also being undertaken to ensure that public domain government information is kept in databases for public access. These databases will be electronically linked using the latest in telecommunication technologies to ensure the integrity and currency of information. Through such an approach, government records maintained in such databases can be updated on-line without the need for reference to the original source of information. In addition, to ensure a wider dissemination of public domain government information, the establishment of public access databases, centralised computerised information centres and information kiosks at public places is being considered for the benefit of the businessmen and investors.

### Conclusion

Since the launching of the Malaysia Incorporated policy in 1983, much success has been achieved. This has been acknowledged by the Prime Minister Dato' Seri Dr Mahathir Mohamad in one of his speeches, as follows: "We have introduced many changes to the administrative system. If previously we cooperated less with the private sector, today we consider the public and private sectors as a team that works together to develop the country."

In future, the public sector will continue to give due attention to the implementation of the Malaysia Incorporated policy. It has been proven that the nation's progress thus far can be largely attributed to the congenial relationship that exists between the public and private sectors. It is this deep understanding that drives the nation to sustain and further enhance its competitive edge in the global market place. The public sector is confident that this mutually beneficial collaboration will contribute immensely to the national goal of making Malaysia a fully developed nation by the year 2020.



7  
PRIVATISATION:  
MALAYSIA'S SUCCESS STORY

*Ali Abul Hassan Sulaiman*

THE privatisation policy introduced in 1983, was based on the premise that the transfer of activities and functions which have traditionally rested with the government to the private sector will bring about positive changes to the organisation, management and performance of the public enterprises. It represents a new approach in national development and complements other national policies such as Malaysia Incorporated, formulated to further strengthen the role of the private sector as the engine of growth in the economy. The policy reflected the government's commitment to reduce its size and presence in the economy and to allow market forces to govern economic activities thereby contributing towards the strong and steady growth of Malaysia.

The implementation of the privatisation programme has achieved credible results which are recognised by many countries and international agencies. This is mainly attributed to the government's commitment in ensuring the success of the privatisation programme as well as cooperation and positive response from the private sector.

#### **Mode and Scope of Privatisation**

To provide for an effective implementation framework, the Privatisation Master Plan (PMP) was introduced to set guidelines for the privatisation programme. The PMP contains, among others, a broad policy framework for privatisation, procedures for implementation and assignment of priorities among projects to be privatised. It also allows for private sector-initiated project proposals to be considered for the privatisation programme.

Apart from the PMP, the government has also formulated a Privatisation Action Plan (PAP) which serves as a basis for an implementation and feedback mechanism. This two-year rolling Plan allows the govern-

ment to review at the end of each year the entities to be privatised and those to be prepared or restructured for privatisation. This Plan has also increased the momentum of the privatisation process and this has resulted in a more orderly and effective implementation of the programme.

To date, a total of 360 projects has been privatised, of which 204 were implemented during the Sixth Malaysia Plan period (1991-95). The projects covered a large number of economic activities reflecting the broad base of the privatisation programme. Among these projects were the privatisation of public enterprises involved in manufacturing activities, contracting out of service as in management of resorts and hotels, construction and management of physical infrastructure of roads, light rail transit, ports, airports, power, utilities and telecommunications; and agriculture development such as fisheries and integrated farming.

#### Contribution to National Development

One of the immediate results of the privatisation programme is the reduction in the government's financial burden. The public-sector finance has been strengthened with savings in capital and operating expenditures as well as proceeds from the sales of government equity. To date, total savings in capital and annual operating expenditures amounted to RM72.8 billion and RM6.9 billion respectively, while proceeds from the sale of equity totalled RM21.5 billion. In addition, revenue has increased from corporate taxes paid by privatised entities which otherwise would not have been collected by the government. All these have contributed not only towards a balanced budget but also enabled the government to reduce its borrowings as well as reallocate resources to other sectors. The government is able to spend more resources for soft infrastructure such as education and health, thus contributing to a better standard of living for the population at large.

Privatisation has also played an important role in accelerating economic growth through greater investments which led to corporate expansion and better overall performance. It is estimated that, since the inception of the privatisation programme, investment expenditure from a sample of 20 privatised entities amounted to RM33.7 billion. In addition, the development of positive attitudes as well as changes in the mind-set of employees of privatised entities have also contributed to their efficiency and productivity, thereby enhancing competitiveness and growth.

Growth is also generated through the multiplier effects of privatisation. The construction of highways, for example, has led to increased growth in manufacturing activities for construction-based industries and resulted in time-saving for motorists as well as reduced operating costs for vehicles.

Privatisation has also enabled the government to pursue the basic philosophy of the country's development efforts which emphasises growth with equity. Bumiputera participation has been enhanced as all the privatised projects have at least 30 per cent equity participation. Active Bumiputera participation is also evident in the contract works in privatised projects involving the construction, sewerage, telecommunications and utilities sectors. In addition, privatisation has encouraged equity ownership by other Malaysians through offerings of shares to the public as well as institutional investors such as the Amanah Saham Negeri, Koperasi Polis Diraja Malaysia, Lembaga Tabung Angkatan Tentera (LTAT), Lembaga Urusan dan Tabung Haji (LUTH) and Permodalan Nasional Berhad (PNB).

Privatisation has also contributed to the growth of the Kuala Lumpur Stock Exchange (KLSE) as an international bourse. The listing of privatised companies has improved the performance of the KLSE in terms of total market capitalisation and number of counters traded, thereby, deepening and broadening the capital market. By the end of March 1996, a total of 25 privatised entities was listed on the KLSE with a market capitalisation of RM152.3 billion or 22.5 per cent of the total market capitalisation of the KLSE. The enlargement of the capital base and the various modes of privatisation have also encouraged the growth in the use of newer and diversified financial instruments, thereby further increasing the sophistication of the capital and financial markets.

#### Success Factors

A combination of factors has contributed to the success of the privatisation programmes. The most critical being the country's strong political leadership, the commitment of the government and its pragmatic approach in implementing the programme. This has been supported by the private sector which has a ready pool of local investors with the necessary skills and entrepreneurship to participate in the privatisation programme. In terms of funding, the investors could tap the domestic financial resources generated by the high savings rate of over 30 per cent.

In providing an enabling environment for the privatisation programme, the government is mindful of public sensitivities and responded positively to related issues that included initial resistance from government departments and agencies, legal constraints, regulations on monopolies and perceived fears of the employees. To ensure the necessary support from employees of the privatised projects, general lay-offs for the first five years were not allowed, wages were much higher and opportunities were given to the workers to buy the shares offered. Employees could participate in the ownership of the privatised entities through the Employees' Share Option Scheme (ESOS) and Employees' Loyalty Share Option Scheme (ELSOS).

The government has undertaken practical steps in the implementation of privatisation. To encourage the private sector to participate in privatisation especially for Build-Operate-Transfer (BOT) projects of national interest, various concessionary terms have been given, such as advance and soft loans. This is to ensure a reasonable return to the investor and at the same time the tariff rate charged is fair and equitable for the consumers.

The government is constantly alert to the views and response of the public with regard to the privatisation programme. For example, the government has ensured that all privatised roads and highways have alternative routes, so that the public is given a choice to use the privatised roads, or the old routes which are still maintained by the government. Privatised companies are also required to fulfil their social obligations and there is a clear-cut distinction between the role of the government through the regulatory authority and the company. The regulatory authority is to protect the interests of the public while the company responds to public sensitivities.

### Future Trends

Malaysia's future success, and ultimately our quality of life, depends on continuous improvements in all aspects of performance across the economy. It has been shown that private sector-led growth has ensured a higher level of economic success, with the government providing the necessary support to facilitate the process. For the Seventh Malaysia Plan (1996-2000) and beyond, this partnership will be continued and strengthened to expedite economic development in the country.

Within this overall macroeconomic strategy, privatisation is expected to play a significant role in enhancing efficiency and productivity, sustaining economic growth and reducing the financial and administrative burden of the public sector. In this regard, the privatisation programme will be accelerated, covering projects in the infrastructure, utilities and transport sectors as well as in the services sector, particularly, education and training, health services and R&D. In order to facilitate the implementation, the following strategies will be emphasised.

- (1) Expediting the identification and evaluation of projects and entities for privatisation as well as streamlining the implementation process;
- (2) Strengthening the mechanism for monitoring and evaluating the performance of privatised entities;
- (3) Improving the regulatory framework in order to ensure its effectiveness;
- (4) Enhancing the role of privatised entities in meeting socio-economic goals;
- (5) Facilitating technology transfer by promoting R&D in major privatised companies;
- (6) Expanding Bumiputera participation in the management of privatised companies as well as implementation of marketing arrangements and vendor development programmes;
- (7) Identifying and promoting new instruments and sources of funding for privatised entities; and
- (8) Encouraging more Malaysian privatised companies to participate in privatisation projects overseas.



MOVING TOWARDS HIGH TECHNOLOGY:  
INDUSTRIES OF THE FUTURE

*Zainal Abidin Sulong*

THE performance of the Malaysian economy in general and the manufacturing sector in particular, has been impressive and far exceeded previous Plan targets. In 1995, the overall GDP growth averaged 9.5 per cent representing the eighth consecutive year of sustained high growth. The manufacturing sector continued to be the most dynamic sector within the economy, registering a growth rate of 14.5 per cent in 1995.

The year 1996 is expected to be another favourable year with growth expanding at a more sustainable pace over the medium and longer term. The year also marks the beginning of the Seventh Malaysia Plan period (7MP: 1996-2000) which coincides with the second half of the Outline Perspective Plan. It will also mark an important phase of consolidation for the Malaysian economy as the 7MP takes stock of the current issues and charts the future growth directions of the economy.

The 7MP will lay down policies and strategies to sustain the competitiveness of the manufacturing sector and the measures to be taken to ensure a smooth transition from labour-intensive manufacturing to hi-tech industries.

With the current labour shortages experienced in Malaysia, it is necessary for Malaysia to move towards high value-added and hi-tech industries. The need for Malaysia to move towards these industries is becoming increasingly necessary with the rapid growth of the economy since 1988. In addition, with the emergence of cheaper production bases in the newly emerging market economies, Malaysia will have to sustain its competitiveness by shifting towards higher productivity and production of export-oriented, high value-added, technology and skill-intensive products and services.

### Industrial Development Policies

Malaysia has been through several distinct development stages in its industrialisation process over the last 4 decades.

Prior to our independence in the early 1950s, Malaysia was largely an exporter of primary commodities of which rubber and tin alone accounted for about 80 per cent of our gross export earning. During this period, there was very little manufacturing and the contribution of this sector to GDP was only 8 per cent.

The introduction of the Pioneer Industries (Relief from Income Tax Ordinance 1958) marked the beginning of a conscious effort by the government to promote industrial development in Malaysia. The 1960s was thus marked by an import-substitution phase as the country deliberately began to pursue a policy of diversification in its economic structure which includes not only primary commodities but also manufactured products. Industries to substitute imports such as food, beverages and tobacco, printing and publishing, building materials, chemicals and plastics grew rapidly. By 1970, the contribution of the manufacturing sector to GDP had increased to 13.1 per cent.

The import substitution phase of the 1960s was followed by a decade of export orientation in the 1970s in order to overcome the constraints of a limited domestic market and to absorb the growing pool of the unemployed. During this period, labour-intensive and export-oriented industries were actively promoted. FDI attracted by the liberal government policies on equity, tax incentives and the provision of extensive infrastructure including Free trade Zones (FTZ) and Licensed Manufacturing Warehouses (LMW) flowed into the country. The period marked the beginning of the electronics industry in Malaysia which was to lay the foundation of our transition to hi-tech industries. By 1980, Malaysia had become the world's largest exporter of semiconductors and the third largest exporter of room air conditioners. The manufacturing sector's contribution to GDP further increased from 13.1 per cent in 1970 to 19.7 per cent in 1980 and the percentage of manufactured goods export to total exports increased from 11.4 per cent in 1970 to 21.7 per cent in 1980.

In the 1980s, as it became apparent that the manufacturing sector could provide the growth impetus to the economy, further measures were taken by the government to widen and deepen the industrial base through a two-pronged strategy of encouraging resource-based indus-

tries, engineering and supporting industries as well as heavy industries. The year 1983 marked the establishment of the first National Car Project to spearhead the development of the automotive industry and to hasten the country's industrialisation process in general.

In 1986, the government launched the Industrial Master Plan (IMP). The launching of the IMP marked a significant event in the economic history of the nation as it coincided with the period in which the Malaysian economy was at an important crossroads in its stride towards further development. The IMP pinpointed the need for Malaysia to aggressively undertake an increasing internationalisation of its economy through export-led growth based on the intensive development of resource-based industries for export and the diversification and upgrading of the non-resource-based industries for export.

Based on the recommendations of the IMP, a series of incentive measures were introduced to accelerate the growth of private investments including FDI in selected priority sectors and production for export. As a result, FDI in the manufacturing sector increased significantly particularly after 1987. It was during this period also that the government further liberalised its equity policies to attract FDI in the manufacturing sector. FDI flows increased almost seven-fold totalling RM34.9 billion in the period 1986-1990 compared to RM5.2 billion in the period 1981-1985.

The first half of the 1990s marked a new phase of industrial development in the country. The main thrust of the industrial development strategy then was to broaden, deepen and modernise the industrial structure through the development of export-oriented, high value-added and high-technology industries with more extensive linkages to the domestic economy. The period 1991-1995 continued to witness large increases in both local and foreign investments. The period was also characterised by a marked increase in the number of capital-intensive projects being approved. The manufacturing sector continued to register rapid rates of growth during this period. In 1995, the manufacturing sector grew further to one-third of GDP and almost 80 per cent of total exports.

#### **Transition Towards Hi-Tech Industries**

Beginning with the first half of the 1990s, the economy is now at a transition stage to capital-intensive, high-tech and high value-added industries. Malaysia is currently experiencing an unemployment rate of 2.8

per cent which technically means full employment. The country is facing a shortage of labour including skilled labour not only in the construction and plantation sectors but also in the manufacturing sector.

It is imperative that Malaysian industries undergo restructuring in order to move towards higher levels of technology and to remain efficient and competitive in a rapidly changing global environment. Given the current stage of industrial development, there is a strategic need to move from input-driven growth to productivity-driven growth. Future growth has to be mainly led by increased efficiency in the utilisation of physical and human resources, higher technology and an effective combination of resources with technology. The strategy of productivity-based growth will help to enhance the nation's global competitiveness.

Another important aspect of investment that will be given increasing focus is the quality of the selective areas for future investments. For the future, the nation aims to achieve a strategic shift towards attracting more capital and technology-intensive investments with a high export orientation, lower import content and high linkages with the domestic economy in order to generate maximum value-added and export earnings. It plans to adopt an integrated approach in manufacturing production which involves the whole value chain of production from manufacturing to both upstream and downstream activities related to manufacturing such as R&D, process design, distribution and marketing. This cluster-based strategy is basically aimed at strengthening industrial linkages, growth of component and supplier industries as well as strengthening support facilities such as education and training, R&D, technology and financial facilities.

Within the context of the New Industrial Master Plan, it is thus important to examine the clusters that have been identified. It may be noted that several key industrial clusters have been identified as critical to efforts to deepen the industrial structure as a whole. As an example, the consumer electronics cluster (e.g. colour TV production) would comprise production of components such as picture tubes, electron guns, fly-back transformers, deflection yokes, printed circuit boards and a host of other electronic components and other activities such as research and development, marketing and distribution. The key industrial clusters and their subgroups which have been identified include:

- (1) Electrical and electronics products:
  - (a) Consumer electronics
  - (b) Semiconductors and electronic components
  - (c) Computers, peripherals and telecommunications equipment
  - (d) Electrical appliances and electronic apparatus
- (2) Transportation equipment:
  - (a) Automotive and motorcycles
  - (b) Aerospace
  - (c) Shipbuilding and repairing (marine transportation)
- (3) Chemicals:
  - (a) Pharmaceuticals
  - (b) Petrochemicals
  - (c) Palm oil products
- (4) Textiles and apparel
- (5) Materials:
  - (a) Wood-based products and furniture
  - (b) Rubber-based products
  - (c) Advanced materials
- (6) Food processing:
  - (a) Meat and seafood products
  - (b) Cocoa and confectionery
  - (c) Fruit and vegetable products
- (7) Machinery and equipment

In terms of technology development, the aim would be to accelerate technological competence and to develop innovation in the established and targeted new industries along the value chain within each of the key industrial clusters.

#### **High Technology Industries Being Promoted**

In the attempt to diversify the industrial base and promote new sources of growth, the government has identified 10 industrial sectors/subsectors and activities in the areas of new and emerging technologies as promoted high-tech products/activities. These promoted products/activities are eligible for the consideration of specific incentives for high-technology industries.

In this context such high-technology projects are expected to be capital, skill and technology intensive, with high value-added and strong R&D attributes. The broad areas identified as promoted high-tech products or activities include advanced electronics; equipment or instrumentation; biotechnology; automation and flexible manufacturing systems; electro-optics and non-linear optics; advanced materials; optoelectronics; software engineering; alternative energy sources and aerospace. (The subsectors within each of the 10 sectors are as detailed in Table 8.1.)

Over the next decade, it is expected that most of these sectors that have been identified for hi-tech development will be the main focus of development in the transition to more hi-tech, capital-intensive and high value-added industries. In addition to the main sectors identified, other sectors such as the telecommunications industry, precision machinery and speciality chemicals industries which are equally important will also be promoted.

A greater push will also be made towards increasing the level of research and development in the country as an integral part of our industrial policy towards hi-tech industrialisation. Malaysia has in this context also introduced various incentives to encourage the establishment of in-house R&D, intra-company R&D (within a Group) and contract R&D.

While the government has provided a fiscal and non-fiscal package of incentives to the private sector, the onus for greater efforts will lie with the private sector. It is noted that while the foreign companies have responded and have realised the advantages of conducting R&D in Malaysia, Malaysian-owned companies are still in the early stage of development in their R&D activities.

Currently, Malaysia's investment in R&D is still low, at 0.37 per cent of Gross Domestic Product (GDP). The public and private sectors are contributing 55 per cent and 45 per cent respectively. The Industrialised and Newly Industrialised Countries are spending higher amounts in their R&D expenditure as a proportion of GDP. Singapore, for e.g. spends 1.12 per cent of its GDP on R&D, Taiwan 1.82 per cent and South Korea 2.33 per cent. The proportion of R&D expenditure in the industrialised countries exceeds the 2.0 per cent mark. Among industrialised countries, Britain spends 2.18 per cent, Germany 2.48 per cent, Switzerland 2.51 per cent, USA 2.65 per cent and Japan 2.72 per cent.

There is an obvious need for Malaysian companies to focus on the development of R&D in order to enhance the level of technological com-

petence and to increase our competitiveness in the international markets.

Table 8.1: List of High-tech Products/activities

(I) Advanced electronics

- (1) Design, development and manufacture of:
  - (a) computer or peripherals
  - (b) microprocessor application
- (2) Development and production of communication equipment
- (3) Design and production of integrate(-) circuits (IC)

(II) Equipment/Instrumentation

- (1) Design, development and manufacture of:
  - (a) medical equipment
  - (b) medical implant or devices
  - (c) scientific equipment
- (2) Development and production of high pressure water cutting equipment

(III) Biotechnology

- (1) Development, testing and production of:
  - (a) pharmaceuticals
  - (b) fine chemicals
  - (c) food or feed supplements
  - (d) biodiagnostics
- (2) Development and production of:
  - (a) cell cultures
  - (b) biopolymers
- (3) Development and production of biotechnology processes for waste treatment

(IV) Automation and flexible manufacturing systems

- (1) Development and production of:
  - (a) computer process control systems/equipment
  - (b) process instrumentation
  - (c) robotic equipment
  - (d) computer numerical control (CNC) machine tools

(V) Electro-optics and non-linear optics

- (1) Development and production of:

- (a) optical lenses
  - (b) laser application equipment
  - (c) fibre-optic communications equipment
- (VI) Advanced material
- (1) Application or production of:
    - (a) polymers or biopolymers
    - (b) superconductors
    - (c) fine ceramics or advanced ceramics
    - (d) high strength composites
- (VII) Optoelectronics
- (1) Development and production of:
    - (a) optoelectronics system components
    - (b) optical system components
    - (c) photo-couplers
    - (d) semiconductor lasers
- (VIII) Software engineering
- (1) Development and production of:
    - (a) neural networks
    - (b) pattern recognition systems
    - (c) machine vision
    - (d) fuzzy logic systems
- (IX) Alternative energy sources
- (1) Development and production of:
    - (a) fuel cells
    - (b) polymer batteries
    - (c) solar cells
    - (d) renewable energy
- (X) Aerospace
- (1) Manufacture and assembly of aircraft
  - (2) Manufacture of aircraft equipment, components, accessories or parts thereof
  - (3) Modification and conversion of aircraft
  - (4) Refurbishment or re-manufacture of aircraft equipment, components, accessories or parts thereof

To date, Malaysia has attracted several large multinational corporations to locate their high-technology and R&D operations in Malaysia. The R&D activities of some private foreign-owned corporations include

those from Intel Corporation, Grundig, Hewlett-Packard, Robert Bosch, Motorola, Matsushita, Sony and Sharp Corporation. In addition, in the last 2 years, 6 projects with a total proposed capital investment of RM977.9 million have been awarded the special hi-tech incentive by the government. The approved projects cover products such as microcontrollers, software development, thermoelectric modules, LAN adaptors, remote access products, computers, smart card and electronic modules. These projects feature products in the electronics, IT and communications industries.

Moreover, in the 6-year period from 1990 to 1995, a total of 366 projects with capital investment of between RM50 million and RM100 million each was approved while 194 projects, each with a capital investment of RM100 million and above were approved in the same period. All these projects are expected to enhance the level of technology in the country and to create the necessary spin-off effects. The number of capital-intensive and high-technology projects approved is indeed a testimony of the conducive investment environment that Malaysia offers as a centre of capital and high-technology operations. In this regard, the government is committed to continue to nurture the growth of such new capital-intensive and hi-tech industries in the future particularly in the key areas identified and in the technological upgrading of the existing industries.

### Conclusion

Malaysia's transition to hi-tech industrialisation will present numerous challenges. Our success will to a large extent depend on our ability to adopt and implement pragmatic policies and strategies that take into account changing domestic and international environment in trade and investment. Malaysia has always proved itself capable of doing this as shown by its good track record and it is imperative that we succeed in our future efforts.



## LABUAN: MALAYSIA'S INTERNATIONAL OFFSHORE FINANCIAL CENTRE

*Awang Adek Hussin*

THE Federal Territory of Labuan was inaugurated as an International Offshore Financial Centre (IOFC) on October 1, 1990, marking another step forward in the progress of the nation. Labuan is a beautiful island off the north west coast of Borneo, close to the coastline of Sabah and not far from Brunei. It is strategically located in the heart of the Asia-Pacific region, the fastest growing region in the world today. In view of the vast potentials in the region and in line with the objective to enhance Malaysia's position as a regional financial centre, the Labuan IOFC was established as one of the few "supermarkets" in Asia that offers a wide range of offshore financial services to investors in the region and beyond.

The offshore companies in Labuan IOFC are treated as non-residents for exchange control purposes, and in general they only deal with non-residents in non-ringgit activities. Offshore companies in Labuan operate in a low tax regime where they pay only three per cent tax or a flat amount of RM20,000. The Labuan IOFC is further characterised by liberal supervision, no exchange control when dealing with non-residents, strict confidentiality in offshore transactions and flexibility in the procedure to set up offshore companies.

### **Legal Framework**

The government has adopted the time-tested features of a successful offshore financial centre in its liberal regulatory framework and simple bureaucratic set-up. At the same time, the entry is limited to top-notch financial institutions and genuine investors. The Labuan IOFC is intended to be an active and well-functioning centre and not as a booking centre with "brass-plate" operators. This is one way to guard against the perpetration of illicit activities through Labuan.

The infrastructure development in Labuan is spearheaded by the Labuan Development Authority, which coordinates much of the physical development efforts in Labuan. As a further effort to strengthen the development of the Labuan IOFC, the Labuan Offshore Financial Services Authority (LOFSA) was established on February 15, 1996. As a one-stop agency, the establishment of LOFSA should help to streamline and rationalise the government administrative machinery in supervising the activities and operations of the offshore financial services industry in Labuan. The offshore legislative framework for the IOFC is provided by the following legislation:

- (1) Offshore Companies Act 1990
- (2) Offshore Banking Act 1990
- (3) Offshore Insurance Act 1990
- (4) Labuan Trust Companies Act 1990
- (5) Labuan Offshore Business Activities Tax Act 1990
- (6) Income Tax (Amendment) Act 1990
- (7) Labuan Development Authority Act 1992
- (8) Labuan Offshore Financial Services Authority Act 1996

#### Advantages of the Labuan IOFC

The primary objective of setting up the Labuan IOFC is to generate financial activities to complement Kuala Lumpur as the premier regional financial centre in the Asia-Pacific region. The Labuan IOFC is also intended to strengthen the financial sector's contribution to the gross national product, much in line with the vision for Malaysia to attain industrialised status by the year 2020. At the same time, the Labuan IOFC is expected to provide the impetus for the socio-economic development of the Federal Territory of Labuan which could extend eventually to the vicinity in Sabah.

The establishment of the Labuan IOFC has been enhanced by Malaysia's strong economic growth averaging about eight per cent per annum for the past eight years, low inflation rate since the country's independence, stable political environment and social harmony in a multiracial nation. Its strategic location in the heart of the Asia-Pacific region should enable offshore financial institutions in Labuan to benefit from the fast-growing economies in the region with their high rates of savings and expanding investment requirements. Moreover, Labuan's central lo-

ation which is broadly equidistant vis-à-vis major cities in the region as well as being in an ideal time zone, which enables financial trading activities to be conducted around the clock, further adds to its attractiveness as an IOFC. Some selected economic indicators of certain countries in the region are given in Table 9.1:

Table 9.1: Selected Economic Indicators

	Gross Domestic Product (% Change)		Consumer Prices (% Change)	
	1994	1995 <sup>P</sup>	1994	1995 <sup>P</sup>
Asean	7.90	7.90	6.80	6.80
Indonesia	7.30	7.50	9.20	8.60
Philippines	4.40	4.80	9.00	8.10
Vietnam	8.80	9.50	9.40	17.30
Singapore	10.20	8.90	3.10	1.70
Thailand	8.80	8.60	5.00	5.80
Malaysia	9.20	9.50	3.70	3.40

<sup>P</sup> = preliminary

Source: *Bank Negara Malaysia Annual Report*

Indeed a major advantage of the Labuan IOFC is the comprehensiveness of offshore financial services offered to customers worldwide, ranging from offshore banking, insurance, trust business, fund management, investment holding companies as well as other companies established to meet specific requirements of investors. Labuan's strength is further enhanced by full government support and its unwavering commitment since the establishment of the IOFC in 1990. Business operations by offshore companies in the Labuan IOFC are generally free of government intervention which augurs well for the nature of offshore financial activities on the island.

#### A Modern Labuan

The Labuan IOFC requirement for office space and housing facilities has been met by the construction of an ultra-modern financial park which cost about US\$200 million, comprising five intelligent towers for housing and office space, a 1,700 seating capacity convention hall, a large

shopping mall comprising nearly 130 shop lots, as well as recreational facilities and condominium units. This ultra-modern complex is reputed to be the only one of its kind in any IOFC throughout the world.

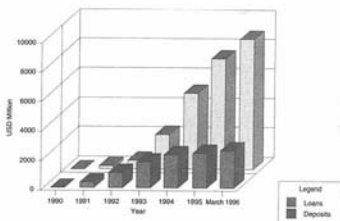
Labuan can also be proud of being a world-class teleport, providing multimedia telecommunication facilities on par with other IOFCs in the world. A US\$14 million earth telecommunication satellite station linking Labuan with the orbital Intelsat satellite 230,000 kilometres away, and a US\$320 million high capacity submarine cable system was built to cater for the sophisticated needs of the offshore players. Telecommunication facilities such as Intelset Business Service, simultaneous transmission of voice, text, data and image through Integrated Services Digital Network, teleconferencing, video conferencing, store and forward fax and multimedia applications and other business communication services are also readily available. In the near future, the Labuan offshore community will become an integral part of the Malaysian Super Highway network, creating greater access to reduce the cost of using the Internet in Labuan.

Other essential basic amenities which are available include a new nucleus hospital which currently has 109 beds, an international school of highly acclaimed standards, three world-class hotels and 21 budget hotels.

The beautiful Labuan island also enables businessmen and holiday makers to enjoy its untapped beauty. Dubbed as the "Pearl of the South China Sea", Labuan offers divers and nature lovers the opportunity to explore the beautiful reefs and sites of ship wrecks as well as the flora, fauna and marine life. Numerous recreational as well as leisure centres, sporting and marina clubs, and agricultural as well as exotic bird parks will be available for many to enjoy.

As of May 1996, over 700 offshore companies and 13 trust companies had set up operations in Labuan. Of the total offshore companies, 51 are offshore banks, including 44 which were set-up by international banks, while six are insurance and insurance-related companies. The offshore banks in Labuan are well represented from various countries in the world. Offshore banking has grown steadily over the years and is gaining momentum thus indicating further growth. Deposits amounted to US\$2.5 billion while outstanding loans and advances were close to US\$9.0 billion as of March 1996, as shown by the charts.

### Offshore Banks by Country



### Loans and Deposits Growth

While thirteen trust companies provide managerial, secretarial and administrative services for the offshore companies, four international auditing/accounting firms and several legal firms have been established in Labuan to provide the other support services required.

### Future Developments

The thrust for future development of Labuan centres on two main areas; one is to expand the scope of offshore business activities in Labuan and the other is to make Labuan an extremely conducive environment for the offshore industry. Additional efforts need to be collectively taken both by the authorities and the offshore players. Encouraged by the innovative spirit that has built modern Malaysia and the pragmatic approach adopted by the country's leadership, it is envisaged that Labuan will continue to prosper in the near future. In the meantime, several areas of focus in the immediate term include developing the trust business, insurance industry particularly captives business, and deepening banking activities especially in the areas of treasury management and foreign

exchange operations. In addition, Islamic financial services will be developed as an important niche for Labuan. In fact, the latter will be pursued vigorously for the Labuan IOFC, taking advantage of Malaysia's head-start in Islamic banking on the domestic front. In the long term, the development of the capital market in Labuan will be explored, to provide a greater linkage between Labuan and Kuala Lumpur. To further expand the financial services in the Labuan IOFC, an Offshore Trust Act 1996 would be tabled in Parliament to create an explicit law governing offshore trusts. Once passed, the Act will provide a legal framework for the creation and operation of offshore trusts including Islamic trusts, which will be able to further attract international players and investors to Labuan. In the same context, a Limited Partnership Act will also be tabled to complement the Offshore Trust Act. Plans are also afoot in terms of promulgating an Offshore Securities Industry Act to further enhance the scope of financial activities in the Labuan IOFC. In the meantime, certain legal impediments as found in the existing legislation will be overcome to further promote Labuan as a full-fledged IOFC and to propel the future growth of the island. Among others, the Offshore Companies Act will be amended to allow residents to set up offshore companies in Labuan to be used for specific purposes, particularly as Malaysian companies become more global in their profile. Moreover, the Offshore Banking Act could be amended possibly to allow for a restricted banking licence to be issued to generate greater avenue for specialised financial services to be offered in the region out of Labuan.

The prospects for Labuan are bright and exciting. It is expected that by the year 2000, a total of about 2,500 companies would be established in Labuan. Undoubtedly, Labuan has made good progress in its development as an IOFC and stands to progress further when its vast potentials are fulfilled. Ultimately, the benefits of growth of the Labuan IOFC could extend over to areas outside Labuan, particularly in the vicinity of Sabah. The scope for further progress in the areas of trust business, insurance and niche banking including Islamic financing is immense. On the whole, it has satisfactorily played the role of an offshore financial "supermarket" in this region and ready to take on a higher profile in the future. As opportunities and potentials abound, the authorities only need to provide a winning formula to place Labuan distinctly on the global map, as a window to the Asia-Pacific and as a frontrunner in the provision of offshore financial services in the region.

INDONESIA-MALAYSIA-THAILAND  
GROWTH TRIANGLE (IMT-GT):  
PENANG'S ROLE IN THE IMT-GT

*Toh Kin Woon*

REGIONAL cooperation as represented by the concept of growth triangles is an innovative and mutually-benefiting policy in response to the challenges of the nineties and the next millennium. The Indonesia-Malaysia-Thailand Growth Triangle (IMT-GT) which encompasses Northern Sumatera, the Northern Region of Peninsular Malaysia and South Thailand is one of the many growth triangles that has evolved in the region.

These three regions of the IMT-GT have long been linked geographically and economically. The concept of the IMT-GT is, therefore, a natural progression to formalise and institutionalise existing links in order to harness the expertise, skills, ingenuity and energy of the 21 million people residing in the area and, hence, build up a regional economic force.

#### **Background**

Historically, Penang was the economic centre of the region encompassing South Thailand, Northern Sumatra and, to a lesser extent, Myanmar. Penang, together with Singapore and Hong Kong, constituted the formidable threesome that pumped the life-blood through Britain's network of commercial ports and trade centres in the Far East. However, its role as a primary trade centre declined in the 1960s as a result of economic nationalism, the loss of the island's free-port status and the development of other growth centres in the country, particularly the Klang Valley.

Presently, rapid industrial growth and the consequent structural transformation of Penang's economy has enabled the state to again position itself to play a pivotal role in the region. It now stands ready to offer itself as a counter growth pole to the Klang Valley and to serve as the centre of manufacturing, trade, banking, finance, education, health and

other services for the Northern Region of Peninsular Malaysia as well as the IMT-GT.

### New Directions

The re-emergence of Penang as a regional centre of growth gained momentum during the last two decades. The growth of the manufacturing sector in Penang has stimulated the growth and development of the northern states of Kedah, Perak and Perlis. The spillover effects of these developments gradually transformed the economic structure of these states, with the manufacturing sector growing in importance. This process was spurred on by the regional economic cooperation among the northern states. It has also enabled Penang to maximise the spillover benefits of its industrialisation programme, to emerge as the metropolitan growth pole for the region.

Within the context of the IMT-GT, Penang has also revived its traditional trading relations with Northern Sumatra and South Thailand. With the formation of IMT-GT, Penang—taking full advantage of its location and current pace of growth—is looking into becoming a staging post for the Pacific and the Indian Ocean Basin. Apart from this, historical ties of trade, culture and religion with West Asia and close relationship with Australia and other countries have enabled Penang to be a focal point for regional growth. The economies of the Pacific Rim have stirred the imagination of the international business community. The growing regionalisation and globalisation trend coupled with the shift from comparative advantage to competitive advantage, stands Penang in good stead to establish itself as the centre of the region's growth nexus: providing a pro-business environment which is competitive on a global level to complement the development of the IMT-GT.

Multinational companies are increasingly adopting a global perspective in their operations to locate their business operations in different countries to capitalise on the comparative advantage of these locations. This trend offers new opportunities for business development, cooperation and collaboration between Penang and the region to augment complementarity in production, with specialisation in manufacturing. In line with this, Penang is encouraging labour-intensive industries to relocate their operations to the lesser developed areas within the region while utilising Penang's infrastructure facilities as well as its financial and commercial support services. It will then enable Penang to continue attract-

ing quality investments while optimising the utilisation of its manpower, allowing it to remain competitive in cost as well as in the quality of goods produced and services provided. Penang can then focus on selected activities within each sector so as to take advantage of economies of scale, and in this way, offer greater possibility for industries to grow in depth and sophistication.

Two decades of industrialisation in Penang has borne its fruits in the form of numerous leading international high-tech companies that have set themselves up on her shores. This has, in turn, motivated the state to establish itself as the regional centre of the electronics, textiles, apparel, automated manufacturing technology, information technology as well as printing and publishing industries. To achieve this goal and to ensure a continuous process of industrial and technological transformation, the Penang State Government has pioneered the establishment of an Integrated Manufacturing Centre (IMC). The concept behind the IMC is to encourage multinational corporations (MNCs) that are presently located in Penang to expand their operations to include corporate and financial planning, research & development (R&D), product design and tooling, sourcing of parts and components as well as sales and marketing.

The "trickle down" effect of industrialisation in Penang has resulted in the setting up of factories by many Penang MNCs as well as their supporting and ancillary industries in the recently established Kulim Hi-Tech Park. The labour-intensive industries have also begun to invest in Medan as part of their relocation or expansion programmes. Although few Malaysian factories have set up operations in South Thailand, many of the Thai and Singapore-owned factories in South Thailand are employing Malaysians as managers and executives.

Penang will continue to make the best of its limited pool of land and human resources besides striving constantly to upgrade its technological capabilities in selected industries in order to build itself up as a centre specialising in the industries concerned. The setting up of the Penang Skills Development Centre has assisted the state as well as the private sector to upgrade and enhance the skill level of Penang's workforce so as to meet the stringent demands of the MNCs. This has created a spin-off effect and resulted in the setting up of more skill-related training centres in the state.

Penang is fully aware of the importance of information technology (IT) which is at the cutting edge of manufacturing, trade and business

operations. In line with the objective of creating a developed industrial society, private colleges and institutes of higher learning, including special institutes for IT have been and will continue to be established to ensure that the state's manpower is equipped with the state-of-the-art technology.

In order to develop channels for quick and reliable delivery of finished products and components to customers worldwide as well as to the manufacturing plants in the region, Penang is enhancing and modernising its transportation and distribution networks. The construction of the North-South and East-West highways and its associated distributory road network has gone a long way towards aiding this process. In addition, the state is encouraging freight service providers and transport companies to locate their regional distribution hub here. The modernisation programmes initiated by the Port of Penang authorities have led to the development of "dry" ports in the northern peninsular states. The volume of cargo handled by the port of Penang from these states as well as from South Thailand has increased substantially over the last decade.

Furthermore, a Free Commercial Zone (FCZ) has been established with the objective of enhancing Penang's role as the main commercial centre within the IMT-GT. Activities of the FCZ include direct transshipment, regional distribution, trading, sales and resales, storage as well as value-added services such as packing and re-packing, labelling and relabelling, inspection, inventory and sampling, sorting and grading, and repair of goods in storage or transit.

Penang is also targeting other higher order services like education and medical services. Penang had once been the centre of education in the region and it used to attract scholars from Thailand. Efforts to revive Penang as a centre of education have been quite successful and the state can now boast of its growing number of private colleges. Efforts have also been made in the sphere of medical services, with the proliferation of high-quality private medical facilities. In collaboration with the private sector, the state has recently set up the Penang Medical College which allows its students to go on a two-year attachment in Ireland before completing the rest of the course in Penang.

Penang is also poised to play an important role in tourism development in the IMT-GT. The spin-off from Penang's tourism development is expected to influence growth areas with tourism potential in the Northern Region and within IMT-GT. An integrated concept has been adopted

to make the most of the assets of each potential tourist spot in the region and their infrastructure facilities so that the benefits of this sector are evenly distributed.

### Conclusion

Penang is obviously well-positioned to play a leading role in the IMT-GT. The Penang State Government is committed to facilitating the development of this growth triangle into a dynamic regional centre of industry, commerce and financial services. Nevertheless, the growth engine powering the IMT-GT will have to be the private sectors of the member countries of the IMT-GT, with the governments fuelling the growth by reducing barriers that might hinder collaboration across borders.



INDONESIA-MALAYSIA-SINGAPORE GROWTH TRIANGLE  
(IMS-GT): JOHOR, THE SOUTHERN GATEWAY AND  
OPPORTUNITY CENTRE

*Muhammad Ali Hashim*

THE Indonesia-Malaysia-Singapore Growth Triangle (IMS-GT) was the first government-initiated concept for subregional cooperation to take full advantage of the so-called "natural economic zones" prevailing in the greater Asean region.

The idea was founded upon the powerful appeal of establishing cross-boundary cooperation between regionally-linked components of separate national political entities. It is aimed at facilitating synergies in investments and hence generating higher levels of economic activities that would otherwise be impossible for members if they were to act individually, or if they were to operate at cross-purposes to each other.

In the case of the IMS-GT, on the Malaysian side it involves Johor and its peripheral states of Melaka, Negeri Sembilan and Pahang. For Indonesia, it involves the provinces of Riau, Western and Southern Sumatera, with the third component of the Triangle being the city-state of Singapore. The Growth Triangle was established to allow its component members to "combine forces" to take full advantage of regional dynamics and strategically position the subregion as a whole within the global business and industrial systems to enhance economic development benefiting all parties involved.

The IMS-GT as well as its subsequent duplicates (including the Indonesia-Malaysia-Thailand Growth Triangle—IMT-GT and Brunei-Indonesia-Malaysia-Philippines East Asean Growth Area—BIMP-EAGA) were, therefore, conceived to exploit geostrategic competitive advantages inherent in territorial clusters. They are market-driven and designed to minimise bureaucratic hustles and overcome other obstacles. The concept also aims to maximise efficiencies and lower the costs of doing business associated particularly with cross-border flow of goods,

services and resources, hence fully exploiting subregional competitive strengths and advantages.

The IMS-GT as an economic subregion now has a population of 21 million with the additional formidable combination of the economic power and potential from its command over vast resources, complementarity capabilities and tremendous reach of all its member entities. It will be noted in particular that each member of the IMS-GT has its own particular area of advantage such that taken together, their complementarity provides the subregion with its greatest attraction as an investment base.

It is within this context that Johor's potential has to be perceived. When looked at from this perspective, Johor, therefore has tremendous potential to become one of Malaysia's nationally and globally strategic industrial hubs.

The die has in fact already been cast. Johor's greatest asset is indisputably its geostrategic location. Over the past two decades, Johor had developed its infrastructures, attracted substantial investments in strategic industries with tremendous growth potential, and successfully created the industrial critical mass to enable it to strategically position itself in this transformational phase in Malaysia's economic development to irreversibly establish a long-term competitive advantage.

Johor offers potential investors access to the best of many worlds. By itself, it offers the full advantage of Malaysia's many attractions. A founder-member of the IMS-GT, Johor also offers investors the benefit from such cooperation, particularly in terms of its proximity and unique physical link to Singapore.

It is in fact conceivable for investors to have full access to both Malaysia and Singapore's comparative advantages by being located in Johor. For example, substantial cost advantages can be enjoyed by a manufacturer who locates the bulk of his operations in Johor, hence lowering substantial overheads as well as operating costs. At the same time he can maintain a presence in Singapore to take advantage of the Republic's formidable advantages in logistics, communication and global reach as well as in terms of financial and other support services.

Johor is perhaps the only location in the Asia-Pacific region where investors can take full advantage of access to wider choices and options—an important consideration for many firms in making the final strategic decision to invest.

For example, Johor's principal industrial hub of Johor Bahru-Pasir Gudang offers access to two international ports (with a third to materialise once the Johor West Port comes into operation in 1999) as well as two airports for both personnel and cargo, with unrivalled linkages internationally within a radius of less than 50 kilometres. Additionally, other outstanding pluses include superior physical, legal and institutional infrastructure, as well as a business culture, and a government that is highly pro-enterprise and investor-friendly to service industrial needs.

Based in Johor, investors can explore profit opportunities over a wide range of industrial activities and still remain globally competitive. In fact, Johor is also the best gateway for access to the Asean and Asia-Pacific market which is today the fastest-growing market in the world.

Johor's inherent competitive advantages have been established on a successful tradition of resource-based industrialisation. Historically, Johor had contributed tremendously to Malaysia's world-renowned reputation as an exporter of commodities, and to this day Johor is Malaysia's single most important producer and exporter of palm oil. It now boasts the largest concentration of palm oil refining and downstream processing capacities globally, with approximately 6 million tonnes per annum refining capacity, located at its premier industrial zone of Pasir Gudang.

Over the past decade it was also successful in adding to its core industrial base the manufacture of chemical products and downstream processing of petroleum-based products and petro-chemicals. Pasir Gudang is today also a major base for Malaysia's sophisticated petro-chemical complexes. This list of manufacturing feats is fast being overtaken by events, with tremendous potential for expansion in many other directions as industrialisation takes on a faster momentum.

A sizeable number of MNCs and TNCs as well as their satellites have already adopted Johor as the base for their operations. A notable feature, is the flow of industries pertaining to sophisticated and high-tech electronic industries setting up operations in various industrial parks located throughout Johor, particularly those developed by the Johor Corporation. In fact, in 1995 Johor topped all the other states as the most favoured location for new investments, again underlining its formidable locational appeal.

Out of the total applications for investment of RM26.1 billion (US\$10.4 billion) registered by MIDA for Malaysia in 1995, Johor took the largest share with RM6.8 billion (US\$2.7 billion) or 26.1 per cent.

These were predominantly in the electrical and electronic products industry (RM3.4 billion) accounting for 50 per cent of the total. Johor also attracted a total of 21 chemical projects involving investments of RM985 million. Johor's economic base is, therefore, highly diversified with the industrial depth and breadth to support one of Malaysia's (and hence the world's) most dynamic and fastest-growing economic subregions.

Johor as well as Malaysia is now generally selective about the types of future industries that is to be encouraged. Within the context of full employment, and for the next phase of its industrialisation, it has shifted its strategy from one of investment-led growth to that of productivity-led growth. Higher priority will, therefore, be given to capital-intensive, technologically-driven industries. It is specifically to cater for this type of industries that Johor's first high-technology industrial park is being developed by a member company of the Johor Corporation. It is located adjacent to Malaysia's premier technical university, namely Universiti Teknologi Malaysia, at Skudai, Johor.

The Indonesia-Malaysia-Singapore Growth Triangle concept was, therefore, timely in preparing Johor as well as the whole subregion for further take-off. Its timeliness is underlined by the fact that its conception perfectly fits in with the paradigm shift now taking place in the global economic sphere. Johor is, therefore, well-poised and is indeed "globally-ready" to take full advantage of the exciting new wave of changes the future promises.

EAST ASEAN GROWTH AREAS:  
SABAH, THE GATEWAY STATE

*Pang Teck Wai*

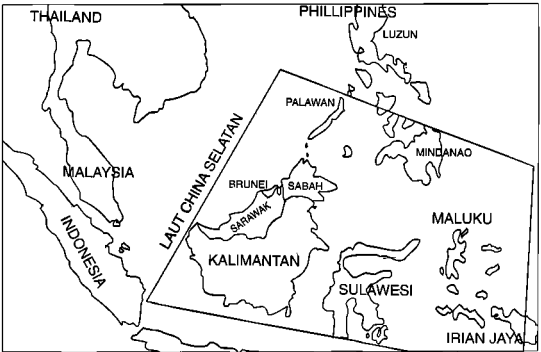
BIMP-EAGA (Brunei Darussalam, Indonesia, Malaysia, Philippines-East Asean Growth Area) the third growth triangle to be formed within Asean stems from the success of the earlier Southern (Singapore, Johor, Batam) and Northern (Indonesia, Malaysia, Thailand) Triangles in generating development and growth. It is also an attempt to mobilise the immense economic potential (see Table 12.1) of the least developed (except Brunei) regions of EAGA nations. Apart from Brunei, BIMP-EAGA is home to EAGA nations' poorest communities. Although these subregions are rich in natural resources, much of the higher value-adding processing is done outside the region. Given this background, the objective of the BIMP-EAGA initiative is to create wealth by advancing a set of strategic programmes for increasing cross-border trade and investment. The modus operandi is to harness the rich resources and markets through specialisation and regional cooperation for building competitive industries targeted ultimately at the global market. The increase in the level of economic activities would yield higher living standards, especially, when those involved are able to reap a major slice of the value-added pie through indigenous innovative capability-building and knowledge-intensive skills.

Operationally, the BIMP-EAGA's initiative is spearheaded by 13 official working groups. Each nation is assigned several specific areas to work on. Underlying this approach is the pre-supposition of regional comparative advantages. However, although the strategic development approach is for each subregion to specialise in some industries, it could be argued that Sabah has tremendous potential to be the gateway state to BIMP-EAGA due to its several unique positions in the region.

Apart from its geographical location which is almost at the centre of the growth polygon (see Map 12.1) it has other attributes. To begin with,

two critical criteria for qualifying an economy as the gateway are, firstly, the presence of plentiful economic opportunities and, secondly, the ability to provide a dynamic development leadership to BIMP-EAGA that is responsive to global trends and regional needs. Together, these elements are sufficient to spin off the centrifugal force needed to propel BIMP-EAGA into a developed region within the next two decades. This paper explores what these constituent elements are.

Map 12.1: Sabah: Centre of the Growth Polygon



### Economic Opportunities and Interdependence

Sabah today is already an opportunity centre in BIMP-EAGA in terms of trade and investment interdependence as exemplified by the presence of a huge population of Filipinos and Indonesians in employment as well as the substantial "barter trade" activities. In fact, Sabah is already a gateway state for trade, investment and employment for BIMP-EAGA since the 1970s.

**Barter Trade.** Of all the cross-border trade and investment activities in BIMP-EAGA, the most significant is the barter trade between Southern Philippines, Kalimantan, Sabah and Labuan. Although barter trade started over a century ago in this region, the opportunity for sizeable barter trade in the last few decades grew out of Labuan, being a duty-free

Table 12.1: Economic, Population and Land Profile (1995)

	Total Population (million)	Area (sq.km)	Average Annual Population Growth Rate % (1980-90)	(In 1000 hectares for 1993)							Energy Resources	Production	Known Measured Reserves
				Rice	Palm Oil	Coconut	Rubber	Corn	Cocoa				
Brunei	0.30	5,765	3.01	-	-	-	-	-	-	-	57.8 mil barrels/year 330 billion SCF/year	1.4 million barrels 1.4 billion SCF	
Indonesia:	192.22	1,919,317	1.98	529	159	339	458	79	27		71.2 million barrels 560 billion SCF/year 12.2 mil tonnes/year	n.a. n.a. 1,000 million tonnes 527MW	
East Kalimantan	2.16	211,440	2.68	-	-	-	-	-	-				
West Kalimantan	3.50	146,760	4.42	-	-	-	-	-	-				
North Sulawesi	2.59	27,487	1.60	-	-	-	-	-	-				
Malaysia:	19.50	329,728	2.40	85	496	118	105	-	240		79 million barrels/year 600 million SCF/year Nil 914GWh	1.6 billion barrels 34.5 trillion SCF 750 million tonnes >10,000MW	
Sabah	2.00	73,619	5.56										
Sarawak	1.80	124,967	2.48										
The Philippines:	67.00	300,000	2.35	779	-	1,627	86	2,066	5		1.7 million barrels/year 146 billion CF/year 475,000 tonnes/year 3,320GWh	400 million barrels 4.5 billion SCF 71 million tonnes 1,000MW	
Mindanao	16.00	102,000	2.69										
Palawan	0.80	14,900	3.44										

Source: Asian Development Bank (1996)

port, and Zamboanga in the Southern Philippines, being given the right to import duty-free goods by the Marcos administration. Initially, the goods traded were hemp and natural resources in exchange for cigarettes and other consumer goods from Malaysia. Today, most of the goods traded are not bartered but imports and exports of mainly consumption goods that continue to use the mode and route of barter trade.

Table 12.2: Major Barter Trade Goods

Tawau and Indonesia			
EXPORT		IMPORT	
Goods	% Share	Goods	% Share
White Garlic	29.0	Sawntimber	43.0
Sugar	16.0	Rattan	32.0
Used Clothing	16.0	Fresh Fish	10.0
Biscuits	6.0	Others	15.0
Others	33.0		
Total	100.0	Total	100.0
Tawau and the Philippines			
EXPORT		IMPORT	
Goods	% Share	Goods	% Share
Sugar	48.0	Epoxy Mastic	76.0
Washing Detergent	22.0	Sawntimber	22.0
Chocolate	15.0	Plastic Rolls	1.0
Others	15.0	Others	1.0
Total	100.0	Total	100.0
Sandakan and the Philippines			
EXPORT		IMPORT	
Goods	% Share	Goods	% Share
Cigarettes	54.0	Lotion (Cosmetics)	70.0
Chainsaw & Engines	15.0	Nescafe	9.0
White Garlic	3.0	Others	21.0
Refined Sugar	3.0		
Others	25.0		
Total	100.0	Total	100.0

Source: Institute for Development Studies, Sabah (1996)

Presently, the main centres of barter trade in Sabah are in Sandakan and Tawau. Sandakan, an active trading port, has a monthly average of 36 shipments compared to Tawau's 11 shipments. Labuan is still the most active barter trade centre with an average of 67 shipments per month. Most of the boats used for shipments weigh between 15 and 20 tonnes and are known as *kumpit*. The goods traded are mainly household consumables. The flow of trade between destinations is given in Table 12.2.

On supply, almost all the cigarettes exported to the Philippines from Sandakan are from Indonesia, thus, making Sabah the trade gateway between the two regions. Meanwhile, white garlic and sugar are imported from China and Peninsular Malaysia, while used clothing is imported mainly from Japan, South Korea and Taiwan. As a rough estimate, the total barter trade value per year is RM300 million excluding Labuan and this is substantial considering the real GDP for Sabah was RM8.7 billion in 1995. The volume of cross-border and barter-trade is expected to increase with better infrastructure and regional economic growth.

**Trade Interdependence.** In terms of export by country groupings, Sabah's exports to other BIMP-EAGA member countries including Sarawak (excluding Peninsular Malaysia) amounted to RM1,280 million or 12 per cent of its total exports in 1994 (Table 12.3). If Sarawak is excluded, total exports to Brunei, Indonesia and the Philippines amounted to RM635 million or 6 per cent of total exports which is still substantial. Sabah's imports from other BIMP-EAGA countries excluding Peninsular Malaysia amounted to RM632 million or 7.2 per cent of total imports (see Table 12.4). Although the trade figures between Sabah, the Philippines and Indonesia are not available at the subregional level, they do reflect significant regional trade links which can be further strengthened through better market information, transportation and distributive networking.

**Filipino and Indonesian Workers.** In BIMP-EAGA, Sabah has by far the largest presence of foreign workers (often referred to as transients or illegal immigrants) from neighbouring countries. In the absence of an official figure, the number of Filipinos and Indonesians residing in Sabah are variously estimated at between 25 and 45 per cent of the state's population which is just over two million. The inflow of these transients into

Table 12.3: Sabah: Export by Country Groupings (RM '000)

Year	1990	%	1991	%	1992	%	1993	%	1994	%	1995(P)	%
Brunei	20,955	0.24	25,867	0.28	43,565	0.47	60,981	0.67	54,406	0.53	123,963	1.16
Indonesia	92,379	1.05	302,292	3.25	193,927	2.11	114,761	1.27	135,998	1.33	121,264	1.14
Philippines	310,901	3.52	166,092	1.78	243,720	2.66	233,335	2.58	444,791	4.35	230,834	2.17
P. Malaysia	1,101,963	12.49	1,157,597	12.43	1,229,155	13.39	1,169,562	12.91	1,749,933	17.13	2,076,794	19.50
Sarawak	668,726	7.58	1,030,650	11.07	603,694	6.58	686,211	7.57	644,972	6.31	685,865	6.44
	2,194,924	24.88	2,682,498	28.81	2,314,061	25.22	2,264,850	24.99	3,030,100	29.66	3,238,720	30.41
Singapore	1,187,632	13.46	1,038,963	11.16	1,261,323	13.75	841,253	9.28	654,077	6.40	637,246	5.98
China	130,731	1.48	301,708	3.24	469,588	5.12	781,506	8.62	1,328,603	13.00	1,228,736	11.54
Japan	2,261,109	25.63	2,003,004	21.51	2,009,816	21.90	1,753,686	19.35	1,705,989	16.70	2,001,149	18.79
South Korea	877,945	9.95	1,086,824	11.67	681,163	7.42	908,499	10.03	953,923	9.34	710,822	6.67
Taiwan	142,163	1.61	165,751	1.78	329,837	3.59	451,382	4.98	403,853	3.95	392,373	3.68
United States	263,360	2.99	208,511	2.24	204,154	2.22	185,853	2.05	188,005	1.84	149,788	1.41
Western Europe	594,281	6.74	573,172	6.16	571,870	6.23	703,379	7.76	627,097	6.14	561,109	5.27
West Asia	137,998	1.56	97,333	1.05	157,959	1.72	105,608	1.17	62,370	0.61	143,632	1.35
Others	1,032,458	11.70	1,153,924	12.39	1,176,522	12.82	1,065,258	11.76	1,262,630	12.37	1,586,319	14.9
Total	8,822,601	100.00	9,311,688	100.00	9,176,293	100.00	9,061,274	100.00	10,216,647	100.00	10,649,894	100.00

Source: Monthly Statistical Bulletin, Sabah, January 1996  
 Monthly Statistical Bulletin, Sabah, March 1996

Table 12.4: Sabah: Import by Country Groupings (RM '000)

Year	1990	%	1991	%	1992	%	1993	%	1994	%	1995	%
Brunei	476	0.01	350	0.00	317	0.00	277	0.00	515	0.01	951	0.05
Indonesia	5,733	0.09	100,757	1.30	126,397	1.75	149,639	2.19	238,969	2.70	291,241	2.84
Philippines	24,977	0.38	28,580	0.37	25,889	0.36	28,082	0.41	35,039	0.40	30,584	0.30
P. Malaysia	2,771,731	41.91	2,861,754	36.82	2,943,040	40.82	3,201,414	46.79	3,833,118	43.33	4,709,371	45.97
Sarawak	417,914	6.32	457,717	5.89	387,479	5.37	351,574	5.14	357,364	4.04	370,938	3.62
	3,220,831	48.70	3,449,158	44.38	3,483,122	48.31	3,730,986	54.53	4,465,005	50.48	5,403,085	52.75
Singapore	274,493	4.15	412,534	5.31	544,125	7.55	342,906	5.01	29,958	0.34	557,808	5.45
China	166,496	2.52	192,741	2.48	209,337	2.90	255,100	3.29	269,289	3.04	251,997	2.46
Japan	761,425	11.51	708,939	9.12	577,923	8.02	653,611	9.55	910,164	10.29	1,122,896	10.96
Taiwan	78,541	1.19	170,805	2.20	164,034	2.28	236,401	3.45	326,669	3.69	245,770	2.40
United States	721,430	10.91	1,326,921	17.07	1,014,389	14.07	534,233	7.81	1,209,866	13.68	793,765	7.75
Eastern Europe	630,479	9.53	655,382	8.43	547,109	7.59	511,889	7.48	698,516	7.90	923,176	9.01
Western Europe	7,286	0.11	12,794	0.16	18,671	0.26	23,022	0.34	29,178	0.33	45,675	0.45
West Asia	12,588	0.19	10,495	0.14	36,914	0.51	43,139	0.63	19,437	0.22	27,105	0.26
Others	740,663	11.20	831,765	10.70	614,307	8.52	541,181	7.91	887,686	10.04	871,266	8.85
Total	6,614,232	100.00	7,771,534	100.00	7,209,931	100.00	6,842,468	100.00	8,845,768	100.00	10,242,543	100.00

Source: Monthly Statistical Bulletin, Sabah, January 1996

Sabah is reflected by the high population growth rate of 5.56 per cent for the period 1980-1990 (see Table 12.1).

Although the transients in Sabah can be traced back to the 18th century, the recent influx of Filipinos began in the early 1970s when the Moros in Mindanao fought an independence war against Manila. By 1976 when the cease-fire in the Southern Philippines was reached, the United Nations recognised that there were 76,000 Filipino war refugees residing in Sabah. Due to the ease of cross-border immigration and enormous economic opportunities in Sabah, this immigration trend has continued.

In the 1970s, Indonesians mainly from Kalimantan and South Sulawesi entered Sabah in search of work, especially in the mushrooming oil palm and cocoa plantations and the logging industry. Today, transients are extensively present in every major sector of the state's economy. For instance, in agriculture—the backbone of Sabah's economy—over 80 per cent of the workers are foreigners, with a large composition of Indonesians primarily in non-professional and manual jobs (see Table 12.5). In forestry and construction, foreign workers comprised over 60 per cent of the respective sector's labour force.

Table 12.5: Local and Foreign Workers by Sector in Sabah (1995)

Sector	Local %	Foreign %
Agriculture	17.8	82.2
Forestry	33.1	66.9
Construction	39.0	61.0
Wholesale & Retail Trade/Restaurants & Hotels	73.5	26.5
Manufacturing	56.7	43.3
Mining & Quarrying	58.5	41.5
Transport, Storage & Communication	63.9	36.1
Financial & Insurance, Real Estate & Business Servs	83.3	16.7
Community, Social & Personal Services	77.6	22.4
Miscellaneous (not properly defined)	58.2	41.8

Source: Labour Department, Sabah (1996).

Not only are the transients actively engaged in commerce and trade, they also have access to the state's public amenities such as hospitals and

Table 12.6: Immigrant Workers in Sabah Employed by Employers of 20 or more Workers: Historical Data and Projections

Year	Indonesians	Filipinos	Transients	Locals	Total Labour Force	% of Total Labour
1970	6,791	6,890	13,661	25,330	38,991	35.04
1980	36,673	10,959	47,598	43,669	91,267	52.19
1989	69,650	12,359	82,009	58,576	140,585	58.33
1990(f)	78,253	12,651	90,904	59,979	150,883	60.25
2000(f)	265,636	17,168	282,804	14,005	296,809	95.28
2001(f)	300,169	17,700	317,869	-	317,586	100.09

Note: (i) f denotes forecasted figures which are based on 1970-1989 average annual growth rates of 13.0 per cent for Indonesians; 3.1 per cent for Filipinos; and 7.0 per cent for the total labour force.

(ii) 1970-1989 average annual growth rates: Transients -4.5 per cent.

Source: Mak and Koh (1994)

schools. Recent forecast of transients in primary and secondary schools (comprising 50 per cent of the total student population by 2030 at current growth rate) as well as work gives an interesting picture of Filipinos and Indonesians in Sabah (see Tables 12.6 and 12.7). Sabah is indeed a fertile ground for neighbouring people in search of economic opportunities. It is already a well-developed economic gateway. The established trade routes, familiarity with local customs and language are certain to be the basis for further collaboration and development. The large enrolment of these foreign students in schools suggests that they have already assimilated into the socio-economic fabric.

Table 12.7: Number of Primary and Secondary Students in Sabah: Historical Data and Projections

Primary	Historical Data		Forecasts	
No. of students	1980	1990	1990	2030
Locals	127,835	188,024	206,902	1,402,117
Transients	13,457	28,527	34,392	1,447,275
Total	141,292	216,551	241,294	2,849,392
% transient students	9.5	13.2	14.2	50.8
Secondary	Historical Data		Forecasts	
No. of students	1980	1990	1990	2030
Locals	60,951	92,851	103,150	802,146
Transients	2,134	5,645	7,195	816,760
Total	63,085	90,496	110,345	1,610,906
% transient students	3.4	5.7	6.5	50.4

Note: The forecasted figures are based on 1980-1988 local and transient primary students' annual growth rates of 4.9 per cent and 9.8 per cent per annum respectively; and local and transient secondary students' annual growth rates of 5.4 per cent and 12.9 per cent per annum respectively.

Source: Mak and Koh (1994)

### Strategic Thrust and Development Leadership

For Sabah to be a gateway economy to BIMP-EAGA, it must be able to not only maintain its current ability to draw resources from neighbouring regions but, more importantly, to be able to initiate new growth industries and develop new competitive advantages. Although Sabah's economic structure is heavily dominated by the primary sector with limited

downstream processing, planners and industrialists recognised the need for a transformation to an economy that is knowledge-driven with high added-values. Essentially, the process requires the creation of new capacities through higher order productive factors and infrastructural conditions. The state's new development and growth paradigm for transforming Sabah's economy is contained in the 15-year Outline Perspective Plan (Sabah Government, 1995) with the following strategic objectives:

- (1) Enhance the efficiency and productivity of existing industries
- (2) Create new growth and knowledge-intensive industries.
- (3) Develop and enhance indigenous capacity for sustained growth.
- (4) Develop advanced industrial infrastructure.
- (5) Enhance private sector capacity for growth and development.
- (6) Ensure reliable and sustainable raw material supply.

Given these strategies, Sabah aims to be a developed economy by the year 2020. Operationally, the critical starting points to effect an industrial paradigm shift lies in the need to create higher order knowledge-intensive factors with indigenous innovative capability and a shift towards more cluster-based economic development.

**Higher Order Factors.** Factor conditions can broadly be divided into two sets. The first set is of the classical economic type relating to basic capital, labour, land and resources to produce a product. The second set is the higher order factor conditions which are "created" to differentiate a product and make it more appealing to consumers relative to other similar products. For instance, special ability to source raw materials at a better price than others; a designer's creative skills; capacity to improve production techniques; specialised skills and knowledge to make and sell a product which has a global market, are examples of factors which can give a product the competitive edge. There are several variants of such examples and other higher order factors can be identified. The point is that in order to enter the world market, competitiveness should be created and needs be met. Otherwise, the product is not likely to be of high value. In many products, basic factor inputs such as raw materials, labour and land add up to only 3 per cent of the product's value. The bal-

ance is the price paid for other "creative" factors such as design and packaging. The initial advantage in one or a combination of such factors is that it provides the foundation for establishing internationally competitive industries. Economies, just like firms, progress in stages and usually incrementally by developing capabilities, moving from low prices, low cost segments to higher value-added productivity and price segments.

Essentially, Sabah's development approach is to build an economy with emphasis on upstream and downstream activities as well as a critical set of appropriate support infrastructure required to support these activities along a value-added chain. Schematically, this approach is shown in Figure 12.1.

Figure 12.1: Focusing on New Value Adding Factors

Value-added	Consolidating Existing Industries	Mobilising Emerging Industries	Developing Advanced Industries
Up Stream			
• procurement R&D			
• design		FUTURE	
• product development			
• resource renewal			
Mid Stream			
• Manufacturing	Sabah Today		
• simple processing			
• assembly			
Downstream			
• sales, marketing			
• distribution		FUTURE	
• Higher value-adding processing			
Support services			
• HRD			
• government policies			
• incentives			
• infrastructure			

Although the living standard of the population of Sabah has increased tremendously in the last few decades, it has also resulted in heavy exploitation of the state's natural resources with shallow down-

stream processing. As resources continue to deplete, particularly timber and petroleum, there is now wide recognition (Plans such as the OPPS and Sabah Industrial Master Plan, 1995 reflect this concern) that unless the state develops both the upstream and downstream activities as well as new and more competitive industries, the living standard in Sabah will decline. For instance, unless an aggressive reforestation programme is implemented, there will not be much of a wood-based industry in Sabah which currently is still the backbone of the state's economy. Indeed, moving upstream and downstream along the value chain is precisely what the process of moving towards a knowledge-intensive economy is about.

Initially, many of the higher order factors may need to be imported or developed outside Sabah. However, to truly develop the capacity to continuously undertake process and product innovation, indigenous or local capability must first be harnessed. This would mean the foreign direct investment (FDI) mode of industrialisation which has been extremely successful in Peninsular Malaysia may not be the model for Sabah to emulate. This is because in spite of several decades of very high rates of industrial growth, the industrial structure of Malaysia is still very much at the Original Equipment Manufacturing (OEM) stage with limited capability in R&D, design, distributional network and own-brand name. OEM economies are often confined to capturing a smaller portion of the value-added chain and are unlikely to be lead or "developed" economies. However, this does not mean that FDI is not welcomed. Rather, efforts must be made to ensure that the host economy develops its own innovative capabilities. Otherwise, the ability to earn higher income through higher value-adding activities will be limited.

**Cluster-based Development.** It is now widely accepted that successful economic regions are characterised by the presence of sophisticated inter-locking industrial clusters. These clusters, be they electronics, machine tools, cars or textiles are usually concentrated in a certain geographical region. Close geographical proximity of rivals, customers, suppliers, universities and R&D centres promotes transmission of vital information, intensifies rivalry and cooperation, resulting in the production of superior and demand-driven products. In turn, the combination of these factors vigorously induces innovation, new ideas, high quality products, lower costs and most importantly, new opportunities. Developing knowledge-intensive industries along the concept of clustering is

especially apt since the combined strength in related support industries is critical in pushing the rate of innovation. It is now known that competitiveness of world-class firms is mostly due to the presence of a group of closely related innovative and efficient suppliers. Stand-alone firms, although can be world-class, are extremely rare. The rags-to-riches stories though captivating and inspiring are at best coincidental in today's increasingly more complex and integrated economic systems. For instance, in the hi-tech realm, the successful entrepreneur is one who is able to conceptualise an idea and commercialise his innovation which in turn requires capabilities, technical competence and industrial clustering support.

The diversity of skills and resources required to form an effective industrial cluster implies the need to draw production factors from beyond national boundaries. Many economies such as the US, Australia and Canada have been successful partly as a result of their openness and focus on drawing the highest quality skills from the world. Competitive advantage in advanced economies is increasingly based on differential knowledge embodied in human resources, creativity, sourcing capability, process technology and machines. For Sabah to muster all the resources for developing a successful industrial cluster would be extremely difficult. However, the cluster formation process could be much faster if relevant and the highest quality resources are drawn from outside the state. Taking this approach spells opportunities for entrepreneurs and will contribute to public infrastructural development within BIMP-EAGA.

**Kota Kinabalu Industrial Park.** On the ground, the industrial clustering approach to developing world-class firms is now being implemented through the Kota Kinabalu Industrial Park (KKIP). A 15-year project, it is estimated to cost RM3.5 billion covering 3,360 hectares located 25km to the north of Kota Kinabalu. The KKIP is designed to be the lead agent of Sabah's new industrialisation strategy to diversify the economy and create new industries. It is targeted to be the oasis of a new set of high value-added knowledge-intensive activities producing products for exports.

The project was launched by the Prime Minister in November 1995. Currently, a great deal of developmental work is being carried out including land acquisition, construction of resettlement schemes for about 400 families, infrastructural works for Phase 1 of the export-oriented in-

dustrial free zone as well as marketing and sales. As of end of May 1996, there were 430 firms from various sectors applying for 900 hectares of land in the industrial zone. Another 19 companies have applied for 24 hectares of land in the Export-Oriented Industrial Zone. Presently, two companies have started operations in the Free Zone and another two due to start before the end of 1996.

The main resource-based sectors which KKIP is keenly promoting are wood, food processing, minerals and metals, packaging and gas-related industries. Longer-term industries for development are electronics and machine tools. Non-resource industries to be developed are mainly tourism and computer-related industries. What then are the implications of such a strategic approach for BIMP-EAGA?

BIMP-EAGA economies are fundamentally resource-based. Apart from the region's well-endowed petroleum and gas, all (except Brunei) are also rich in industrial crops, such as rice, oil palm, cocoa, corn, rubber, coconut, banana and cassava. These subregions are also well-endowed with marine resources. For instance, about 30 per cent (245,000 tonnes) per year of the Philippines' total fish landing is from the waters around Mindanao. And, a further 20 per cent of the catch is from Western Palawan and the Visayan sea. Both Sabah and Sarawak are also rich in marine resources, producing about 30 per cent (250,000 tonnes) of Malaysia's total fish harvest. West Kalimantan is estimated to be able to harvest approximately 65,000 tonnes of fish a year.

Without going into details of the region's endowment of other natural resources, such as minerals and forestry, it can be seen that a cluster development approach means that all of these resources could either be sent to KKIP for advanced processing or some sort of strategic alliance can be created to add more value. For instance, a more effective furniture cluster could be built with the Philippines providing the design and craftsmanship and Sabah, the timber. Cluster-based development offers a wide array of possibilities in terms of backward and forward linkages, support services and tremendous opportunities for both basic and advanced infrastructural works.

**New, Non-Resource-based Industries.** In the area of non-resource-based businesses, tourism and financial services have already gained wide publicity and acceptance as key sectors to be pursued. This enthusiasm stems partly from the relative ease in which these industries could

be developed as against manufacturing which is heavily dependent on basic infrastructure such as good roads, water, electricity, ports and transportation. For financial services, the prime ingredients are a good communication network, management skills and marketing.

Situated only 8km from Sabah's Northwest coast, Labuan is Malaysia and BIMP-EAGA's only International Offshore Financial Centre (IOFC). Since its inception six years ago, Labuan now has 41 offshore banks, several world-class hotels, a modern financial park while a huge sum of money is still being spent to develop and upgrade the island's infrastructural facilities.

As an IOFC, Labuan is poised to be at the forefront in providing financial services and financial training services, especially, to BIMP-EAGA. Other potentials include the proposals to set up an international stock exchange, a commodity exchange for BIMP-EAGA (in view of the subregion's rich resources) and a monetary exchange centre. The point is that, for many years, Sabah has been the gateway to Labuan and this role is likely to continue especially in the context of recreation, family ties and infrastructural support.

Another service industry which is seldom promoted especially in lesser-developed regions is the IT sector. In fact, it is now recognised that without strong and complementary IT support, the competitive advantage of an economy will be weakened. It would, of course, be foolhardy for Sabah to enter the hardware or software market as it would mean competing against giants like Microsoft, Apple, Intel and IBM. However, there is tremendous potential in contents development. The potential for contents development is epitomised, for instance, in the entertainment world through computer-animated movies such as *Toy Story*, *Jumanji* and *Jurassic Park*. There is no reason why Sabah cannot be home to a "Digital Hollywood". In the realm of education, lies challenges in CD Rom development. Contents applications are extremely broad even by today's technology standard as in industrial design, medical science, planning tools, engineering, architecture as well as space and flight simulation exercises.

It is not suggested that Sabah should enter and compete immediately in computer contents development and be at the cutting edge of the information technology. Rather, a more realistic humble beginning can be made. For instance, in interactive contents development in CD Rom relating to biodiversity, tourism and culture. In essence, a start can be

made in this "hi-tech", high value-adding and high demand-elasticity industry based on people who are creative and willing to explore. Technically, one does not, for instance, need to be a university computer graduate to be trained in the basics of animation and multimedia. The start-up cost could be low and with the Internet, contents development projects could be done through global partnership.

Sabah's foray into computer-based contents development spells opportunities for a wide range of jobs and product segments in the education, entertainment, science and technology fields, areas in which all BIMP-EAGA citizens and industries can participate. It is believed that although the KKIP has not formally pushed for this industry, it will do so soon. The State Government, in an attempt to develop this industry has announced the setting up of an IT Council on June 24, 1996 and a Science and Technology Unit, which will enable as well as facilitate the growth of a new digital economy.

### Conclusion

Every government in the BIMP-EAGA has a development plan in line with the EAGA initiative. Essentially, these plans are complementary in that each region wants to grow and is market-oriented. However, some are more ambitious than others. Among all the BIMP-EAGA development plans and strategies, by far the most ambitious is Sabah's which has a strategic framework for achieving an industrialised and developed economy within a 25-year time frame.

The goal of making Sabah a globally competitive economy means making available a platform for other BIMP-EAGA economies to participate in building world-class industries. Such a lead augurs well for neighbouring economies which aim to diversify and add value to their rich natural resources. No other BIMP-EAGA economy has explicitly stated its intention to develop knowledge-intensive industries based on the industrial clustering mode. The Sabah development strategy thus, creates a pathway for the state to develop world-class firms and industries.



INFRASTRUCTURE  
DEVELOPMENT



13  
TRANSPORTATION:  
MEETING 21ST CENTURY DEMAND

*Ling Liong Sik*

THE changing needs of the Malaysian economy as we forge ahead into the 21st century have created new challenges and opportunities, especially so in the last 8 years when the economy has been growing consistently at an average rate of more than 8 per cent per annum. The highest growth was recorded in the manufacturing sector which contributed to more than 70 per cent of the total export trade. The growing dominance of the manufacturing sector has transformed the Malaysian economy from an agricultural to an industrial- and service-based one and has resulted in an increase in demand for transportation infrastructure and services. In the past the provision of such infrastructure was based on a demand approach.

Having recognised that this approach would not sustain the present and anticipated growth of the economy especially given the emergence of the new world order, the government has in the Seventh Malaysia Plan adopted the dual strategy of supply-driven and integrated approach which will form the basis for the provision of infrastructure facilities and capacities to meet long-term demands, to spur further development and economic growth. This approach would ensure an environment of supply upon demand. This is in consonance with today's philosophy of an integrated, multi-modal and multi-sectoral approach to infrastructure development. Such a holistic approach would be a catalyst to future economic growth. To implement this policy, the government has adopted a two-pronged strategy whereby the provision of such infrastructure facilities and capacities would either be undertaken by the government or the private sector under the government's privatisation programme.

### Transportation Infrastructure

The provision of transportation infrastructure in the three major modes of transport, namely land, sea and air is both costly, requiring huge investment, and time consuming, as these infrastructures cannot be built overnight. Furthermore, transportation infrastructure investment has a long gestation period while returns are low and slow. The government, faced with competing demands on its resources has to plan and implement well in advance the transport infrastructure requirements to avoid a situation where the lack of it may hinder further economic growth.

Today, the government is able to address these problems through the active participation of the private sector which has now become a major partner and investor in the provision of transportation infrastructure facilities and capacities.

### Surface Transport

**Highways.** With the completion of the North-South Expressway, a stretch of 845km of expressway connecting the entire length of Peninsular Malaysia from Bukit Kayu Hitam at the Malaysia-Thailand border to the Malaysia-Singapore border, vast potential has now been made available not only to transport goods speedily from one end of the country to the other, but also to develop new industries along the expressway or relocate some of the industries from the rather congested Klang Valley. Another major highway development is the East-Coast Expressway linking Karak, Kuala Terengganu and Kota Baru. When completed, this too will be a catalyst to economic growth in the relatively less developed east coast of Peninsular Malaysia.

To meet the needs of the future, the government has completed a study in 1993 entitled "The Highway Network Development Plan Study in Malaysia (HNDP)" which has identified the future requirements of road network for Malaysia. The recommendations of the study will enable the government to plan and implement in advance road infrastructure to ensure that there is always sufficient capacity.

**Rail.** Rail transport holds vast potential in providing a solution to inter-city and intra-city transportation needs. This potential has been exploited on an incremental basis as rail improvement and development programmes inevitably entail massive investments.

To meet the demands of the 21st century, the Railway Administration was corporatised in 1992 and would eventually be privatised, thus giving it more flexibility to respond to the demands made on the railways. The rail services have also been increased and upgraded through double-tracking and electrification of the Klang Valley sector, i.e. from Rawang-Kuala Lumpur; Kuala Lumpur-Port Klang; and Kuala Lumpur-Seremban. Having double-tracked this sector, KTMB is able to mount commuter service in this sector thereby encouraging a modal shift in urban transportation. Similar double-tracking has been approved from Kulai to Singapore. The government also intends to eventually double track the whole rail network in the country, offering an alternative mode of transport to both passengers and freight.

With double-tracking, electrification, introduction of the tilting train, and the upgrading of the signalling and communication system, KTMB can provide an efficient and fast alternative transport system to users in the country.

Apart from inter-city transportation, the railways could also alleviate congestion and ease intra-urban travel. In this regard, a Light Rail Transport (LRT) System in Kuala Lumpur is being implemented on a privatised basis which will be fully operational by the end of the year. It is to be noted that the LRT system in Kuala Lumpur is the first rail system in the world to be built on a privatised basis. When the LRT is completed, other traffic management measures like off-street parking, amalgamation of intra-urban buses and car-pooling could be implemented to alleviate the traffic congestion in Kuala Lumpur. As we move into the 21st century, similar solutions are also being considered for other major cities in the country.

### Sea Transport

With the buoyant economy, Malaysia's export and import have increased substantially. Unfortunately, a substantial amount of the trade is traded through a third country. It is estimated that currently a total of 1,146,644 TEUs is feedered through a third country costing approximately RM500 million additional freight charges to Malaysian exporters (in 1995 the total outflow of foreign exchange in the form of freight and insurance was in the region of RM8.8 billion) not to mention the lead time lost due to feedering. With the buoyant economy and forecasted growth in container traffic, this amount is expected to increase to RM1 billion by the

year 2000. Therefore, it is timely that efforts be made to redirect Malaysian cargo through a Malaysian port to stem this tremendous outflow. This would not only cut down on national expenditure but would also spur the growth of related services.

In this connection Port Klang has the capacity and potential to become a hub not only for Malaysia but also the region. With the increased investment in infrastructure and facilities, Port Klang's capacity is expected to increase to handle 2.8 million TEUs. Furthermore, the efficiency of Port Klang has also improved with the privatisation of the port operations; introduction of electronic data interchange; increased use of automation and computerisation; advanced immigration clearance; customs pre-clearance; dedicated berth operations and ensuring adequate equipment.

In terms of cargo, Port Klang's container traffic was 1.13 million TEUs in 1995. Added to this, the potential cargo that could be diverted from other Malaysian ports that is being currently transshipped through a third country and the potential cargo that could be tapped from the region could provide sufficient load to woo Main Line Operators (MLOs) to call at Port Klang.

Thus, Port Klang has the potential to become another hub in the region. What is required is the continuous upgrading of the services available and an aggressive marketing of the port. Since the privatisation of the port, services level has greatly improved at Port Klang while the aggressive port promotion locally and overseas has resulted in an increase in transshipment boxes being handled by Port Klang since the first quarter of 1996. During the first 6 months of 1996, transshipment volume at Port Klang increased 385 per cent as compared to the corresponding period in 1995. Apart from the increase in the volume of transshipment cargo, the aggressive marketing has also resulted in a number of Main Line Operators, amongst others, Global Alliance, Hyundai Merchant Marine, Grand Alliance, Maersk/Sealand, Compagnie Maritime (CMA) and Hanjin Shipping to call at Port Klang directly.

We have made a good start, and the challenge ahead as we move into the 21st century will be to plan our investments for additional capacity in advance and continue to improve the overall efficiency of port operations to capitalise on the investment and marketing efforts made periodically.

### Air Transport

Malaysia is located in one of the fastest growing aviation regions in the world. The International Civil Aviation Organisation (ICAO), the International Aviation and Transport Authority (IATA) and major aircraft manufacturers agree that the Asia-Pacific region will continue to be the most dynamic region for growth in the next 15-20 years. By the year 2010, this region is projected to handle more than half the world's scheduled traffic. Intra-Asian traffic is expected to take centre stage due to the projected high growth rate among the key economies of Asia.

Statistics revealed that in Malaysia, cargo traffic grew at a remarkable rate of 16.6 per cent between 1988 and 1994 while air passenger traffic rose 15 per cent to 23.9 million passengers in 1994 from 12.1 million passengers in 1988. Up to the year 2010, air transport demand is expected to grow at 6-8 per cent for passengers and 12-14 per cent for cargo annually.

The Sultan Abdul Aziz Shah Airport in Subang has reached its capacity. The increasing and forecasted demand for additional capacity for both passengers and cargo has prompted the government to build a new international airport costing RM8 billion in Sepang known as the Kuala Lumpur International Airport (KLIA). It will have the latest technologies, systems and the capacity to handle 25 million passengers a year with the completion of the first phase in 1998 although the whole airport has been planned for a capacity of 100 million passengers. The cargo capacity of KLIA will be 1 million tonnes on opening day, but will have a maximum capacity of 5 million tonnes per year when the airport is fully developed.

The government aims to establish the KLIA not only as a hub for passenger traffic but also as a hub for air cargo and air transshipment cargo. To this end, the government is supporting the initiatives by our airlines to handle air cargo and air transshipment cargo with international links. To further support this objective, plans are afoot, among others to invite high-tech industries to locate their business units and R&D facilities in a designated growth corridor connecting the city of Kuala Lumpur to KLIA. These high-tech industries could use this location not only to provide for Malaysia's burgeoning needs but also use it as a springboard to serve the region and world markets for their products and services through KLIA.

Thus, it can be seen that the infrastructure system and capacity is there for KLIA to become a hub in the region. The challenge is to achieve this target, particularly when taking into account that KLIA is situated in the proximity of two existing aviation hubs in the region. In this connection, the government's strategic plan for KLIA will cover the marketing, pricing structure, management and operational aspects of KLIA. As in the port sector, the government together with the airport operator and the national airline will aggressively market and promote KLIA.

In the effort to promote the new airport, the role of MAS would be further boosted since the fundamental to the success of an aviation hub is the existence of successful home-based carrier that is highly regarded in terms of reliability and quality of service. MAS is investing about RM1.2 billion to build its facilities in KLIA and from now to the year 2000, the company is also projected to invest approximately RM10 billion for the renewal of existing aircraft and the purchase of new generation jets to cater for anticipated traffic demand. Strategic alliances with other international airlines will also be fostered to give MAS the edge to be more competitive and to promote KLIA. In complementing MAS's effort, the government will continue its proactive policy in air services negotiations to gain market access and extend Malaysia's international network linking KLIA as a premier hub.

The KLIA is not being developed at the expense of other airports in the country. The government recognises that other airports in the country also have an important role to play as domestic air traffic has grown correspondingly with the growth of the economy. Therefore existing airports will be upgraded and where required new airports will be built. Under the Seventh Malaysia Plan, the airports at Kuching, Johor Baru and Penang will be upgraded while new airports will be built in Bintulu and Tawau.

### Conclusion

Most of the infrastructure investments, both actual and planned, are made with excess capacity to meet the challenges of the continuing buoyant economy. However, continuous and indefinite investment is not possible and therefore efforts would be made to optimise and maximise the returns before new investment could be made. The challenge then for the public and private sector as we move into the 21st century will be to explore ways and means to capitalise on the investment made

and put Malaysia as a leading hub in the aviation and maritime sector. In the process, both the sectors must also ensure that transportation infrastructure investment will continue to be a catalyst to spur and sustain the economic growth of the country.



14  
MEETING THE NATION'S  
INFRASTRUCTURE REQUIREMENTS

*S. Samy Vellu*

IN the last two decades, the Malaysian economy has been transformed from an agricultural-based to an industrial-based economy, paving the way for the country to achieve a developed-nation status.

The average Gross Domestic Product (GDP) growth rate was about 6.7 per cent per annum for the 1971-1990 period. For the last nine years the economy grew at an even faster rate of 8.9 per cent per annum. The per capita income of Malaysia rose from US\$400 in 1970 to US\$1,600 in 1980 and US\$3,900 in 1995. Malaysia's population now stands at about 21 million and is expected to increase at a rate of 2.3 per cent per annum over the next 5 years.

This process of economic transformation will continue at an even faster pace and with greater urgency. For Malaysia to achieve its Vision 2020 objective of becoming a developed nation by the year 2020, the economy will need to grow at an average rate of 8 per cent per annum for the next 24 years.

Sustaining this high growth momentum poses a great challenge to the nation. However, adequate and efficient transport infrastructure will contribute towards providing an environment required to support Malaysia's rapid economic expansion.

#### ROADS

In 1993 a highway masterplan known as the Highway Network Development Plan (HNDP) was completed. The study recommended the development of a future highway network in achieving national and regional development in Malaysia up to 2010. It also identified priority highway projects on the basis of their role in network formation, traffic demand and cost effectiveness.

### Overview of Road Transport System

**Modal Distribution.** The national transport system is made up of four major modes, namely road, rail, air and sea. Similar to the experience of other developing countries, road transport plays a vital role in the socio-economic development of Malaysia. Unlike the other modes of transport, road transport in Malaysia handles more than 95 per cent of the total passenger and freight traffic.

**Vehicle Registration.** In 1995 some 6.8 million motorised vehicles were registered in Malaysia, of which cars comprised 37.2 per cent, motorcycles 52.4 per cent, buses 0.5 per cent, trucks and vans 6.3 per cent, hired cars/taxis 0.8 per cent and others 2.7 per cent. The ratio of vehicles per 1,000 persons in Malaysia is 325, which is considered high in the region. During the 1986-95 period, the average annual increase in the number of registered vehicles was 4.4 per cent.

**Road Network.** In 1995, Malaysia recorded a total road network of 64,328km, comprising 48,521km of paved roads and 15,807km of unpaved roads. Out of this total, 67 per cent were state roads, 25 per cent federal roads and 8 per cent municipal roads.

In Peninsular Malaysia, three road corridors cover the length and breadth of the country, while for Sabah and Sarawak the corridor is along the entire coast of both the states. The three main corridors in Peninsular Malaysia are:

- (1) The western corridor stretching from Kangar in the north to Johor Bahru and Singapore in the south;
- (2) The central corridor between Kuala Lumpur in the west and Kuantan in the east; and
- (3) The eastern corridor linking Johor Bahru in the south to Kota Bharu in the northeast.

**Road Development Level.** The road development level in the country is reflected by the road development index (RDI), road density (RD) and road service levels (RSL). RDI is a measurement which takes into account both area and population of a country whereas road density measures road length over total area. The road service level comprises 3 indi-

cators which measure total road length to population, total vehicles and per RM100 million Gross Domestic Product (GDP) respectively.

As Malaysia strives towards achieving an industrialised nation status by 2020, it is pertinent to assess the present and future road development levels by comparing with those of the developed countries. Table 14.1 shows the comparison between Malaysia and six developed countries (the United States, Germany, England, France, Italy and Japan). The statistics clearly indicate that Malaysia's position is still relatively low.

Table 14.1: International Road Development and Service Levels, 1990

Country	Road Development Index	Road Density Level (Km/Km <sup>2</sup> )	Road Service Levels		
			(Km/1,000 per)	(Km/10,000 veh)	(Km/100 million US\$)
USA	4.10	0.66	25.29	334.57	137.63
Germany	3.45	1.97	6.05	158.18	43.69
England	2.88	1.39	5.96	137.82	49.36
France	4.61	1.47	14.50	319.65	92.39
Italy	2.28	1.00	5.22	117.74	39.96
Japan	5.16	2.94	9.05	211.63	46.50
Malaysia	0.82	0.19	3.50	113.90	198.11

P: Population (1,000 persons)

A: Area (km<sup>2</sup>)

L: Road Length (km)

Note: (1) Road Length: Total length of roads and highways

(2) Road Development Index  $D=L/(A*P)^{1/2}$

Domestically, the road development indicators by regions in Malaysia will identify areas that lack adequate road networks while prioritising road development on a regional basis. The Highway Network Development Plan (HNDP) shows that the RDI and RD for the East Coast are lower than the West Coast and similarly, lower in Sabah and Sarawak when compared to Peninsular Malaysia. However, the RSL is lower for the West Coast and Peninsular Malaysia compared to the East Coast, Sabah and Sarawak. Thus it is important to develop the highway network in these areas, to support the industrialisation efforts in these regions. It is also equally important to encourage the development of a good road network in the West Coast.

### Road Transport Problems

Problems and issues on existing road transport and highway network are summarised below:

- (1) *The need to strengthen the present highway network.* The existing highway network in Peninsular Malaysia is partially developed with two main axes from north to south and one from east to west. The linkage between certain regions are still weak, particularly between the east coast states and Penang or Kedah.

For efficient usage of the existing highway network, the improvement of existing federal roads and major state roads at the regional level is very important.

New linkages are particularly needed in the central corridor and the east coast states to encourage regional development programmes. To ensure total reliability of road transport, alternative routes or mitigation measures for flood and landslide-prone areas must be implemented.

As for Sabah and Sarawak, the highway networks are still in their infant stage. Moreover, there is no direct linkage between the two states. New linkages are needed to bring basic services and amenities to the hinterland areas of Sabah and Sarawak. Such linkages will also bring about greater development to the vastly undeveloped areas in the interior.

- (2) *The need to mitigate traffic congestion.* The completion of the North-South Expressway has temporarily relieved traffic congestion along Federal Route 1 in the west coast of Peninsular Malaysia. Efforts to widen and upgrade primary federal roads are timely, particularly when taking into consideration the deteriorating traffic situation on these roads and other trunk road sections within major urban areas. Bypasses are needed for fast growing urban conurbations in both the east and west coasts of the Peninsula to help relieve traffic congestion around these areas.
- (3) *The need to strengthen road structure and alignment.* Certain sections of the existing federal highways having under capacity problems, causing low travel speed and traffic bottlenecks. As such, efforts to strengthen the road structures and alignment of some deficient sections of the federal highways must be carried

out. Improvements should, therefore, aim at providing federal routes with adequate capacity for performing the intended functions of the highways.

Alignment selection should strike a balance between topographic features, composition of traffic, cost and safety level for routes running through hilly and mountainous regions. The construction of more sophisticated facilities such as tunnels and steel bridges should be pursued if it is to serve the alignment needs and reduce the loss of environmental features and surface vegetation.

For Sabah and Sarawak, increasing the paved length of federal and state roads should be placed as a high-priority project. The existing federal and major state routes must be improved to be all-season roads to encourage spatial development of both the states.

- (4) *The need to rationalise the role of road transport.* The present share of road transport in the country is overwhelmingly high. However, it is not going to be reduced so quickly in future given the versatility of this mode of transport and the weakness of other modes. If no effort is made to shift some of the traffic demand to other modes, large investments will be needed in the near future to continuously expand the road infrastructures in the country.

Certain freight transport such as long haul general cargoes can in fact be shifted to rail transport. Long distance passenger rail transport should be improved to shoulder some of the traffic demand in the future.

- (5) *The need to consider traffic safety.* The present road traffic safety level in Malaysia is worrisome. Accident statistics showed that Malaysia's accident and fatality rates are very high compared to the developed nations. It is important to consider the factor of traffic safety in highway planning and construction such as ensuring better horizontal and vertical alignments, sight distance, gradient, road surface conditions, geometry and lighting. The government has recognised road safety as a national problem and has in fact set a target to reduce fatalities caused by road traffic accidents by 30 per cent by the year 2000.

### Landmark Achievement in the Period Between 1990 and 1995

Between 1990 and 1995, the thrust of road development was to increase and improve road network, alleviate congestion and to open up new growth centres and rural areas. Total road network increased by 19.2 per cent from 53,984km in 1990 to 64,328km in 1995 with the level of paved roads increasing from 70 per cent in 1990 to 75.4 per cent in 1995.

**Network Improvements.** In improving existing linkages of road networks, several major projects were initiated. Three projects were undertaken along the east-west corridor. They were the East-West Highway Western Segment, the Simpang Pulai-Lojing-Kuala Berang Road and the upgrading of the Kuala Lumpur-Karak Highway to be a dual carriageway expressway. Meanwhile, the construction of the Shah Alam Expressway and the North-South Central Link Expressway will enhance linkages in the Klang Valley especially to the new KL International Airport (KLIA) in Sepang and the West Port of Port Klang.

Apart from the physical expansion of the road network, emphasis was also given to upgrade and widen existing roads as well as improve the qualitative and safety aspects of road infrastructure. Consideration was also given to environmental protection through the reduction of negative impact on the environment arising from road development. The construction of bypasses and road widening activities in Alor Setar, Johor Bahru, Kuching, Melaka and Sungai Petani to alleviate congestion, as well as 43 weigh bridge stations on existing roads for effective overloading enforcement were also undertaken. The First Trunk Road linking the major towns of Semantan, Kuching, Bintulu, Sibul and Miri in Sarawak and the upgrading of Telupid-Sandakan and Ranau-Telupid roads in Sabah were also completed.

Similarly, under the rural roads programme, a total of 5,445km of new roads was completed and the mileage of paved roads was increased by 5 per cent to 75 per cent.

Over the decade of 1985-1995, the road development index improved significantly by 48 per cent to 0.82 while road density increased from 0.12 to 0.20km length per square km area and thereby increasing road coverage and accessibility in any given area by 67 per cent. The road service level in terms of km per 1,000 persons and that of km length per RM100 million GDP increased by 31 per cent and 9.55 per cent respec-

tively over the same period. On the other hand, there was a 15 per cent decrease in km length of road per 10,000 vehicles due to 41 per cent increase of vehicles compared to a lower 19 per cent for roads.

**The North-South Expressway.** In early 1994, Malaysia witnessed the early completion and opening of the 847km and RM12,880 million North-South Expressway which linked Bukit Kayu Hitam (near the Malaysia-Thai border) to Johor Bharu (near the Malaysia-Singapore border). This new expressway of increased comfort and safety has reduced travelling time by half. In addition, there is a notable reduction in perceived costs after taking into account payable toll charges. The Expressway also facilitates new residential, industrial and recreational development along its corridor.

**Privatisation.** Another achievement that Malaysia can be proud of is the pragmatic approach adopted by the government towards privatisation which has resulted in the earlier and successful implementation of at least 15 road projects costing RM18,085 billion. These were all carried out through the 'Build, Operate and Transfer' concept. The construction of the North-South Expressway was privatised to United Engineers Berhad (UEM) in March 1988 with a 30-year concession period. Apart from the completion of the North-South Expressway, the government also initiated the implementation of another two major expressways through privatisation, namely the West Coast Expressway and East Coast Expressway.

The privatisation programme has reduced the administrative and financial burden of the government. Savings in capital expenditure generated from this programme has not only enabled the government to reduce its borrowing but has also helped to finance projects in other sectors of the economy such as education and health.

**The Highway Network Development Plan (HNDP).** In recognising the importance of forward planning and the role played by an efficient and safe road network in accelerating economic development and industrialisation, the government prepared a Highway Network Development Plan in 1993. The main objectives of the study were to formulate a development plan for the national highway network up to the year 2010 and to prioritise new and improved linkages in the planned network with re-

spect to technical and economic considerations. The focus of the HNBP was primarily on inter-urban network, excluding intra-urban facilities such as bypasses and ring roads that do not affect inter-urban traffic.

An extensive data collection involving a total length of 16,291km of road, seven different types of traffic surveys, home interviews of 50,000 vehicle owners, roadside interviews at 73 locations on existing road network and hearings with various state planning authorities were conducted. Based on the collected data and various socio-economic planning policies, parameters, considerations and constraints, a conceptual future highway network was derived and a future HNBP was subsequently recommended.

### Future Road Development

In order to achieve our country's Vision 2020, road infrastructure remains vital and needs to be intensified in a pragmatic and judicious manner. In order to effectively respond to this challenge, it is imperative that continuous upgrading and rehabilitation programmes for the existing highway network as well as investments in new highways be undertaken.

**Strategies.** The development thrust of the road sector will be guided by the following strategies:

- (1) **Supply-driven approach.** The supply-driven approach will be adopted for the expansion of road infrastructure which will take into consideration long-term demand, development projects and economic growth. This approach will be applied particularly to large infrastructure projects that are indivisible, requiring long lead time. In brief, road projects which take time to construct should no longer be based on demand but be supply-driven. In other words, new highways will be built even before there is a demand for them. This has been the underlying concept adopted by the government for some of the mega highway projects, such as the East Coast Expressway and the West Coast Expressway, where current traffic studies indicate that certain stretches are relatively less viable.

- (2) **Integrated planning.** Long-term integrated planning that incorporates a total approach will be adopted in road planning to enhance coordination and to ensure a more orderly, systematic and comprehensive development for the implementation of the highway network.

The HNDP's proposal will add another 15,298km to expressways, highways and primary roads of the existing network by the year 2010. When fully implemented, the HNDP will be able to support and promote national and regional development plans as envisaged in Vision 2020 and the National Development Policy. The HNDP will provide greater accessibility to all regions while further strengthening the existing growth corridors. In general, the overall recommendation of the study was to create a Principal Highway Network System comprising expressways and highways. Three north-south corridors were proposed for Peninsular Malaysia, while for Sabah and Sarawak, the highway network was proposed to be built along the entire coastal corridor of Sarawak, continuing into Sabah.

The total investment required for realising the HNDP by the year 2010 was estimated at RM53 billion with RM20.3 billion for construction of new roads and RM32.7 billion for upgrading and improvement of existing road network (price quoted in 1993). The study also identified financially viable projects that may be implemented via privatisation. In view of the huge capital investment required, the study proposed that projects be implemented through the 7th, 8th and 9th five-year Malaysia Plans extending to 2010.

In order for the HNDP to be a 'live' and dynamic plan, the HNDP will be periodically and regularly reviewed in order to update its planning parameters.

- (3) **Multi-modalism.** The promotion of multi-modalism in the transport sector will be actively pursued to enhance the interfacing of all modes of transport as well as related services in order to increase the efficiency of road infrastructure and its supporting services. It is also to reduce high dependence on road transport for both passenger and freight movements.

- (4) **Improved accessibility to rural areas.** The further expansion of the highway network to rural and remote areas is needed to enhance accessibility, in line with a more balanced and equitable distributive policy.
- (5) **Improved performance standards.** Continuous review and stricter enforcement of performance standards and technical specification for highway projects are needed to enhance productivity, efficiency, safety and quality of life.
- (6) **Promote new technology.** Efforts will be directed towards adopting, adapting and developing new technologies and environment-friendly construction techniques that will reduce time and cost while improving the quality and safeguarding the environment at the same time. The use of such technologies will enable faster construction and completion of road projects, reduce inconvenience to road users during the construction period and also to minimise destruction to the environment. At the same time, such expertise and services can be exported to other developing countries.
- (7) **Continuous upgrading and widening of existing roads.** Besides the construction of new roads, emphasis will also be given to upgrade existing roads, dualling and improving road alignment, pavement and geometry to enhance road safety and quality. To ensure the quality of road travel, the existing geometric standards will be more stringently enforced for expressways and new roads, including privately constructed roads used by the general public. In addition, dual carriageway to major towns, bypasses and ring roads will be implemented to improve the service level of urban roads and major arterial roads leading to towns.
- (8) **Emphasis on road maintenance.** A noteworthy trend in infrastructure development is the prevalence of the 'build syndrome', where efforts have been directed mainly towards the construction of new facilities. Little attention has been given to the maintenance of existing assets resulting in an accelerated deterioration of their conditions. Rehabilitation may no longer be feasible for some of them while complete rebuilding or replacement often impinges on scarce public resources, thus imposing heavy financial burden on the government. As such,

emphasis will be given to increasing operating expenditure for road maintenance programmes.

- (9) **Encourage further involvement of the private sector.** Road construction will be further accelerated through fast-track approaches, particularly through privatisation. The private sector in Malaysia is increasingly expected to complement and subsequently play a role in the provision and management of road transport infrastructure facilities and services. The role of the government will be reduced to that of regulating and monitoring the development and growth of the transport industries.
- (10) **Seventh Malaysian Plan (7MP), 1996-2000.** The overall road development plan will be guided by the HNDP to enhance Malaysia's competitive edge. Efforts will be made to expand road mileage and capacity, upgrade the quality of road travel through adaptation of new technologies in construction, improve road service level and safety as well as the further expansion of rural road network. Large and continuous investments will be allocated in order for the nation to achieve a higher road development index (RDI) and road density (RD) in line with its targeted developed status.

The Federal Government's allocation for the 7MP is RM67.5 billion, of which RM15.762 billion or 23.3 per cent is for the transport sector. Of the total allocation for this sector, 63 per cent is for roads, 21.8 per cent for rail, 3.1 per cent for ports, 8.2 per cent for airports and 3.4 per cent for urban development. There is also a sizeable amount of RM17.505 billion of private sector investment for road development projects through privatisation. This emphasises the government's commitment to ensure that road facilities are ahead of demand. An additional 16,100km of roads are anticipated to be constructed and upgraded by both the public and private sectors. The RDI will improve to 0.94 and the RD from 0.20 to 0.25km of road per square km area. This does not include the continuous programme to upgrade and seal unpaved rural roads.

- (11) **New roads.** The road expansion programme is to increase road coverage and improve the road network. The new roads inclusive of rural roads will be built to higher design, pavement and geometric standards that will ensure longer durability and

lower maintenance costs. This will contribute to the opening up of new areas, accessibility of rural areas, expansion of new industrial activities in rural areas as well as to facilitate the movement of larger commercial and heavy vehicles serving these industries and consequently accelerate rural and regional development.

The focus of the road development projects is the completion of the Titi Karangan-Grik section of the East-West Highway, the Simpang Pulai-Lojing-Kuala Berang Road, the Pan Borneo Highway linking Miri and Limbang, Kuala Lumpur Middle Ring Road II and the Johor Bahru Inner Ring Road. Other facilities in this Plan include the Batang Rejang Bridge, the Lundu-Sempadi-Selang, Lingau-Sebuyau, and Matu-Igan-Oya Coastal Roads in Sarawak. The estimated cost of new major road projects under this plan is RM1.652 billion.

- (12) **Upgrading of roads.** Besides constructing new roads, efforts to upgrade existing roads and improve road alignment, pavement and geometry to enhance safety and quality will be also be emphasised. Thus far 272 stretches on the existing road network have been identified to be accident prone, of which 147 have been earmarked for improvement under the 7MP. Similarly, the completion of the weigh bridge stations will also bring about the implementation of an effective enforcement loading regulation to reduce road damage and ensure the safety of road users. In addition, dual carriageways to major towns, bypasses and ring roads will also be implemented. Among these major projects are the upgrading of Bentong-Kuala Lipis Road, Kuala Kangsar-Grik Road and Beaufort-Mempakul, Merotai-Kalabakan and Beaufort-Papar roads in Sabah. The estimated cost to upgrade major roads under this plan is RM790 million.
- (13) **Privatisation.** Road construction can be further accelerated through fast-track approaches particularly through privatisation. The privatisation of the North-South Expressway will be a guide for future projects. 16 privatised road projects have been identified under the 7MP inclusive of 8 projects from the previous Plan. Some of the new projects include the West Coast Expressway, East Coast Expressway, Kuala Lumpur-Putrajaya-Kuala Lumpur International Airport Highway at

Sepang and the Butterworth Outer Ring Road. The continuation projects meanwhile would include the Second Link between Malaysia-Singapore as well as the upgrading of the Kuala Lumpur-Karak Highway and the new North Klang Straits bypass. The total estimated investment in the privatised highway projects amounts to RM17.505 billion, which is an indirect saving for the government.

### Water Supply

During the sixth plan, the economy of Malaysia grew by an average of 8.7 per cent, which was among the highest in the region. This factor coupled with a stable government which is committed to provide full water supply coverage to consumers by the year 2005, is a clear indication that water-supply infrastructure will have to grow to keep pace with increasing demand. Along with economic development comes social improvement. As the people become more affluent, the per capita consumption will also increase. This is due to the ability of the people to pay as well as a more affluent lifestyle.

As a result, the government now sees the need to increase the competitiveness of the industry, the reduction of monopoly, the abatement of raw water pollution and the improvement of reliability and quality of treated water supplies. As in the case of any industry, the water-supply industry is not one which can exist in isolation. It is an industry which needs supporting industries which are not normally provided for within the industry itself, such as manufacturers, suppliers, contractors, consultants, training, information technology, financial as well as legal services.

**Increase in Demand.** For the past 35 years, water demand has been increasing at an average rate of between 9 per cent and 10 per cent per annum. The current demand of 7600 mld is projected to increase to 11700 mld by the year 2000. As nearer and cheaper sources are almost exhausted, future supply will have to depend on bigger schemes, almost inevitably requiring the construction of dams, large treatment plants, long transmission mains and water transfers. Under the Seventh Malaysia Plan, the allocation for water supply is about RM3 billion, representing 4.5 per cent of the total development budget of the Plan.

Although Malaysia has an abundance of rain water, averaging 2400mm per annum, the uneven spatial and temporal distribution of runoff means that areas of high demand cannot be satisfied while wasteful runoff occurs in areas of low demand. To combat this, inter-state and inter-basin transfers are necessary. Present examples are the Muda River-Penang, Johor River-Singapore and the Muar River-Melaka water transfers. Other areas include water transfers from Perak to Kedah, Pahang to Selangor, and Pahang to Negeri Sembilan. These projects also involve the construction of storage dams, conduits and tunnels. Furthermore, the legal framework to facilitate inter-state transfer of water needs to be promulgated.

**Consumer Profile.** The overall national water-supply coverage is about 88 per cent. This translates to a coverage of 99 per cent in the urban areas and 77 per cent in the rural areas. By the year 2005, a near 100 per cent coverage is targeted for all areas. The total number of consumer connections at present is about 3.9 million. Out of this, 78 per cent are for domestic usage while the remaining 22 per cent are for commercial and industrial purposes. Domestic consumption generally varies from 0.5 to 1.0m<sup>3</sup> per household a day depending on whether it is a rural or urban area. With rising living standards associated with a buoyant economy, it is anticipated that per capita consumption will rise.

**Changing Expectations.** During the early stages of national development, consumers were more than happy if water was available. The water pressure, its quality as well as the frequency of interruption were of secondary importance. However, as the country progresses and the economy shifts from being agriculture-based to one which is industry-based, there is now an overwhelming need to ensure quality and reliability in the water service. To safeguard national interests and to maintain investors' confidence, the issues of reliability and quality have been given high priority. Domestic consumers too have become more health conscious and have come to expect a high-level of service from the water-supply authorities ranging from quick attention to their complaints, reasonable charges, staff who are attentive and courteous, as well as the enjoyment of wholesome water. All of these factors pose serious challenges to the water-supply authorities who must continuously strive to meet the consumers' expectations.

**Strategies to Meet the Challenges.** In order to meet the challenges, multi-faceted solutions are needed. It would include:

- (1) **Increasing supply.** The traditional method of meeting increase in demand is by constructing new capital works. New sources from which raw water could be extracted have been identified. This could range from simple run-of-the-river schemes to a more complex system of dams and water transfers. New treatment plants, transmission mains and terminal reservoirs would have to be built. This approach, taken singularly, is costly as such projects have a long capital recovery period. Another way is by rehabilitating and upgrading existing treatment plants in order to produce additional capacity.
- (2) **Reducing demand.** Alternatively, increase in water usage can be tackled from the demand side of the equation. The reduction of non-revenue water is an example. Next is the conservation of water such as water-saving devices and public education via water-saving campaigns.

Another way to lessen the stress on supply systems is to recycle used water. In some countries, water is recycled for non-drinking purposes. For heavy water-consumption industries, processed water could be treated after use and recycled. In Japan, the amount of water recycled within the industrial sector has increased dramatically from 52 per cent in 1970 to 74 per cent in 1980, and gradually stabilising to about 76 per cent today.

- (3) **Strengthening the institutional setup.** To cope with these challenges, the government has been responsive to the needs for effecting changes in the institutional set-up. Once water supply was operated by the Public Works Department, today most states have agencies dedicated to undertake this function. It is only to be expected that in states where water supply is still managed by the Public Works Department, there will be greater needs towards establishing dedicated state water-supply agencies. It is through specialisation that these agencies can better focus on improving efficiency. Corporatisation or privatisation will bring about a more dynamic approach to staff recruitment, deployment and development to ensure that the

right people are engaged for the right job. No amount of modern machinery can totally replace human resources. The role of water-supply managers is also very crucial and it is expected that they will be the agents who will bring about change to meet the challenges.

There is also a need for a better enforcement of the water-supply legislations. Similarly, legal provisions and water-supply rules need to be re-examined in an effort to promote more effective conservation and recycling efforts.

- (4) **Deploying new technology.** The deployment of modern technology is recognised as an effective way to meet the challenges faced by the water-supply industry. Improvements are being made in the field of treatment, instrumentation, control systems, new pipe materials, new water-saving devices and recycling. In the developed countries, many of the functions previously handled by workers have gradually been automated. Hence very large plants can now be managed by only a handful of engineers and technicians who are fully trained to use and maintain the sophisticated equipment. This is seen as a sound approach to solving the many problems associated with difficulties in getting semi-skilled and unskilled workers in a tight labour market situation. The capital investments of millions of ringgit in building new and sophisticated plants will certainly require qualified and trained personnel for effective operations and maintenance.
- (5) **Corporatisation/Privatisation.** In line with the government's policy, efforts are being carried out by the State Governments to corporatise or privatise their water-supply authority. Johor took the lead by having its Water Supply Department corporatised in February 1994 while the Kelantan PWD privatised its water-supply function in October 1995. For the other states, the move towards corporatisation is being addressed. The corporatisation or privatisation of such a department will radically transform its operating environment, necessitating a responsive change to the organisational structure, skills, values and style of management. Such an organisation must now be profit-driven while not neglecting the needs of customers and

stakeholders. It is the right of the consumer to expect a better quality and level of service.

- (6) **Modes of water-supply privatisation.** Privatisation in the water-supply sector in some states started with the long-term service contracts on some segments of the water-supply operations. In this context, the operation and maintenance of several treatment plants have been privatised in some states. In a similar mode, water-supply metering and billing services have also been privatised. Another mode of privatisation in the past was the construction of new intake works and treatment facilities on the "build, operate and transfer" (BOT) basis. In future, privatisation will be on a holistic approach where all facets of the system will be privatised. This approach will ensure total responsibility on the part of the operator to provide an avenue for cross-functional subsidy.
- (7) **New Development, Rehabilitation and Upgrading Works.** The 5-year development plan budgets for water supply have been increasing steadily over the years: from RM538 million under the Third Malaysia Plan (1976-1980) to more than RM3000 million in the Seventh Malaysia Plan (1996-2000). Due to the rapid growth in demand, past efforts have focused mainly on producing and supplying water to consumers. As the system aged, deterioration set in, causing high losses and low service levels to consumers. Many of these systems now require rehabilitation and upgrading to bring them back to optimum performance. For the first time, under the Sixth Malaysia Plan, the treatment plants and distribution systems in 12 districts were studied for rehabilitation and upgrading purposes. Also new in the Sixth Malaysia Plan is the improvement of the distribution system serving industrial areas. As the pace picks up, the allocation for the same purpose under the Seventh Malaysia Plan has also increased. To complete this programme, more funds will be allocated in the subsequent five-year plans.

### Management Reforms

- (1) **Information Technology.** It is a fact that no rich nation is information-poor. Conversely, it is just as true that there is no poor nation which is information-rich. Such a situation has not hap-

pened by chance. It is by intent and design that developed nations have acquired such a status. If we are to achieve the status of a developed nation by 2020, much has to be done in the area of information technology for the water-supply sector. Information systems, advanced instrumentation, automated monitoring, control and mapping systems are necessary. The days when one keeps information on the water-supply system manually are numbered. The systems today and of the future will grow in size and complexity, necessitating the use of computer technology for efficient management. Future systems will be monitored and controlled by computers programmed to handle a wide range of situations, enabling quick decision making and reducing response time—factors crucial in an increasingly competitive environment.

- (2) **Water Quality Assurance.** The government has instituted a framework comprising legislation and guidelines to cover the preservation of raw water and the prevention of contamination of drinking water. The Environmental Quality Act covers the licensing and control of pollution sources. The proposed Drinking Water Quality Act, once legislated, will mean that all water purveyors will be legally bound by prescribed standards and procedures in the treatment and supply of drinking water. The National Drinking Water Quality Surveillance Programme launched in 1983 is to ensure that the supplied drinking water complies with the National Drinking Water Standard which has been adapted from the standard recommended by the World Health Organisation.

Likewise with the privatisation of the sewerage service on a country-wide basis, the quality of sewage effluent into the river system is expected to improve. This, together with in-plant water quality monitoring should ensure that water quality remains wholesome during the passage of the water from the plant to the consumers.

- (3) **Total Quality Management (TQM).** Total Quality Management is the philosophy that defines management principles which emphasise customer satisfaction by giving assurance of product and service quality as well as quality improvement. Quality management is not mere quality control. While quality

control describes the inspection of work products, quality management involves the whole fabric of the organisation from the top management, staffing and systems. In a service business like water supply, Total Quality Management would mean that the water authority must not only be technically adept at producing good, wholesome water but such a work culture must extend right down the line to the customers. Customer satisfaction has to be the driving force which shapes the organisation's focus, values and style. In future, quality expectations may progress to such an extent that water-supply authorities will find that they have to strive towards achieving the ISO 9000 certification as part of their ultimate goal.

- (4) **Research & Development (R&D).** To strive to be an industry leader and remain competitive, research and development programmes are necessary. Applied research is one area that should be looked into since it acts as an essential tool for translating the country's needs into fundable agency programmes and for adapting new technologies into the water-supply industry. It is a link between ideas and action—a bridge between unserved needs and the provision of services to meet those needs. The water industry has been relying heavily on imported technology from developed countries. However, one does not need to reinvent the wheel. Adoptive and adaptive research into appropriate technologies suitable for the local market could be intensified with the ultimate aim of complying with the desired performance standard.

While the government is expected to be the main source of R&D funding in the foreseeable future, the private sector is expected to play an increasingly important role, especially with the implementation of a more favourable holistic approach towards privatisation.

### Conclusion

Industrialisation is the engine of growth which will propel the nation to achieve the status of a developed country. For this to occur by the year 2020, large investments for infrastructure are needed. This consideration together with rising consumer sophistication, means that this need must be met not only by way of capital investments both by the government

and the private sector in new works but also by the provision of a higher level of service that is increasingly being expected.

Pragmatic policies and strategies, prudent and dynamic economic management as well as concerted efforts are the essential ingredients towards the full realisation of our vision's objective of becoming a developed nation by the year 2020. This responsibility poses a big challenge to the administrators and planners in their efforts towards meeting the future infrastructure requirement in Malaysia.

MALAYSIA: THE REGIONAL CENTRE  
FOR INFORMATION AND BROADCASTING

*Mohamed Rahmat*

MALAYSIA'S Vision 2020 encompasses all the challenges ahead for our fellow Malaysians as it seeks to address relevant agendas which the country should look into to meet the needs of the present and the near future.

One of the pertinent challenges of the nine principles of Vision 2020 which is unfolding now is the making of Malaysia as the regional centre of information and broadcast in order to elevate its present status to be on par with the rest of the developed world.

The political scenario enveloping many of our neighbours in the Southeast Asian region has enabled us to a certain extent, to become the regional centre of information and broadcast, particularly when taking into account the existing goodwill and excellent rapport our country has with neighbouring states. These factors are contributory in helping Malaysia to achieve its objective of becoming the regional hub of information and broadcast.

Today, Kuala Lumpur has five international satellite stations including INTELSAT Standard A and 12 earth stations around the country with antenna measuring between 4.5 and 32 metres in diameter.

These facilities provide telephone, telegraph, telex services, in-coming and out-going transmission for overseas television programmes signals.

The development of infrastructure construction towards achieving the government's objective is the Kuala Lumpur Tower on Bukit Nanas. The RM250 million gigantic structure of over 420 metres is the tallest concrete structure in Southeast Asia and the third in the world.

Functioning as an international telecommunications pole, the Kuala Lumpur Tower will facilitate all overseas and domestic needs of telecommunication services including telex, transmission of data and photographs using advanced technology.

The smooth launching of Malaysia's first satellite, MEASAT 1 from Kourou in French Guiana in January 1996 reflects the progress our nation has attained over the last few years in the field of telecommunications and it is another step nearer to our objective of becoming the regional centre of information and broadcast. Broadcasting in Malaysia is the exclusive right of the government. Licences must be obtained from the Minister of Information for broadcasting purposes. Amendments to the Broadcasting and Telecommunications Acts are being made to accommodate the changing technological, social and cultural landscapes. Such changes will permit Malaysians to purchase dishes of a certain specification capable of picking up signals from MEASAT-1 only. Malaysia will still maintain its "closed-sky" policy.

MEASAT, which falls under the category of new generation satellite was designed to meet the broadcasting and communication needs of the Asian region. MEASAT will beam programmes direct to users almost immediately without any censorship. However, TV stations will have to get clearance from the government on foreign channels. With the launching of MEASAT 1, Malaysia can now claim its rightful position amongst the developed nations as far as space technology is concerned and its ability in developing an informed and progressed society.

The construction of the satellite is a collaboration between a local firm, Binariang Sdn Bhd and its partners Hughes Communication (Philippines) and World Wide Sport and Entertainment Company (US). For this project, Binariang used the Global System Mobile (GSM), the latest and world-renowned digital satellite telephone networking system.

The media ownership policy is such that licences are awarded to consortiums comprising business entities rather than private individuals or single organisations. As an initial step in gearing itself to be the regional centre of information and broadcast, MEASAT Broadcast, a local broadcasting company has laid the foundation in the construction of the Asian Broadcasting Centre (ABC) in Sungai Besi near the federal capital of Kuala Lumpur. Upon completion, the centre will offer the latest and state-of-the-art television, radio, data and information services to all Malaysians and those in the region.

#### Asian Broadcasting Centre

The proposed services and facilities at the centre include transmission and encryption, production studios and computerised customers' man-

agement system, acclaimed to be the latest and the most sophisticated of its kind in the world. When ready, the broadcasting centre located on a 350,000 square feet of land will have an all-digitalised production and transmission complex. In addition, the centre will also offer the latest technology in video transmission and production as well as multilingual audio system which will enable MEASAT Broadcast to offer a mixture of international and local programmes to meet the needs of customers.

At the centre, all programmes will undergo stringent processes including digitalisation, reduction of bit frequency, error-correction system, encryption, scrambling and digital modulation before they are transmitted. Basically, the application of digital technology end-products.

### Major Breakthrough In Digital Broadcasting

Small dish multi-channel video has become a reality. Digitalisation system ensures better quality video products as well as guarantees superior signals transmitted out of state-of-the-art equipment. For the rapidly-growing TV markets of Asia, the analog approach should be bypassed in favour of the digitalisation system. The bit frequency reduction system using the latest compression technology to increase the capacity of channel allows for the doubling of the video and audio channels. The conversion technique to control the receiving capacity which will be transmitted to MEASAT Broadcast and its clients will be given access codes. This code application technology, coupled with anti-recording features gives protection for prime time broadcast.

### Users Terminal

This facility includes an antenna of between 50 and 75cm in diameter, integrated receiver decoder instrument (IRD), access card or smart card to convert signal codes and remote control equipment for programme selecting.

The antenna dish can receive signals from the MEASAT system and at the same time intercepts the receipt of unauthorised transmission. The smart card is a gateway which allows clients access to the world of digital codes. The card will convert signal codes to allow users to receive the authorised transmission.

All the sophisticated equipment allows films to be integrated with the surrounding noises and the digital quality gives audiences a cinema-

like presentation. Part of the programmes will be broadcasted in various languages while listeners and viewers are free to select the desired programmes. The terminal offers variants of extraordinary features including data transmission.

### **Integrated Entertainment And Information System**

Consumers want programming that offers diversity, value, choice and convenience. Subscribers must find the product entertaining, of good value, and something which they can relate to.

MEASAT Broadcast services will be complemented by its international and local partners. This will enable "Made in Malaysia" products which are creative and innovative to be exported. News and Malaysian programmes are also readily available to be beamed to the region and its vicinity via the application of MEASAT system. A total of 20 video channels will be loaded with the various programmes and broadcast services. A mixture of local and international programmes such as entertainment, news, sports and others will be provided for the customers. This data service will be integrated with access to the Internet (of information superhighway) via modems and softwares incorporated in the satellite.

Interactive contents such as text, graphics, video or data will be provided either separately from the television programmes or concurrently to boost its presentation to the audience.

The Broadcasting Act 1988 will be amended by the government to allow Malaysia to become the regional centre of information and broadcast with the legalisation of parabolic antennas. However, the government will limit the usage to certain types of antennas which could only receive signals from MEASAT Broadcast.

The amendments will also take into account the introduction of the latest innovations, capabilities and facilities in the broadcasting industry—transnational broadcasting, portable link-ups, DTH broadcast, etc.

Currently, Malaysia has four television channels—TV1 and TV2 owned by Radio Television Malaysia, TV3 by Sistem Televisyen Malaysia Berhad and Metrovision by City TV Sdn Bhd. TV3 and Metrovision are privately-owned television stations.

When MEASAT becomes fully operational, it will have over 20 channels, a full studio production complex and uplink site. There is no doubt that Malaysia is actively joining others in the region with the proliferation of channels in Indonesia, Thailand, the Philippines and Singa-

pore. These countries are improving their production facilities to meet the growing demand for quality programmes.

In this connection, the number of radio stations have also increased over the last few years, with the participation of Time Highway Radio and Redifussion radio services. This development reflects the important and challenging role of the electronic media because society is now able to evaluate the kind of entertainment and information provided for them. The government has announced that by the year 2000, 80 per cent of all programmes must be local. The role of broadcasters is increasingly becoming more challenging as the information fed to the audience will consist of domestic as well as international matters.

Malaysia will spend some RM800 million to acquire the digital telephone network which is better known as the Integrated Services Digital Network (ISDN) which is capable of transmitting both video and data in a single channel via copper wire or fibre optic or both concurrently.

This goes to show that investment in the telecommunications industry gives favourable and wider returns with potential for growth while allowing foreign companies to offer the latest technology in the telecommunications sector. The digital application is expected to be enlarged substantially and will help the publication of printed materials in most of the publication agencies in the country.

It is interesting to note that Malaysia is capable of producing 3,000 books by 300 publishers annually and production is expected to increase many folds if the latest digital technology in printing is applied in the industry. As such, the industry is set to attract foreign publishing facilities and technology.

### Conclusion

Generally, the groundwork prepared to make Malaysia the regional centre of information and broadcast could be clearly gauged by the various mechanisms and its long-term planning, indicating firm commitment on the part of the government and the private sector. The promotion of computer application in schools, institutions of higher learning, the government administration and the private sector along with the emphasis of English as the language of knowledge, are some of the examples to illustrate this seriousness.

The application of the various technology in broadcasting will enhance Malaysia's capability as a nation that can produce better quality

products via precise mediums such as video, film, television, radio and advertisement. The elaborate preparations to emerge as the regional centre of information and broadcasting will definitely deliver positive yields in as far as the fundamental aspect of investment is concerned.

Foreign investors thus, can expect widespread, increased and up-to-date information and entertainment from Malaysia, a country committed to building excellence.

ENERGY AND POWER DEVELOPMENT:  
A TENAGA NASIONAL STORY*Ani Arope*

THE Malaysian Government released the Seventh Malaysia Plan (7MP) report on 6 May 1996 in its quest to achieve the overriding objective of creating a more united and just Malaysian society. The 7MP will shift the focus from an investment-driven strategy to a productivity-driven strategy to ensure continued high growth with price stability and enhance the nation's international competitiveness. This will enable the productive sectors of the economy (with the private sector as the main engine of growth) to embark on higher value-added activities, including more technology-intensive industries. As a result, the contribution of total factor productivity (TFP) to growth is expected to increase from 28.7 per cent of Gross Domestic Product (GDP) in the Sixth Plan to 41.3 per cent in the 7MP.

Since its corporatisation in 1990 and privatisation in 1992, Tenaga Nasional Berhad (TNB) has given greater emphasis to new technology or the upgrading of technology, innovation, superior management techniques and specialisation, workers' education, skills and experience and advancement in information technology. These are crucial ingredients to ensure greater improvement in efficiency and productivity in its operations.

TNB is not averse to new technologies. As the largest single consumer of primary energy, TNB vigorously pursued the four-fuel option to ensure the success of the national fuel diversification policy. Several first of its kind major hydro, new gas and coal-based power plants were commissioned in the 1980s e.g. Bersia, Kenering, Kenyir hydro stations; Paka combined cycle plants and Port Klang coal 300 MW units. TNB is now embarking on another first; a 500 kV transmission project and soon the first 500 MW units in the country.

From 1985 to 1995, TNB provided the base demand for Peninsular gas so that the nation can protect the huge investments in gas supply; gas processing plants and PGU 11 pipeline from Kerteh to Pasir Gudang and Port Klang. Apart from its success in implementing the four-fuel policy, TNB also played a major role in the success of the privatisation policy. Initially, its own privatisation and subsequently the smooth introduction of independent power producers (IPPs).

In this regard, Malaysia is probably unique in Asia as it successfully privatised its biggest utility and introduced private power within a short time. Today, Malaysia can boast of at least 11 power companies capable of undertaking small to large IPP projects anywhere in the world. TNB is very proud to be a major catalyst for this achievement. The global market is huge for TNB alone to embark on lucrative international IPP ventures.

The main function of TNB will still be ensuring adequate, secure and cost-effective electricity supply, diversifying and utilising energy resources efficiently for electricity generation and minimising the negative impacts of its operations on the environment. Since IPPs are here to stay, TNB has the added role to act as a proxy for millions of electricity consumers in determining the most appropriate purchase price. This new and delicate role must be exercised judiciously to ensure the success of national policy on private power and to safeguard the interests of customers and that of TNB shareholders and employees at the same time.

#### Progress 1991-1995

The most significant event during the Sixth Plan period was the power shortage experienced from late 1992 to mid-1993 when the TNB system reserve margin declined from a comfortable level of 33 per cent in 1990 to 18 per cent in 1993. TNB responded by embarking on a fast-track power development programme while the government issued five IPP licenses to supplement TNB's crash programme. A total of 5,535 MW of new capacities was added in Peninsular Malaysia, of which 51 per cent was by TNB and the remainder by IPPs. The period 1991-95 witnessed the loss of TNB's power generation monopoly but the reserve margin increased to 61.1 per cent in 1995 and customers no longer suffered losses and inconvenience from power shortage.

In retaining monopoly in transmission and distribution, TNB expanded the transmission and distribution network, both to increase coverage and enhance system reliability and stability. Over 5,000 circuit-kil-

ometres (cct-km) of high voltage lines ranging from 132 kilovolt (kV) to 275 kV were installed. TNB also began the implementation of a major 500 kV transmission project in 1995.

In distribution, comprising 33 kV, 22 kV, 11 kV and 0.415 kV lines, TNB expanded its network from 25,765 cct-km in 1990 to 44,276 cct-km in 1995. The system was reinforced by the addition of 8,753 substations.

In line with its corporate responsibility, TNB continued to support the government's rural electrification programme by investing around RM100 million during the Sixth Plan period. Electrification level of the Peninsula's rural households reached 99 per cent in 1995 from 91 per cent in 1990.

### Development To The Year 2000

In electricity planning, it is necessary to allow sufficient lead time from planning to commissioning for major power projects. Projects identified for completion in the 7MP period have already been decided with on-going implementation schedules. The TNB system will be further strengthened by 3,437 MW, bringing the total Peninsula's total installed capacity to 13,548 MW in the year 2000. The major generation projects will include:

- (1) Pergau Hydroelectric Project (TNB) 600 MW
- (2) Segari Energy Ventures, Lumut (IPP) 1,300 MW
- (3) Melaka Combined Cycle (TNB) 300 MW
- (4) Port Klang Phase III (TNB) 1,000 MW

With electricity demand projected to grow at 11 per cent per annum, the reserve margin in the Peninsula is expected to decline to 29.7 per cent in 2000. Simultaneously, efforts will be made to improve and reinforce the Peninsula's transmission and distribution network to enhance operational efficiency and system reliability. On the west coast, the National Grid will be further strengthened with the implementation of 500 kV north-south transmission line.

The first phase, comprising the Port Klang-Rawang-Gurun sector and Pasir Gudang-Yong Peng sector will be completed by 2000. In order to enhance and ensure the effectiveness of the Grid, the National Load Despatch Centre (NLDC) and Regional Control Centres (RCC) will be

upgraded to help minimise interruptions and reduce transmission losses.

TNB will also expand and upgrade its distribution network to ensure smooth and reliable operation as well as focusing on high quality electricity supply such as voltage stability. Establishment of regional and localised Supervisory Control and Data Acquisition (SCADA) systems will enable TNB to monitor on-line throughout the Peninsula. To cater for the specific needs of industries that are sensitive to the quality of electricity supply such as the manufacturers of wafers and microprocessors in the electronic industries, the special quality monitoring units of TNB will be upgraded. Measures will also be implemented to enhance customer satisfaction via proactive planning, dialogue sessions, marketing efforts and the use of the latest technologies.

TNB will not forget its social responsibility and will continue to support the government's rural electrification programme. Coverage of rural households in the Peninsula is expected to reach 100 per cent by 2000.

#### Prospects to the Year 2005

The single biggest issue discussed at present is the Bakun Hydroelectric project which is expected to produce an average annual electricity generation of 13,725 GWh when completed around 2003. Of this amount, 12,850 GWh is earmarked for Peninsular Malaysia and 875 GWh for SESCO systems or 1,553 MW and 100 MW respectively, in terms of firm capacity. As a load factor of 80 per cent, this project will preempt the use of some 5.5 million tonnes of coal annually, valued around RM560 million in 1995 prices. The completion of this massive national project will also mark the beginning of the proposed integration of the electricity-supply systems of the Peninsula, Sabah and Sarawak.

TNB is directly involved in ensuring this national project is completed for obvious national strategic reasons. Although its role is limited to securing a fair purchase price at present, TNB expects to benefit in other ways when the project is implemented. The delicate balancing act of ensuring the interests of all stakeholders: project developers, consumers, TNB shareholders and employees necessitate due diligence in all matters.

Bakun alone will not be sufficient to meet expected increase in the demand which will reach 16,389 MW in 2005. TNB must seek other sources especially development of new coal stations and the Peninsula

hydro potentials. Gas is not expected to be an option for new capacities in the 2001-2005 period unless new sources are made available in the Peninsula such as the Malaysian-Thai joint-development area (JDA), Vietnam and Myanmar as well as perhaps LNG.

While still preliminary, about 2,000 to 3,000 MW of new coal capacities would be commissioned till 2005. Development of the Pergau-size peaking or pump storage hydroelectric projects is also envisaged.

With Bakun, the integration of the 500 kV line from Pasir Gudang to Gurun would be completed by 2005. Planning for 500kV inter-connection with South Thailand and even Sumatra could be expected before 2005 to realise the Asean power grid. Distribution network would continue to be expanded and reinforced especially to ensure the success of the North-South industrial corridor on the east coast.

### The Electricity Business

Having outlined the probable power development till 2005, allow me to elaborate on the electricity business. What makes the electricity business special and challenging are the following features:

- (1) Large capital-intensive and irreversible investments;
- (2) Electrical installations (generating plants, transmission grid and distribution network and substations) have long expected economic lifetimes and payback periods;
- (3) Production consists of a mix of different plants with different levels of variable costs depending on the energy inputs;
- (4) The uncertainty about availability of different plants at a given point in time can be substantial. Variations in precipitation between different years influence production potential of hydroelectric plants while technical failures influence the availability of all types of power plants;
- (5) Large power plants require long construction periods which also contribute to long lead times;
- (6) Since both production and transmission systems have considerable effects on the environment, the process of seeking approvals is extensive with long planning time frame;
- (7) Customers demand both power or capacity (kilowatt) and energy (kilowatt-hour) and both must be taken into consideration;

- (8) Electricity is a kind of self-service which the customers do not have to queue up for. Once produced, electricity cannot be stored, while simultaneously the customers decide, within wide limits, both the time and extent of their consumption;
- (9) Although homogeneous in a physical sense, electricity has several dimensions when considered as a service.

The multi-dimensional nature of electricity has given rise to different markets for electric power with different prices. Thus, the electricity market can be divided into sub-markets for:

- (1) High and low voltage electricity;
- (2) Peak, shoulder and off-peak energy;
- (3) Firm and interruptible deliveries or secure power and less-reliable power;
- (4) Regional sub-markets.

The product is, therefore, most complicated. To some extent, the electricity market is also external as it involves the export and import of electricity between neighbouring countries. Our power system is interconnected with those of the Public Utilities Board of Singapore and the Electricity Generating Authority of Thailand.

As an agriculturist with long working experience in the rubber and palm oil industries, I view Tenaga Nasional Berhad as another commodity company. Both electricity and commodity futures are invisible products. When directly touched, electricity can be fatal. Similarly, wrong price forecasts of commodity futures can also be fatal. Electricity can be considered a mystical product: invisible, odourless and cannot be touched!

#### Electricity—Enabling Vehicle for Sustainability

There is now great concerns on sustainable development at international and national levels. To my knowledge, electricity is the only energy source with zero emission. It's also very versatile and convenient to use, at the touch of a switch. Electricity is a major enabling vehicle for technological innovation to offset natural resource pressures and improving the productivity and efficiency of economic activities.

Electricity continues to play a unique role in technological innovation. It is the finest form of energy with a high degree of control and can power the smallest appliances to the largest industrial processes. Indeed, progressive and prosperous North America, Japan and Western Europe have a hundred times more generating capacity per capita than the group of least developed countries which represent over half the global population.

When it comes to protecting the environment, it is clear that quality of life and availability of electricity are intimately connected. Electricity improves environmental performance in a number of ways; through switching to cleaner primary energy sources, reduction of emissions, improving the efficiency of generation, delivery and use of electricity, and pollution prevention through management of by-products.

Electricity is the energy carrier that can most efficiently and productively convert the complete range of primary energy resources, putting oil, gas, coal, nuclear, hydro, solar, wind and bio-mass energy sources to effective use. Great progress is being made in improving the overall efficiency of power generation.

Electricity generation was only about 5 per cent efficient at the turn of the century, but now is typically between 35 and 40 per cent while new combined cycle plants under construction are expected to attain more than 50 per cent. The technological trajectory for advanced combustion turbines and fuel cells indicates future efficiencies in the range of 70 per cent are likely within the next quarter century. The delivery system is also on the verge of dramatic improvements in efficiency with the introduction of power electronic controllers to improve stability and increase capacity of the grid.

Over the past century, electricity has provided science with new diagnostic tools to penetrate matter, space and time. Electricity opened the gateway to the electromagnetic spectrum in the early part of the 20th century. Initially, it allowed control and access to the radio and TV frequencies, as well as X-rays. In recent decades, scientists and engineers have expanded the use of different frequencies of the spectrum including gamma ray, infrared, microwave and ultraviolet. The result has been an explosion of diagnostic tools which in turn have revolutionised the fields of medicine, materials science, biotechnology, computers and space sciences, among others.

The ordered nature of electromagnetic energy permits it to be focused to a much higher degree than thermochemical sources. Plasma sources can produce surface energy densities in an order of magnitude higher than the combustion sources, while lasers and electron beams can be focused to produce energy densities a million times those of conventional energy forms.

Such ultra-high density sources can almost cause instantaneous melting or vaporisation of materials which are difficult to process by conventional means, such as hard metals and ceramics, permitting very high cutting and welding speeds with extremely high precision. This is indicative of the kind of productivity gains possible from an energy form capable of being converted from any natural energy resource and capable of being subsequently transformed from 50/60 Hertz to any frequency on the electromagnetic spectrum.

The efficiency and precision of electricity provide a means to address pressing local and regional environmental concerns. A few examples indicate the wide range of solutions that electricity can and does provide:

- (1) Electronic adjustable-speed drives allow the speed of motors to be precisely varied without loss of efficiency or damage to the motor, saving energy and improving process control.
- (2) Electric furnaces are more flexible in size and more economical than basic oxygen blast furnaces, and can melt 100 per cent scrap steel.
- (3) Infrared heating for industrial drying and curing is an alternative to conventional gas ovens for setting finishes on many products, including painted car bodies and home appliances.
- (4) New electric technologies such as hydro-pyrolysis, microwave or plasma processing can either destroy infectious wastes without incineration, or disinfect and shred the waste, permitting disposal in municipal landfills.
- (5) Electrical vehicles, which are typically 60 per cent more energy efficient than gasoline vehicles, also promise important environmental benefits in our quest to seek "zero emission", "zero noise" and perhaps "zero accident" (limiting vehicle speed in cities) solutions.

### Human Resources Management

Another major challenge to TNB is managing our greatest assets—manpower. In previous era of public enterprises, the ability to control is of utmost importance to the top management. In the new era of privatisation and competitive environment, individualism and creativity are equally important. The human mind must be given sufficient room to expand because its potential is virtually limitless.

The role of management is to become a business facilitator and leave all else to be managed by experts and specialists but within agreed boundaries. A conductor relies on members of a symphony to play their musical instruments according to the notes. The result is a piece of beautifully orchestrated music which is very pleasing to our ears.

I must caution that the change process of converting the organisation from a public enterprise to a private one can be frustrating, especially to replace entrenched culture with a new one. This requires patience and great understanding.

### Conclusion

TNB plays many roles to support and ensure the success of relevant government policies on energy development, rural electrification, sound environmental management, technology dissemination and adaptation, human resources development, privatisation and even vendor development programme. In other words, TNB has been a very faithful and strong supporter of the government in its endeavour to turn Malaysia into an industrialised nation as prescribed in our Prime Minister's Vision 2020.

TNB has built the necessary track record in adapting and operating new technologies. I am confident TNB will equally do well in the future. Environmental concerns will also be properly managed as TNB has vast experience in undertaking environmental impact assessments for its diverse range of major projects.

For the 7MP and beyond, TNB is well-positioned to proactively respond to the new productivity-driven national strategy. TNB has already instituted a tailor-made MBA programme for its executives, master craftsman training for technicians, established its own engineering and technology institute (IKATAN) and R&D centre to facilitate effective technology transfer. On information technology, TNB has already installed its own optic fibre network.

The results of these activities and new undertakings would surely bear fruits to ensure a willed-trajectory of exponential improvement in efficiency and productivity for TNB.

17  
BUILDING A 21ST CENTURY  
TELECOMMUNICATIONS INFRASTRUCTURE:  
BINARIANG'S MEASAT PROJECT

*Donald (Duffy) F. Swan*

THE successful launch of the nation's first satellite early this year was a proud moment for all Malaysians, for it was on that day that MEASAT put Malaysia in space. For many, this is seen as a timely move towards becoming a regional telecommunications hub as inspired by Vision 2020, while others see it as a significant step towards developing the country's space technology. Through both perspectives, there is no doubt that MEASAT, or Malaysia East Asia Satellite, will make an impact on the way we communicate, exchange information and acquire entertainment. It represents a key component of the advanced telecommunications infrastructure that we are developing, which will help shape the future of the communications, entertainment and information industries in this country. As a regional satellite, MEASAT can help more than one billion people within its footprint keep in closer touch with each other, and with the rest of the world.

Historically, satellites have revolutionised communications. Space communications via satellites allow the transmission of information to any place on the globe within a fraction of a second. Instant communications, instant information and instant results are elements of a world that is becoming one huge web of inter-connectivity.

For Malaysia, this inter-connectivity is vital if she is to succeed in establishing a strong industrial base and achieving more equitable nationwide development. A satellite communications system represents one of the best solutions with its capacity to transmit information over vast distances. A series of communications satellites in geostationary orbit already encircle the earth 36,000km above the equator, ensuring a continuous exchange of data, video and audio signals between transmitting and receiving stations anywhere on the earth's surface.

In the Asia-Pacific region, the satellite services market has grown exponentially since the 1980s. In 1995 alone, 12 communications satellites were launched. Today, 47 domestic and regional satellites serve the Asia-Pacific region, with around 45 per cent of the transponder leases attributed to television broadcasting and distribution. By the year 2000, this region will have access to approximately 40 per cent of the world's total transponder population, and 79 commercial satellites will be in geostationary orbit over the Asia-Pacific arc between 57 and 128 degrees East.

The dynamism of Asian economies and the fast-growing communications, entertainment and information industries in this region have spurred the development of technologically-challenging satellites for applications in various niche markets. As such, satellites that are being launched in the region are of a new generation, carrying a hybrid payload of high-powered C and Ku bands which will allow the growth of Very Small Aperture Terminal or VSAT networks. The high-powered Ku bands also will mark the beginning of a new era of direct-to-user or DTU broadcasting services.

MEASAT, which falls in this category of new generation satellites, was specifically designed to meet the broadcasting and communications needs of this region.

MEASAT-1, the first of the multiple-satellite system, was successfully launched on the morning of January 13, 1996 (Malaysian time), from the European Space Center in Kourou, French Guiana.

Ten days after the launch, MEASAT-1 arrived at its orbital slot 91.5 degrees East and the deployment phase began, which was carried out from our MEASAT Satellite Control Centre located on the island of Langkawi on the northwest coast of Peninsular Malaysia. The centre is manned by 25 Malaysians, comprising spacecraft and ground engineers, controllers and orbit analysts who were trained at Hughes Space and Communications Company in the United States and Optus in Australia.

The MEASAT system comprises two high-powered spacecraft which are enhanced versions of the reliable HS376 satellite built by Hughes. Both spacecraft will provide high-powered digital capacity to Malaysia and other countries in East Asia. The initial MEASAT system is designed for rapid introduction of service. MEASAT-1 is now ready to provide core regional capacity over the East Asian region, while MEASAT-2 is designed to at least duplicate the first as a back-up satellite

and further augment MEASAT's service with additional capacity and expanded regional coverage.

MEASAT-1 carries an advanced hybrid C band and Ku band payload specified by a team of Binariang engineers and consultants. Based on an innovative design, it is the first HS376 to use a bi-propellant system for more fuel and weight efficient propulsion. Also, it is the first commercial satellite to use the gallium arsenide solar cells, which convert solar energy to electrical energy with an efficiency rate of 19 per cent, compared to 12.3 per cent for silicon solar cells.

MEASAT-1 Ku band footprint comprises switchable spot beams over Malaysia, the Philippines and India. In addition to five Ku band transponders, MEASAT-1 also carries 12 C band transponders, whose footprint will cover the East Asian region. This C band service will provide commercial and economic benefits to all regional network operators who require broadband capacity for video, data and voice services.

MEASAT-2 will have an equivalent of 12 C band transponders covering the Asean region, as well as Australia and Hawaii. The 9 Ku band transponders on MEASAT-2 will provide spot beams over Peninsular Malaysia, Eastern Australia, Vietnam, Taiwan and Indonesia. MEASAT-2, which is being built by Hughes in El Segundo, California, is scheduled for launch in late October 1996.

The premier MEASAT payload is the high-powered pioneering Direct-To-User or DTU Ku band system. This innovative technologically advanced Ku band system will be able to overcome the heavy tropical rainfall climate of the Southeast Asian region. Ku band is known to be susceptible to attenuation due to heavy rainfalls, therefore small home antennas were not able to receive transmission. However, a digital solution has overcome this problem and will, for the first time, allow Ku band applications to be successful in this predominantly heavy rainfall region. It involves powerful digital signal processing and modulation techniques as well as compression algorithms to achieve maximum redundancy recognition and low bit rates. The digitally-compressed video signals are then forward error corrected which increases the bit rate and enhances the tolerance to rain attenuation.

The DTU system will thus allow small 50 cm antennas and receiver systems. These antennas will thus receive good quality Ku band transmission which is digitally coded. Digital DTU video transmission will thus be able to go, not just to homes, but to businesses as well.

Fixed satellite services that Binariang will offer through MEASAT will focus on industries which require specific Very Small Aperture Terminal or VSAT-based networks and other value-added services which are experiencing a high growth in demand. The global VSAT market has grown by some 37,000 sites in the past year and it appears that the growth will continue with deregulation. The spectrum of applications will see the growing use of VSATs in this region in the area of education, financial and government services, as well as in the transport and retailing industries.

Currently, there are some 280,000 VSAT units worldwide and about one-third are in the Asia-Pacific region. In this region, around 33 per cent of the VSATs are being utilised in the financial sector, while the government sector uses 20 per cent. The need for private networks is the key in driving the VSAT business in the Asia-Pacific region. The primary application for private networks is two-way data communications, although a growing number of users are opting for voice communications as well. The deregulation taking place in the Asia-Pacific region will allow for the growth in the VSAT applications, especially in the business sector.

Also, it is anticipated that distance learning via satellite will impact strongly on the education industry for both the government and the private sectors. Rural classroom teaching will be revolutionised. School children will be able to attend daily classes in classrooms and later, at home by watching a video broadcast. They can receive schoolwork and assignments and have access to the school library on-line. Completed assignments can, then, be sent to the teacher who can relay the results of the graded work by video or E-mail.

An electronic resource library is currently being set up and will be linked to all the 8,000 public schools in urban and rural areas in Malaysia via MEASAT. This will allow students access to the library and to the Internet.

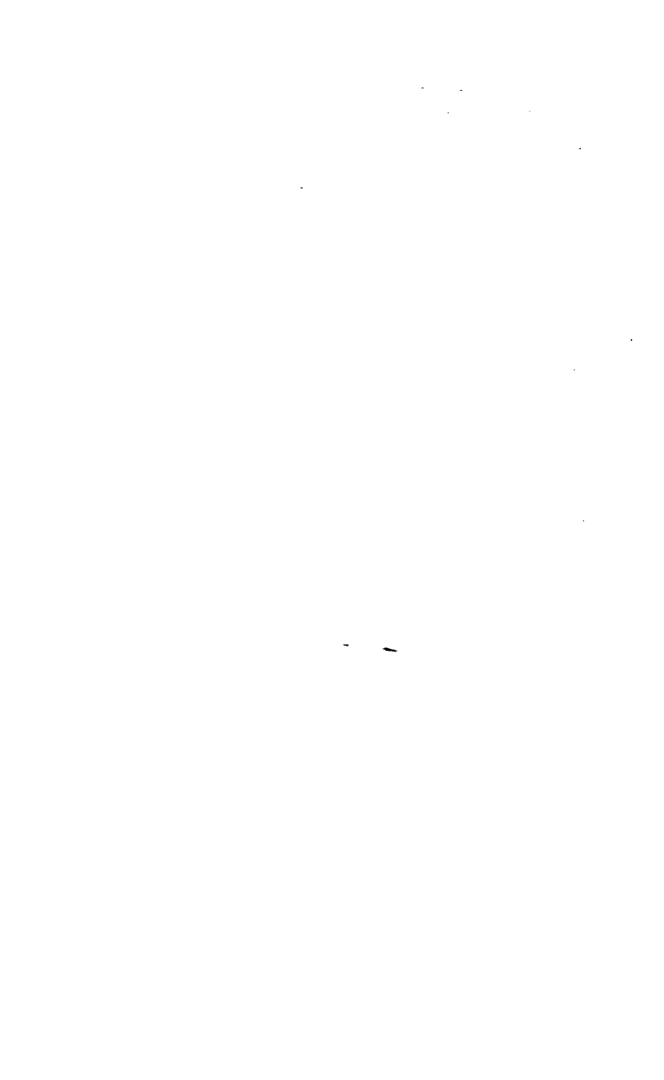
Public services can benefit tremendously from satellite-based networks. Government administration for various public-related services like registration and identity card and passport processing can be done more efficiently with a satellite-based network.

MEASAT is well-poised to be a key link in the regional communications and broadcasting networks in the region, as it takes its place among the league of new generation satellites. Equally important for Malaysians

is the fact that it is an integral part of the 21st century communications infrastructure currently being developed by Binariang that will act as a backbone for a wide variety of multimedia services offered under our trademark, Maxis.

Maxis is a multimedia business which provides access to communications, entertainment and information services, via direct and wireless connections within selected markets. When completed, this integrated infrastructure will comprise MEASAT and its associated ground systems; Maxis Mobile, which is Malaysia's first GSM network; Maxis Home and Maxis Business, which are our fixed wireline services; and Maxis International, which is our IDD service. Likewise, MEASAT Broadcast Network Systems Sdn Bhd, Binariang's sister company, will use MEASAT to provide an expanded array of entertainment, education, business and information services throughout Malaysia, beginning in the third quarter of 1996.

For Malaysia, joining the space race is timely not only for its communications infrastructure but also for the vital regional and eventually, global link. As a new generation satellite, MEASAT is set to play a significant role, not only in Malaysia, but also in the Asia-Pacific region as a whole.



18  
21ST CENTURY AIRPORT:  
FOCUS ON THE KUALA LUMPUR  
INTERNATIONAL AIRPORT PROJECT

*Jamilus Hussein*

BOOSTED by the economic dynamism of the region and in its relentless pursuit to achieve developed-nation status by 2020, Malaysia has embarked on a major programme of infrastructural development. At the centre of this programme is the development of the new K.L. International Airport (KLIA) in Sepang. Apart from replacing the existing Sultan Abdul Aziz International Airport at Subang, the new KLIA has been designed to be the main international gateway into Malaysia with the potential to be a major regional hub. It has been so designed to provide facilities and services that will attract both airlines and travellers alike, thus boosting the growth of the tourism and services sectors.

Taking into cognizance the constraints faced by the Sultan Abdul Aziz International Airport for any further expansion, the government in 1991 gazetted 10,000 hectares of land, an area large enough to meet present and future air traffic demands. The strategic location of the new airport in the vicinity of Sepang apart from providing easy access from the business and administrative centres will itself be a nucleus of economic activity and a precursor to the development of a new growth centre in this region.

The Master Plan allows for phased modular expansion of the airport to match traffic growth such that at the ultimate phase, KLIA will be able to handle up to 100 million passengers per annum with two mega terminals, four remote satellites, four full-service runways and other associated facilities. The opening phase of KLIA is planned for 25 million passengers per year. It will comprise a main terminal building with contact pier, a remote satellite terminal building linked to the main terminal building by a people-mover system called the tracked transit system (TTS), two parallel runways of 4km each and the associated taxiways, a control tower, cargo and aircraft maintenance facilities, flight catering fa-

cilities, short-term and long-term car parks and other ancillary facilities necessary for the operational needs of airlines, passengers, the airport and aviation authorities, operators, concession holders, agents, handlers and other related users.

Surface road access is by way of the privatised North-South Expressway Central Link (NSECL) which will enable parallel access from the North-South Expressway via a new interchange north of Nilai and through the NSECL itself direct to Batu Tiga in Shah Alam, Selangor. A dedicated toll highway is being built directly linking Kuala Lumpur, the new administrative centre at Putra Jaya and KLIA. A high-speed express rail link will also be constructed from KLIA to a new City Air Terminal in Brickfields, Kuala Lumpur.

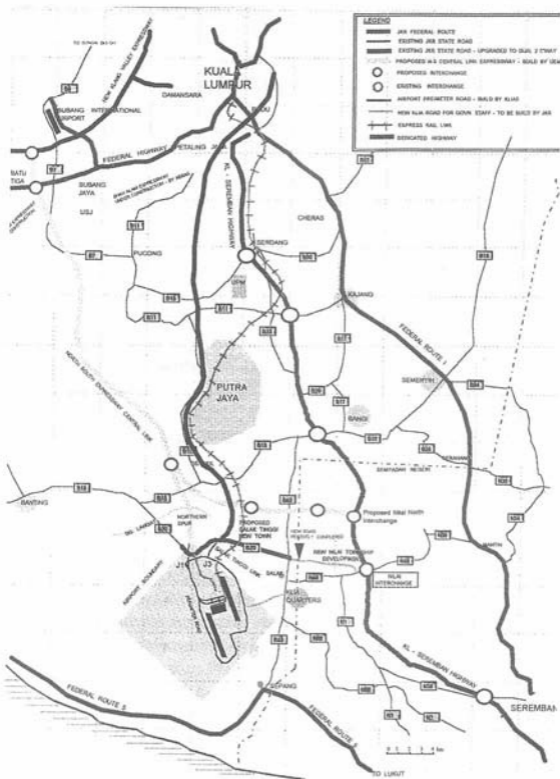
KLIA has been designed to be equipped with facilities to ensure passenger convenience, safety and comfort. The building layouts of passenger terminal complex building comprising the Main Terminal Building, Contact Pier and the Satellite Building will provide smooth, efficient and direct passenger routes while simultaneously enhancing the passengers experience of the buildings through their unique architectural forms and structures as well as modern high-tech systems.

There will be minimum level changes for both arriving and departing passengers with most of the facilities accommodated at one level for passenger convenience. The reduction in the change of levels would provide better comfort and direction orientation for passengers. The walking distance for passengers will be kept to a minimum and wherever possible moving sidewalks will be provided for passenger comfort and convenience.

In order to achieve the shortest possible waiting time for arriving passengers, the Baggage Handling System selected for KLIA will consist of a high-speed belt conveyor and belt sorter system for carrying baggage between the Main Terminal Building and the Satellite Building. In total, 33 kilometres length of conveyor belts will be installed in the BHS with 10 high-speed belt lines running through the 1090 metres of tunnel linking the Main Terminal Building and the Satellite Building. With a sorting system capable of handling 200 bags per minute at peak periods, passengers will be ensured of a shorter waiting time for their baggage.

The Tracked Transit System (TTS) to be installed for KLIA between the Main Terminal Building and Satellite Building is a fully automated people mover system with two shuttle lines of car trains operating inde-

Map 18.1: Existing and Proposed Road System between Kuala Lumpur and Kuala Lumpur International Airport



pendently. The trains will be remote controlled and monitored by a computerised system. Initially, there will be two trains of two cars each, operating on their own guideways with a capacity of 3000 passengers per hour per direction. Provision has also been made for the inclusion of an additional car for each train to meet future demand of 5700 passengers capacity per direction.

Two train stations are provided for the TTS, one at the departure level at the Main Terminal Building and the other at the Satellite Building, a distance of 1.3 kilometres and travelling time of approximately 2 minutes. Each car has two automated doors at each side for boarding and a capacity of 80 passengers. Air-conditioned and using electric motors for propulsion and rubber-tyred, running on concrete guideways, the TTS ensures a comfortable ride for passengers plying between the Main Terminal Building and the Satellite Building.

The Total Airport Management Systems (TAMS) to be installed at the KLIA is a sophisticated computerised system that inter-faces and integrates the majority of the electronic systems within the airport environment. TAMS is made up of several components which include common and very typical airport systems like Flight Information Display System, Point of Sales System, Passenger Screening System and Security System. TAMS is the method of inter-connecting, integrating and distributing of information from these systems throughout the airport to facilitate monitoring and management, thus ensuring efficient and effective running of the airport. Approximately 19 subsystems will be integrated and inter-connected into a single operating environment. The quantity of electronic systems and local area network inter-faced to TAMS, and their level of integration would put KLIA at the forefront of airport management systems.

TAMS will be an integral component of Malaysia's Multimedia Super Corridor which encompasses the Kuala Lumpur City Centre, Putrajaya and the new KLIA. TAMS will provide the airport operator and all relevant government departments involved with the tools to secure information for management. In addition, TAMS will enhance airport profitability through the creation of new resources and the efficient operation of the established airport resources. TAMS will enhance the image of KLIA in the eyes of the public through improved airport services, convenience and functions.

The chosen runway configuration for the opening phase would provide an estimated operating capacity of between 90-100 movements per hour on a two-runway mixed mode operation. A total of 73 aircraft stands comprising 46 contact stands and 27 remote stands capable of handling a maximum of 83 aircraft under the concept of the multi-aircraft stands have been provided. To provide for future generation large bodied aircrafts, 5 stands with a stand dimension of 85m by 85m have been provided in anticipation of the new aircrafts coming into operation in early 2000.

Apart from the modern facilities and systems that will be installed, the new KLIA is also designed to be an environment friendly airport with its central theme of an "airport in the forest" and a "forest in the airport". The forested edges of the airport will serve as a buffer to keep the surrounding development in control, while concentric landscape and forest rings are proposed to surround the airport site creating the effect of an 'airport in the forest'. The courtyard between the Main Terminal Building and Contact Pier, as well as the centre courtyard of the Satellite Building will be densely planted to create an image of the Malaysian Rainforest thus portraying the effect of a 'forest in the airport'. Strategically located forest areas are proposed within the airport site to act as natural landmarks evoking ideas of a tropical image. Essentially, the creation of a tropical image with its accompanying theme of an "airport in the forest" and "forest in the airport" will serve as a counterbalance to the high-tech features of the new airport.

Recognising the growth potential of non-aeronautical revenue especially from retailing and concessionaires operations, adequate floor space has been earmarked for retail and commercial development at strategic locations at the Passenger Terminal Complexes at both the Main Terminal Building and Satellite Building. Covering an area of approximately 26,000 sq metres, about 200 outlets could be accommodated consisting of among others a generous cluster of electronic products, fashion, cosmetics and perfume outlets as well as the customary duty-free and tobacco shops.

The first phase development cost of KLIA is estimated between RM8 and RM9 billion. Apart from an initial government grant, a substantive portion of the development cost will be funded by loans raised from local institutions.

Since the commencement of the project with the initial award of the enabling works in late 1993, much progress has been achieved. Out of a total of 81 packages (excluding the privatisation packages), 40 packages totalling RM5,210 million have been awarded. Eleven packages totalling RM213 million are under evaluation while 3 others are under the tender period. The remaining 27 minor packages are expected to be tendered out progressively by the end of this year. Earthworks are nearing completion and works on the construction packages in respect of the various facilities like the Passenger Terminal Complex, Satellite Building, Runways and Aprons are progressing rapidly in order to meet the deadline to have the new KLIA ready and operational by early 1998.

RAILWAY NETWORK:  
MEETING FUTURE TRAFFIC DEMAND

*Abdul Rahim Osman*

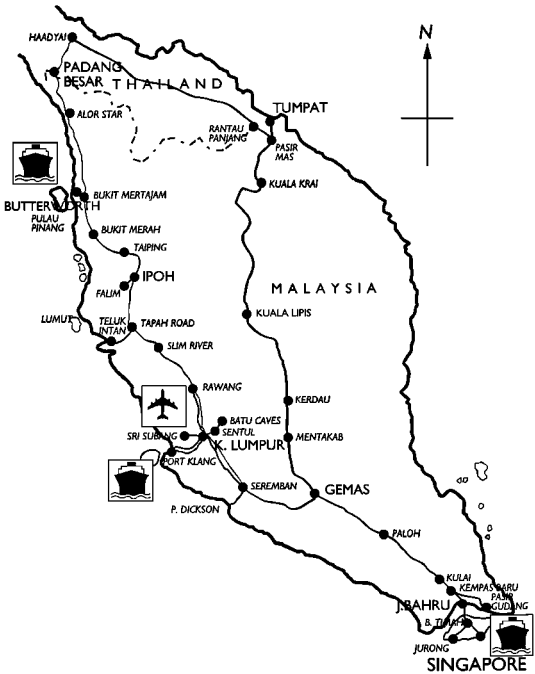
RAILWAY in Malaysia has a long and fascinating track record going back over a century—to June 1885. In that year, the first stretch of 12.8 kilometres of track was laid essentially to transport buckets of precious tin ore from Taiping to Port Weld. Then the network grew to support the growth in agriculture especially rubber, palm oil and timber. As the country progressed into manufacturing activities in the seventies, the railway played an important role in transporting manufactured goods for export.

In parallel with the development of the economy, the then Keretapi Tanah Melayu (or Malayan Railway), popularly known to the Malaysian public as KTM, had to adapt with technological innovations. The motive power progressed from steam to diesel in the sixties and today the railway is utilising electrical energy to run the commuter service.

The organisation of KTM also went through significant changes. After more than 100 years in operation as a government body, KTM was corporatised on August 1, 1992. Effective that date, the organisation has been renamed Keretapi Tanah Melayu Berhad or in short KTMB. It operates as a private sector organisation competing with other modes of transport in the open market.

Today, KTMB is a dynamic organisation which provides a safe, economical and reliable rail-based transportation system. Its railway system in Peninsular Malaysia is now made up of 2,227 kilometres of track. The company envisages to continue to be a major railway operator, well diversified into other businesses like property development and related transport and logistic activities.

Figure 19.1: Keretapi Tanah Melayu Bhd Railway Network



### Railway Services Today

The railway network is shown in Figure 19.1. Basically, the network spans from Padang Besar in the north to Singapore in the south on the west coast corridor passing major cities and towns like Butterworth, Ipoh, Kuala Lumpur, Seremban and Johor Bahru. The line in the east coast branches from Gemas to Tumpat. KTMB's track is connected with the railway in Thailand via Padang Besar and Rantau Panjang. Therefore, it is possible today to take a through train ride from Singapore to Bangkok via Kuala Lumpur on the same metre gauge track. KTMB's network is linked to nearly all major ports such as Port Klang, Penang Port and Pasir Gudang Port through various-branch lines suitable for bulk and inter-modal transportation.

KTMB runs 42 inter-city passenger services, 96 commuter services and 78 freight trains daily. The popular express trains such as Ekspres Rakyat and Ekspres Sinaran serve the main line corridor from Butterworth to Singapore. The services are complemented with Ekspres Langkawi which covers the northern corridor and Ekspres Timuran in the east coast in addition to ordinary mail trains and regional services. The new electric commuter train service introduced in August 1994 has received an overwhelming response from the public that 44 more sets will be added to the earlier 18 sets by the end of 1996. This will enable commuter trains to run at 15 minutes frequency during peak hours in sectors Rawang-Seremban and Sentul-Kuala Lumpur-Port Klang. In the freight sector, most trains are operated as liner trains mainly for carrying cement, containers and petroleum.

For the past few years, rail-based transportation systems have received good acceptance from planners and authorities. We are witnessing new railway systems like the Light Rail Transits (LRTs) and monorail being built in the Klang Valley. The first 12 kilometres of the privatised STAR LRT from Ampang to Kuala Lumpur will begin operations in July 1996 while the next phase of 14 kilometres will be ready before the Commonwealth Games.

The second privatised LRT system, to be operated by PUTRA will serve a route length of 30 kilometres from Petaling Jaya to Gombak via Kuala Lumpur city centre. It will integrate with KTMB's inter-city and commuter trains at the proposed new central station, Kuala Lumpur Sentral.

### Future Traffic

To support Malaysia's Vision 2020, the railway has to remain as one of the important transportation infrastructures of the country. However, its development has been rather slow in the past because more emphasis has been given to the development of other modes of transportation, especially roads. Rapid economic growth has brought about related problems caused by the inability of the infrastructure of roads to meet present-day needs. This is characterised by urban migration into large cities by the populace in search of employment and other amenities offered by the cities. Inadequacy of appropriate infrastructure will result in problems such as road traffic congestion, increased accident rate as well as air and noise pollution. This calls for an effective and qualitative public transport available within a rail-based system which meets operational and environmental requirements.

Looking at the scenario in Malaysia, the transportation sector has become very competitive especially with the completion of the North-South highway. As far as long-distance passenger sector is concerned, speed is a critical success factor which needs to be considered in railway development, if the railways were to play a major role in this sector. Future services are expected to cater more for the business traveller segment in addition to the traditional leisure segment.

The structural transformation from an agriculture/commodity-based economy towards industrialisation has somewhat affected the market segments served by the railway and hence the types of rolling stock. As a result, old box-cars and specialised agriculture products wagons (e.g. for carrying logs, palm oil, latex) are being phased out and replaced with general purpose container wagons. KTMB will concentrate on bulk and long haul transportation. The transportation of cement, dangerous cargoes like petroleum and chemicals as well as manufactured goods in containers will be the mainstay of freight traffic in the future. Realising this scenario, KTMB's plan for future railway development is based on the following considerations:

- (1) Increasing the speed to reduce travelling time, especially for passenger trains.
- (2) Expansion of commuter services to major cities other than Kuala Lumpur.

- (3) Increasing 'line capacity', productivity and efficiency through modernisation of infrastructure (e.g. double track, electrification, modern signalling).
- (4) Improvement of railway linkages to ports and airports.

### **Future Railway Development**

**Integrated Transport System.** The challenge to meet the demand for public transportation in Malaysia is formidable. In addition to infrastructure, it is also important to consider the whole transport system, planning and management. In the context of land transportation, the two major components are road and rail. The two modes must be well-integrated in order to provide an efficient total system of land transportation. To achieve an integrated system with efficient mode inter-facing, a coordinated approach is imperative while the development of infrastructure has to be streamlined. This is important in planning any transportation centre and system like common ticketing.

**Continuation of Double Track.** With the completion of the double track serving the Klang Valley, the system has been planned to be extended to the north, up to Butterworth and to Singapore in the south. The scope also includes electrification and modernisation of signalling and communication systems.

**Rail Link to the New Seaport and Airport.** A new port at Pulau Indah, an island west of Port Klang has been built to cater for an increase in cargo following the country's booming economy and the expanding international trade. A new railway line is being built to the new port, taking off as a spur from the existing line between Kuala Lumpur and Port Klang. Another railway link will be built to serve Johor's second port in Tanjung Pelepas. The new Kuala Lumpur International Airport in Sepang, will also be linked with a railway system to provide easy access to link the capital city. The government plans to locate a fast train service between the airport and the city air terminal in the new Kuala Lumpur Sentral Station.

**Rail Link to North Butterworth Container Terminal.** In Penang, the North Butterworth Container Terminal (NBCT) has been completed to handle containerised cargo. A railway link of approximately 2.5km is be-

ing constructed between NBCT and the railway station in Butterworth to handle the movement of containers.

**Commuter Services in Johor and Penang.** Following the success of KTM Komuter in the Klang Valley, a similar system is being built in Johor from Kulai to Johor Bahru including a spur line to Senai Airport. There is also potential for expanding the services to Butterworth and its surrounding areas.

**Higher Speed Passenger Trains.** In order to win the passenger market, KTMB has to offer shorter time journeys. This may be achieved by utilising special trainsets which can run at a higher speed of up to 160 kph on metre gauge tracks. Currently, KTMB is evaluating the possibility of using trainsets with the tilting technology on its existing routes.

**Trans-Asian Railway.** The double tracking and infrastructure upgrading for the tilting trains will form the bases for implementing the Trans-Asian Railway. The network which forms a continuous link passing Singapore, Malaysia, Thailand, Cambodia, Vietnam and China will contribute towards economic development of the East Asia Region. It would also be possible to connect with the railways in Europe at a later stage.

### Conclusion

Looking at the economy and world trends, the setting is conducive for the railway to make a comeback into the 21st century. Although the economic growth is very encouraging, the railway is facing a big challenge in view of the highly competitive nature of the transportation industry in Malaysia. In order to become one of the main contributors towards the success of Malaysia's Vision 2020, the railway organisation must be willing to change, innovate and improve the business processes to sustain growth and handle competition.

TOWARDS BUILDING EXCELLENCE:  
THE KUALA LUMPUR CITY CENTRE PROJECT

*Hamzah Bakar*

PLANNING well into the next century, Malaysia has set its vision to become an industrialised and developed nation by the year 2020. However, Malaysia's dream of becoming a developed nation would not be fulfilled by industrial or economic growth alone. Economic growth can only be the means to achieving socio-cultural advancement within a planned, sustainable environment, carefully developed and transformed to reflect Malaysia's move towards developed-nation status.

During the post-independence years of modernisation and urbanisation, Malaysia has been able to stave off the more severe problems of explosive urban growth faced by other cities in the region, such as Bangkok, Jakarta and Manila. However, with the current sustained pace of economic growth in the Klang Valley, Kuala Lumpur, Malaysia's capital city, must take steps not only to solve the normal urban growth problems, but also to plan ahead, and focus on building excellence in order to make Kuala Lumpur a leading city in this region, consistent with Vision 2020.

Kuala Lumpur has changed gradually in the course of economic growth and urban development. Big businesses and hotels moved to the so-called "Golden Triangle", the new business district or CBD for Kuala Lumpur, outside the old city core. Many residents too have moved to the less congested housing areas in the outskirts. A number of attractions, including shops and cinemas moved out as well.

In an effort to bring life back to the city, the authorities have allowed more apartments and condominiums to be built close to the city core. The demand for these high rise accommodation increased because people's lifestyles were changing and also because of convenient access to the city amenities and workplace. In response to this new trend and consistent with the policy to revitalise and create a vibrant city for the year

2020, the government initiated efforts to rationalise and improve public transport to and within the city. This included the phased construction of a light rapid transit and city monorail networks and reorganised bus transport system. It is hoped that with better public transport and new amenities, the city would be able to attract and sustain a bigger population and a more vibrant city life. A bigger population of 2.2 million is expected to be living in Kuala Lumpur in the year 2000 as compared to just under a million in 1980. This means a bigger market for consumer goods, entertainment and other services which translate into more built-up space.

There is also a significant external factor influencing the move to building excellence and the transformation of Kuala Lumpur into a new city. With increasing foreign investment in the country, there is also a noticeable increase in property developments such as new office buildings, hotels, residential apartments and shopping centres. Foreign companies look for modern office accommodations in the city. Local companies, especially those who have made it to the top, are moving to the higher grade and newer offices. Even office workers are now indicating preference for more comfortable offices: new, spacious, efficient and "intelligent".

As Kuala Lumpur grows and evolves from a regional to an international base, the city will need to build more up-to-date commercial, social and communications infrastructure in order to be able to play its role effectively.

All the above demands of the new city could not be met by the previous city centre. There was clearly a need to build a new city centre and a new concept for the city centre.

### A New City Centre for Kuala Lumpur

The opportunity to develop a new city centre for Kuala Lumpur presented itself in the early 1980s when the Malaysian Government announced the decision to relocate the Selangor Turf Club from the prime city location to the edge of the city.

The 100-acre Turf Club was big enough to be developed into such a city centre. The location was right too. It was situated at the top corner of Kuala Lumpur's Golden Triangle, with its own economic catchment rapidly growing. Access was also easy. The nearby Jalan Tun Razak, which served as a beltline for the city, provided direct and quick access

for visitors from all around Kuala Lumpur. The existing road network around the property offered efficient entry and traffic dispersal channels to the development. All that was needed were improvements to the capacities of these roads and efficiencies of their intersections.

In 1990, Seri Kuda Sdn Bhd, the company set up to develop the Turf Club property, organised an international competition among well-known urban masterplanners and architects to choose a suitable masterplan for a new city centre for Kuala Lumpur. The winning design, submitted by Klages, Carter, Vail & Partners was selected by a committee representing the investors, the city and the Malaysian Government. High-level government involvement, both at the conceptual stage as well as the design stage, was critical because of the national significance of the project. The development must project the national vision, at home and abroad. It must be in harmony with the nation's heritage and a prime example of building excellence. As a private sector investment, the project must be commercially viable and bankable.

#### The Concept: A City-within-a-city

The development concept was that of a city-within-a-city. To be called the Kuala Lumpur City Centre (KLCC), the concept provided for a living place as well as a workplace. It would be a place for visitors from other parts of Kuala Lumpur, from other states and from other countries. It should attract people to come and spend time there and make the place alive. It should therefore, provide a pleasant environment for the people.

As a national landmark in the global setting, the development should be typically Malaysian. It should reflect the Malaysian openness, tropical greenery, vibrant colours and patterns of the country's rich cultural heritage and the inevitable water of the country's tropical rainforest climate.

Taking all the above into account, the masterplan envisages the development of the 100-acre site into 40 acres of commercial facilities and 60 acres of public areas including a 50-acre public park.

Twenty-two commercial lots fringing the park will be developed into 1.7 million square metres (18 million square feet) of built-up space over a period of ten to fifteen years. The commercial space would comprise office buildings, hotels and other residential facilities, shops, entertainment and recreational amenities and other services. It will be a self-

contained city-within-a-city of high international standard and excellence befitting the status of a newly-developed nation.

In effect, the KLCC masterplan is an exercise in building excellence as it carefully provides for an integrated development with an appropriate balance between commercial and public land use; between natural greenery and engineered masonry; and between international image and national heritage.

### Development in Phases

It was decided that phasing of the KLCC development was necessary for several reasons. It would allow for a more gradual addition to the commercial property market in Kuala Lumpur, viz, the markets for office space, hotel rooms and retail space. In terms of safety, environmental protection and potential impact on the traffic along the adjoining roads, phasing would facilitate more control over construction activities at the busy site. It would also allow for easier financing, both in terms of avoiding a glut in the market and consequently high-revenue risk, and it also allows the financing sector to take up the project in smaller bites.

The first phase of the Kuala Lumpur City Centre project is the development of an integrated office and retail complex on 14 acres situated in the Northwest corner. The first phase also includes a 30-storey office building; a five-star hotel; the 50-acre public park, together with the surau, utilities connection and the internal road system.

### First Phase of KLCC

The Northwest development in Kuala Lumpur City Centre will comprise the 88-storey Petronas Twin Towers, a retail centre and the Ampang Tower.

The design brief for Petronas Twin Towers, the new headquarters for Petroliam Nasional Bhd (Petronas), specified among other things space utilisation efficiency, ability to accommodate the requirements of modern information technology and intelligent building system. Its architecture will make the building uniquely identifiable with international business interests. It must also distinctly reflect Malaysian heritage and yet look modern, efficient and international.

In order to achieve maximum fulfillment of the design specifications, an international design competition was held in 1991. The design

by Cesar Pelli & Associates of the United States of America, was selected as the most appropriate for Petronas' new headquarters.

Cesar Pelli designed two towers of 88 storeys high, linked by a sky-bridge on the 41st and 42nd floors. The floor plate of the towers is based on two interposing squares and on geometric patterns common in architecture of Islamic heritage. The efficiency of the floors is enhanced by the arc infills between the star points formed by the squares and by the addition of two coreless bustles which rise to the 45th floor. The gross area of the Petronas Twin Towers is 341,760 square metres (3.67 million square feet). The external cladding of stainless steel, will catch the sunlight and gleam above the city skyline, is visible from far outside the city.

At 451.9 metres, the Petronas Twin Towers have been acknowledged by the Council on Tall Buildings and Urban Habitats as the tallest in the world. Petronas will commence tenancy at the end of 1996.

At the "feet" of the Petronas Twin Towers and spreading inwards into the Park is the city's largest retail centre, providing a total gross floor area of 1.5 million square feet. The six-storey KLCC Retail Centre was designed to provide a wide range of entertainment and retail activities while being sensitive to the needs of retailers and shoppers. To maximise visibility of shopfronts, the centre has a crescent-shaped mall with no secondary corridors. Convenience and accessibility to shoppers and tenants were taken into consideration with major entrances and links to the office towers and public transportation.

Choice and range of tenant mix will be evident in the two-anchor department stores (37,377 square metres or 370,000 square feet); 300 speciality stores and themed restaurants: two food courts with a total seating capacity of 1,200 as well as an entertainment centre and cineplex occupying 12,000 square metres or 130,000 square feet. Shoppers and visitors will have direct access to the Concert Hall, Petronas art gallery and the Petronas Centre (an interactive petroleum industry discovery centre). Four parking levels beneath the retail centre will provide approximately 5,500 parking bays for visitors and tenants.

Guarding the retail centre, at its northern corner is the 50-storey Ampang Tower. The Tower designed by Kevin Roche, John Dinkeloo & Associates and NR Associates Sdn Bhd will have a gross area of 65,000 square metres (700,000 square feet). Tanjong PLC, Binariang Sdn Bhd, their related companies and a Malaysian banking group will occupy Am-

pang Tower. The Retail Centre and Ampang Tower are targeted for opening by the end of 1997.

The other office development in KLCC's first phase is the 30-storey Menara Esso designed by Kumpulan Senireka Sdn Bhd. The 52,000 square metre (560,000 square feet) tower will be occupied by the Esso Group of Companies in Malaysia. The superstructure has topped-out and will be the first development in KLCC to be completed and occupied in the third quarter of 1996.

Also under construction is the five-star Mandarin Oriental Kuala Lumpur Hotel. The foundation for the 645-room hotel is completed and work on the superstructure is currently in progress with the soft-opening targeted for the end of 1997.

### Building Excellence

For KLCC, building excellence takes into consideration design, skill acquisition, development of local support industries and the effect on the environment.

In terms of the environment, the development strategy addressed major issues such as logistics, erosion, drainage, waste treatment and disposal and the surrounding greenery. Constructing 18 million square feet of commercial space, in the midst of Kuala Lumpur's prime commercial district, with minimum disruption to the environment, existing infrastructure and neighbouring developments pose major challenges to the developer of KLCC.

The logistics of site utilisation for material-handling areas, storage, truck-loading bays, site contractors' offices and car parking facilities have to be carefully planned. Controlled access to the site and time schedules for movement of heavy vehicles and machinery for entering and leaving the site were drawn up so as to minimise inconvenience to other road users in the vicinity. About 1.2 million cu metres of soil from the excavation for the Petronas Twin Towers was moved from the site by a convoy of trucks over several months during the night and weekends so as to minimise disruption to the city traffic in the day.

The 50-acre public park is a major contribution to a better city environment. It will contribute to the concept of a city-within-a-city, both in terms of its "green lung" function and as a retreat for the highly stressed modern office workers, city dwellers and shoppers. The park will have shaded rest areas beneath the lush tropical greenery, public recreational

open spaces, landscaped gardens and soothing water features. As the park approaches the commercial buildings, it will merge with the private gardens of each of the buildings to make them an integral part of the park.

Part of the environmental consideration is the future traffic flow, arising from the KLCC development. KLCC would not be a worthy example of building excellence if the existing traffic problem in Kuala Lumpur, especially in the vicinity of Jalan Ampang, is not solved. In this regard, KLCC has been working closely with the Kuala Lumpur City Hall and other government agencies to implement a comprehensive set of traffic improvement measures which include improvements to the intersections, road widening and introduction of better public transport. KLCC has contributed over RM100 million to the city of Kuala Lumpur for infrastructural developments. The road improvement plans will be implemented immediately so that the roads would be able to cope with the traffic when the first developments in KLCC come onstream towards the end of 1996.

Within the KLCC Project, an internal road system is being developed to provide ingress and egress from KLCC to the major arterial roads around the development. This system includes car and truck tunnels under the park connecting the Northwest Development to either Jalan Tun Razak or the elevated highway above Sungai Klang. KLCC will have a main boulevard with its own people-mover system, to facilitate easy movement of tenants and visitors to KLCC.

The design selection and development approach in KLCC is also on the basis of building excellence. The design criteria require that the buildings be functional, efficient, identifiable as Malaysian, fits market positioning and addresses the needs of the client.

Special design features of the Petronas Twin Towers such as extra large floor plates of about 28,000 square feet, contiguous windows which allow panoramic views of the city skyline, access to on-site public park; raised flooring to accommodate data/telecommunication and utilities cabling, special high-speed double-deck passenger lifts and the use of high strength concrete for the foundations and superstructure are important features in determining building excellence as well as marketability of the development.

Good site lay-out and facilities were also prime considerations in the design development of the Petronas Twin Towers and the other commer-

cial developments at KLCC. On-site facilities like the 50-acre landscaped public park, a 6000 capacity surau in the park, an 850-seat international class Concert Hall, reference library covering the energy, petroleum, petro-chemical and related industries, art gallery and the Petrosains centre are all accessible to the tenants at KLCC, with minimum vehicular movement. The myriad facilities within the KLCC add to the uniqueness of the development and enhance building excellence.

The introduction of a District Cooling Centre (DCC) at KLCC is another step towards building excellence as it removes the need to install and maintain separate cooling equipment for each individual development, thereby saving large capital investments, operational cost and valuable usable space. The system also avoids the need for having unsightly cooling towers on the rooftops of commercial buildings. The DCC will be the first in Malaysia to use natural gas to produce chilled water for air-conditioning. The district cooling system will use the new ozone-friendly refrigerant, R134-A instead of the ozone-depleting chloroflourocarbons.

The criteria for the choice of materials and sources of supply of the fittings and components are based on the desire to promote the establishment of local supply sources which will provide easily available replacements of the same high standard and quality. It was practical for KLCC to adopt this strategy because of the size of its requirement.

In some cases, the KLCC project team worked with the potential suppliers to develop new appliance designs to suit Malaysian conditions such as in sanitary ware. The designs can later be used by these local manufacturers to enlarge their market, both locally as well as to other countries with similar cultural preferences.

As higher grade-strength concrete was needed for the construction of the Petronas Twin Towers, which hitherto was not produced in Malaysia, KLCC (Holdings) Sdn Bhd decided to arrange for installation of an on-site batching plant.

Producers of high grade concrete from Chicago sent key staff to meet with local concrete firms and their inputs were helpful in guiding local suppliers in the commercial production of higher strength concrete. The benefits of using high-strength concrete also contributed to building excellence as it will further improve the efficiency and adds to the advantage of reductions in concrete column-size at lower levels of the Twin Towers, thus minimising impact on usable space.

In terms of construction supervision and inspection, the KLCC practises total quality management and standards in all aspects of development. For structural design, the American Concrete Institute and American Institute of Steel Construction specifications were used. The fabrication works of the Skybridge for example, had to comply with some of the most stringent industry standards and codes such as those maintained by the American Society for Testing and Materials (ASTM), British Standard (BS) and American Welding Society (AWS).

Stringent safety standards similar to those practised in the oil industry are imposed at KLCC. All contractors at KLCC have to comply not only with legislated health and safety regulations but also to additional construction safety requirements imposed by KLCC. More recently, all contractors working on the KLCC project have to register with the Construction Industry Development Board (CIDB) Malaysia. This is in line with the government policy to improve the overall performance and quality of the construction sector through a central coordination body like CIDB Malaysia.

From the very conception of the KLCC Project, the development strategy, masterplan concept and design and project management have been geared towards building excellence. Designing and building with excellence in mind will ensure that the developments in KLCC stand out from the ordinary and will not become irrelevant in the coming decades. The launch of the KLCC Project and the Petronas Twin Towers in September 1992 was the first step towards not only the creation of a new city centre for the Kuala Lumpur of the next century but also the development of a significant national landmark dedicated to building excellence.



PUTRAJAYA: THE ADMINISTRATIVE CAPITAL  
CITY OF MALAYSIA IN THE 21ST CENTURY

*Esa Haji Mohamad*

THE nineties have witnessed a miraculous transformation within South-east Asia which is now undeniably one of the fastest growing regions in the world. There is new confidence and hope for the nations to achieve sustainable economic growth; and to a large extent, they have experienced outstanding success. Double-digit growth was achieved in China while Malaysia has registered an excess of 8 per cent growth rate for the last 8 years. This "economic miracle" has led to rapid growth and urbanisation in most Asean countries, stimulating further growth in all sectors, particularly the upgrading of infrastructure and utilities. Kuala Lumpur, the nation's capital, is facing a major onslaught of these infrastructure and utility projects. Active privatisation which is being pursued by the government is the driving force behind private sector investments and developments.

Urban expansion and economic growth are major aspects of civilisation and human development. The concentration of human settlements and resources encourages the birth of cities. It is estimated that half of the world's population is located in the cities and consumes 75 per cent of total resources. The complexities of human settlements have attracted the attention of governments in their quest for sustainable development and nation building.

Urban centres in Malaysia are no different. We are experiencing increasing congestion and inefficiencies in our cities now. We import labour from neighbouring countries to supplement our shortage. Accordingly, we create socio-economic ripples on the back of astounding economic growth. In the context of Asean, regional cooperation could impact on the manner in which urbanisation would take place. Economic cooperation can be developed further into urban development cooperation. Two such examples are the Southern Growth Triangle between

South Johor, Singapore and Batam, Indonesia, and the Northern Growth Triangle between North Malaysia, South Thailand and Northern Sumatra. Yet there is still a lot to be done in the country itself in order to enhance the quality of life and to take advantage of the advancement in technology. Growth centres in Malaysia have changed in character over the last decade as an aftermath of impressive economic growth and increased wealth. We are beginning to experience the symptoms of urban ills such as congestion and environmental degradation. Thus, some drastic and proactive actions must be taken to control development and conserve natural resources.

The symbiotic relationship between man, ecology and technology must be the main determinant for a successful urban settlement. Cities should reflect this symbiosis physically and spiritually. The next few pages will illustrate the organic expansion of urbanisation in the Klang Valley, the most urbanised region in Malaysia. It culminates in the illustration of Putrajaya, the new Administrative Capital City.

#### Urbanisation Process

Kuala Lumpur, with an area of 94 sq miles, has been the focus of development. Over the years, its sphere of influence has expanded. Initially, the Federal Route 1 connecting Kuala Lumpur-Petaling Jaya and Klang formed the main corridor of development. Petaling Jaya being the first dormitory town, planned in 1954, was designed to accommodate a modest population of 70,000. Shah Alam, the new state capital of Selangor is the second new town which started in 1966 along this corridor to cater for a population of 200,000. This corridor formed the basis of development for the Klang Valley which was labelled the fastest growing region in the whole country. The fast pace of development of Klang Valley in the 1970s prompted the government to commission a comprehensive study of the area. A master plan was formulated in 1973, which among others, identified targets and strategies for the growth centres in the Klang Valley as shown in Table 21.1.

The Klang Valley Master Plan was formulated to span a period between 1973 and 1990. These targets have been surpassed as shown in Table 21.2.

Prior to this study, the Kuala Lumpur-Klang corridor was poised to be the "Super Linear City". The anticipated traffic congestion from continued development and urbanisation prompted Architect/Planner, Goh

Hock Guan to propose to the government the Mass Rapid Transit System which straddles the Klang River as part of the river development project. The proposal attracted the interest of the government but was never implemented due to cost constraints.

Table 21.1: Initial Allocation of Population to Urban and Rural Areas

Area	Employment		Population	
	1980	1990	1980	1990
Kuala Lumpur	392,160	625,438	1,174,802	1,586,105
Klang	51,007	114,721	154,785	290,931
Shah Alam	60,730	120,379	181,948	305,280
"Bandar Langat"	8,429	47,852	25,251	121,352
Rawang	3,657	4,898	10,955	12,421
Rural areas	114,917	135,612	344,259	343,911
Total urban area	515,983	913,288	1,545,741	2,316,089
Total region	630,900	104,800	1,890,000	2,660,000

Source: Klang Valley Study (1973)

The Klang Valley Master Plan also identified a comprehensive system of highways and expressways. This was also complemented by the Kuala Lumpur Traffic Dispersal Scheme which also formed the basis of the first Structure Plan study in the country, i.e. The Kuala Lumpur Structure Plan.

Based on demographic projections, committed new towns and growth centres, infrastructure and utility projects, a linear urban transformation radiating from Kuala Lumpur towards the southern corridor can be expected by the year 2020.

The Kuala Lumpur Structure Plan marked the beginning of the Structure Plan system under the new Town and Country Planning Act 1976. The Act empowers the Minister to direct Local Authorities to prepare a Structure Plan which a review of the same is required. The main drawback of the system is that the pace of development outlives the time taken for the Structure Plan process to complete. It is a tedious process of collecting data on all aspects of the environment, analysing and synthesising them to formulate broad policies and diagrams for guiding land

Table 21.2: 1991 Population Census by District for the Klang Valley-Seremban Corridor

Klang Valley Population			
District	Population (1980)	Population (1991)	Growth Rate per annum
Gombak	166,059	352,906	
Klang	279,349	406,832	
Petaling	360,056	633,144	
Ulu Langat	177,877	410,491	
Kuala Lumpur	919,610	1,145,075	
Sub-total	1,902,951	2,948,448	4.1
KL-Seremban Corridor Population			
Kuala Langat	101,578	129,696	
Selangor	46,025	54,653	
Seremban	202,790	263,287	
Sub-total	350,393	447,636	2.3
Total	2,253,344	3,396,084	3.8

mean for overall Klang Valley-Seremban corridor

Projected Population Growth at Growth rate per year (%)*	Klang Valley-Seremban at 3.8% per year	Klang Valley at 3.7% per year	KL-Seremban at 4.5% per year
	Projected population by year 1995 =	3,942,465	3,409,640
Projected population by year 2000 =	4,750,667	4,088,860	665,230
Projected population by year 2005 =	5,724,550	4,903,386	828,997
Projected population by year 2010 =	6,898,079	5,880,169	1,033,081
Projected population by year 2015 =	8,312,179	7,031,534	1,287,407
Projected population by year 2020 =	10,016,170	8,456,242	1,604,344

Note: \* Variable rates are adopted as it is assumed that the Klang Valley population growth rate gradually decreases as congestion or saturation will overcome sustainable infrastructure and utilities, pushing an outflow towards the greater conurbation. The previous 2.3 per cent growth rate for the KL-Seremban corridor is deemed too low as this figure is derived during a period when minimum infrastructure and utility is anticipated, e.g. before the implementation of KLIA, Putrajaya and other major utility and infrastructural projects including major highways. With these high-grade infrastructure, utilities, amenities and job opportunities that follow, this corridor may experience over 4.0 per cent growth rate over the next 20 years as experienced in the Klang Valley between 1970 and 1990. Hence the 3.8 per cent overall growth rate used may still be conservative, depending on the successful implementation of development projects. With better technology, utilities and infrastructure, the Klang Valley-Seremban growth corridor will be able to sustain more concentrations of people in the long term as the country heads towards an optimum population of 70 million people and when the Multimedia Super Corridor project is fully realised and consolidated in the 21st century. The national growth rate is 2.7 per cent between 1991 and 1990, however with economic affluence and other related factors, this rate is lowered to 2.5 per cent for the next 30 years. Assuming the average national growth rate is 2.5 per cent per annum, by the end of 2020, the projected national population will grow by twofold, from 17,566,982 in 1991 to 35,949,202, whereas the Klang Valley-Seremban region is projected to grow threefold at a rate of 3.8 per cent per annum, from 3,396,084 to 10,016,170. Subsequently, the population growth rates for the Klang Valley and KL-Seremban corridor, have been adjusted at 3.7 per cent and 4.5 per cent respectively for the next 25 years.

developments. These plans, by law, are required to be exhibited for public scrutiny and comments. Out of a total of 96 Local Authorities in Peninsular Malaysia, 41 Structure Plans have been gazetted, 23 are in the process of gazette and the remaining 32 Structure Plans are being prepared.

Notwithstanding these planning processes, the Local Authorities under the State Governments have to continue development projects to bring about socio-economic benefits to the localities. Thus other mechanisms were used to "guide" State Governments in approving developments. The Klang Valley Master Plan was one of such mechanisms. This is justifiable as the national socio-economic agenda has to be fulfilled. In Selangor and Kuala Lumpur, the Selangor State Development Corporation (PKNS) and Urban Development Authority (UDA) were the engines for development for a long time. Projects undertaken by these two agencies in the Klang Valley became catalysts for other entrepreneurial developers to participate.

#### **Kuala Lumpur—Southern Corridor**

A new awareness in urbanisation prevailed in 1981 after Dato' Seri Dr Mahathir Mohamad took over the helm as the country's fourth Prime Minister. The development of the Klang Valley development came under scrutiny. The Prime Minister showed a keen personal interest in the manner in which the city was to be developed. The Daya Bumi Complex, Putra World Trade Centre and other major urban redevelopment projects in Kuala Lumpur started and urban development projects in the Klang Valley, particularly Shah Alam and Bangi, flourished. Shah Alam was given a boost with the establishment of HICOM's Proton Plant and the new State Mosque.

In Kuala Lumpur, residential developments increased in momentum southwards to Sungei Besi, Cheras, Bandar Baru Petaling and Bukit Jalil. City Hall started the privatisation of disused mining land to resettle 250,000 squatters in Wilayah Persekutuan. Privatisation began to gain momentum. The urbanisation process resulted in the expansion of the Kuala Lumpur Metropolitan area to Kajang and Bangi in the south. Aided by the Kuala Lumpur-Seremban Expressway, a new growth corridor to the south began to take shape in the late 1980s.

Concurrently, the liberal investment incentives and policies, together with committed and successful implementation of privatisation

by the government saw the country's impressive economic growth. With the completion of the North-South Highway, the distances between growth centres become shortened. People have become more and more accustomed to residing further from places of employment with the improved transportation system. Seremban and Port Dickson in the south have, therefore, grown closer to Kuala Lumpur.

In 1992, the government decided that a new international airport should be implemented to be the "hub-airport" for the region to meet the challenges of the new millennium. Sepang was selected by the government as the site for the new airport, thus reinforcing the Southern Growth corridor from Kuala Lumpur to Port Dickson. In 1993, the government selected Perang Besar, mid-way between Kuala Lumpur and Sepang as the site for the new Administrative Capital City, Putrajaya. The new Southern Growth Corridor, dubbed the "Multimedia Super Corridor", was then established.

#### Kuala Lumpur International Airport (KLIA)

The development of KLIA and the "Airport City" (Nilai and Salak Tinggi new town) in the south form a major anchor and growth catalyst which would generate economic activities in the corridor between it and Kuala Lumpur. It is also anticipated that the spillover would extend to Seremban and Port Dickson to the South. KLIA being the "hub-airport" requires other associated services and manpower to ensure its success.

The "airport city" has been planned to accommodate the necessary services and facilities such as housing, commercial and industrial developments.

The airport itself is an important part of Malaysia's Vision 2020 and will serve Malaysia well into the next century. The challenges encountered in the next century may well be different with the advancement in information technology, communication technology and our sensitivities towards the environment. The planning and architecture of the airport must respond to these challenges. The overall concept of the airport is "An Airport in the Forest" and "A Forest in the Airport". Since an airport is commonly perceived as the gateway to the country, it is important that the country's aspiration and identity are expressed in its design. The "Forest" is the strong element, which forms a statement of Malaysia's ecological awareness.

### **Administrative Capital City—Putrajaya**

The proposal for a development of a new capital started in 1981. Since then, the matter was under review until March 1992, when EPU appointed a team of consultants to evaluate several alternative sites for a proposed administrative capital. This was in view of the increasing congestion in Kuala Lumpur and the scattered locations of various Ministries in the City. A total of five sites was evaluated in detail and Perang Besar, in the District of Sepang, Selangor Darul Ehsan, was chosen by the Cabinet on 2 June 1993 as the most suitable site.

In November 1993, six firms of architects, planners and engineers together with the government technical departments were engaged to develop alternative concepts for the design and planning of the new Administrative Capital City. These concepts were presented to the Prime Minister in February 1994. The "Garden City Concept" was chosen to be developed by the consortium of consultants and government technical departments. The final plan was presented to the government in October 1994.

The concept is derived from the need to create a city that satisfies a fundamental trinity of human relationships—man and his Creator, man and his fellow man, and man and his environment.

It emphasises the importance of sustaining a harmonious Malaysian eco-culture, a city that not only merges with its tropical landscape but one which is lively, caring and promotes a high degree of comfort and quality of life for its present and future inhabitants.

It is designed as an intelligent city in its fullest sense. Its early conception incorporates high-technology features that are able to adapt progressively to changing conditions of time to meet the nation's aspiration for developed status by the year 2020.

On 20 July 1995, an agreement between the Federal Government and the Selangor State Government to establish the Federal Government Administrative Centre named Putrajaya, in memory of the nation's founding Prime Minister, Tunku Abdul Rahman Putra Al-Haj, was signed.

### **Structure Plan**

A Structure Plan encompassing 14,780 hectares has been approved by the government, to guide the development of the Administrative Centre

and its immediate surroundings. The Administrative Centre covers an area of 4400 hectares.

Under the Garden City Concept, Putrajaya is planned to have a low population density. The Structure Plan area accommodates a population of 570,000 people; of which 250,000 will live within Putrajaya (4400 Ha) and the remaining 320,000 are distributed in the surrounding areas.

An estimated total of 76,000 government employees and 59,000 private employees will work in Putrajaya. This requires a total of 52,000 housing units that will be distributed within 15 residential neighbourhoods. Out of these, a total of 35,000 housing units will be allocated for government or institutional housing, equivalent to 70 per cent of the total of 52,000 housing units.

### **Master Plan**

The Master Plan for Putrajaya covers the Federal Government Administrative Centre, encompassing the Core Area, the neighbourhoods and parklands totalling an area of 4,400 hectares.

Water is the most important element in our eco-system. Traditionally, human settlements occur along the rivers or the coastal river mouths. The rivers form the main source for transportation and food. Therefore, it is highly appropriate to feature water in the design of this new city in the form of a large man-made lake. This is achieved by damming the main river, Sungai Chua, which transverses the site.

The water body, with a depth varying from 3-12 metres which covers an area measuring approximately 650 hectares, also acts as a natural cooling system, moderating and enhancing the local micro-climate. It will provide for recreational and transportation facilities within the city.

### **Core Area**

Putrajaya's Core Area consists of 5 main precincts:

- (1) Government Precinct
- (2) Commercial Precinct
- (3) Civic & Cultural Precinct
- (4) Mixed Development Precinct
- (5) Sports and Recreational Precinct

These precincts are aligned along a central axis punctuated by main activity nodes and landmarks with panoramic views of its surrounding water body and parklands.

### Transportation

Putrajaya's transportation system is comprehensively planned to create an efficient intra-city network within the Kuala Lumpur-KL International Airport growth corridor. The system will incorporate the following:

- (1) A new dedicated highway which will provide a direct and exclusive link between Putrajaya, Kuala Lumpur and the International Airport. In addition, four main access points will be provided within the city's expressway network.
- (2) An express rail link which will provide a direct and exclusive link between Putrajaya, Kuala Lumpur and the KL International Airport, decreasing travel time to a 15-minute duration from either direction.
- (3) Five transportation terminals at strategic locations, including a Main Terminal Complex that incorporates the express rail link station. These terminals are designed based on the "park and ride" concept, to decrease the necessity for private vehicles within the Core Area.
- (4) Tramways serve the Core Area with stops at suitable intervals within convenient walking distances.
- (5) A Light Rail Transit system which acts as a mass commuter system, linking major nodes within the Core Area.
- (6) Public inter- and intra-city feeder buses which will serve areas not serviced by the tramways and LRT network.
- (7) Taxi services will be integrated with the city's other transportation modes.
- (8) In addition, ferry commuter services which will link the Core Area with the outlying lakeshore neighbourhoods.

Urban features such as landmarks, squares, plazas and bridges form part of the city environment, providing a wide range of experiences and enhancing the aesthetic and spatial quality of the city.

A ceremonial boulevard is aligned along the city's central axis. As a landmark feature, the boulevard forms a continuous inner city open space which will also accommodate processions and other ceremonial events. Its design incorporates local features, patterns and landscaping such as the use of a local forest species, the "hopea odorata" that aligns both sides of the boulevard. In other parts of the city, suitably selected indigenous trees and floral compositions will be planted to reflect the Malaysian tropical landscape, which is in keeping with the "Garden City" concept. Additionally, public spaces and open areas will be furnished with locally designed furniture to suit various public and commercial uses.

### Intelligent and Eco-city Characteristics

Underlying the Garden City concept is the desire to conceive Putrajaya as an "information hub", integral to the Multimedia Super Corridor between Kuala Lumpur and the KL International Airport.

Amongst the infrastructure and utilities to be introduced are:

- (1) Integrated telecommunications network.
- (2) Incorporation of information technology for administrative surveillance and security functions, building management and maintenance such as Electronic Data Interchange, Management Information System, Geographic Information System and other appropriate systems technology.
- (3) Automation systems for the operation, management and maintenance of infrastructure, utilities and the urban landscape including transportation systems.
- (4) The city's urban form and lay-out shall encourage good cross ventilation for cooling building naturally, achievable by staggering buildings along hill slopes with generous open spaces in between buildings.
- (5) The use of courtyards to promote internal ventilation and natural lighting and to allow internal landscaping as a visual relief.
- (6) The use of a series of cascading roof gardens to soften the urban landscape and to consolidate the idea of a Garden City.
- (7) Optimising panoramic views and vistas through well landscaped concourses and walkways.

- (8) The use of gateways and archways to create a sense of entry and approach.
- (9) Incorporating a covered network of pedestrian walkways and colonnades for easy access and shelter against inclement weather.
- (10) Integration of easily serviceable sub-terrainian utility network such as telecommunications, power, water supply and drainage reticulation.

### Urban Design

Approximately 1.5 million square metres of government office space will be provided within the Core Area, out of which 40 per cent is within the Government Precinct, 23 per cent within the Commercial Precinct, 22 per cent within the Civic and Cultural Precinct and 15 per cent within the Mixed Development and the Sports and Recreational Precinct.

The primary focus within the Government Precinct is the Prime Minister's Office. It is located prominently and majestically along the central axis at a vantage point overlooking the Commercial Precinct and the surrounding waterbody.

Fronting the Prime Minister's office is a ceremonial square which will be used for formal gatherings and ceremonial functions. Other government offices are arranged in a radial manner along the hill slopes taking the best advantage of the scenic surroundings.

A telecommunications tower and exhibition centre located at a well-landscaped central park within the Commercial Precinct is another primary landmark. Buildings in this precinct are arranged in a staggered and radial manner overlooking the water body and parklands.

The Civic and Cultural Precinct contains the main library, museums and various galleries. Its focus boasts the Dataran Khazanah or Treasury Square which is integrated with the Core Area's central transport terminal and main arterial access road.

Within the Mixed Development Precinct, commercial, residential, government offices and cultural centres are integrated to allow a rich and lively mix of activities. The boulevard running throughout this precinct is punctuated with main nodes such as Dataran Mahkamah at the centre, the City Hall and the landmark gateway office building.

Two main city mosques have been designed with a strategic waterfront setting. One serves the Government Precinct and is located at the

end of the concourse from the central oval garden. The other serves as the Grand Mosque and is located at the *qiblat* axis within the Mixed Development Precinct.

In respect of other religious pursuits within Malaysia's multicultural society, proper sites for other religious establishments are allocated within the Sport and Recreational Precinct.

Comprehensive sport and recreational amenities including stadiums, an aquatic centre, theme parks, an artificial beach, hotels and a convention and exhibition centre have been planned. The main stadium acts as a convenient gathering and starting point for the 3km ceremonial parade throughout the city which ends at the Civic and Cultural Precinct.

Within the residential neighbourhoods, community amenities such as schools, convenience shops, multi-purpose halls, suraus and local parks will be located within walking distances. A central hospital, fire station and a police station are located adjacent to the main transportation terminal towards the west for easy access.

A wide range of interesting waterfront and hillside housing and commercial developments are encouraged, to fully gain from their scenic and real estate potential.

Corporate offices, entertainment areas, hotels and tourist facilities are strategically located along the lakeshore waterfront.

The implementation of this massive undertaking calls for a dedicated organisation which is committed to proactively drive the design, construction and administration of the works. For this, a corporation known as the Perbadanan Putrajaya was established on 1 March 1996. It will monitor the implementation of Putrajaya and eventually the administrative operation and maintenance of the city. While it is still early to speculate on the manner in which these activities will be executed, it is not unrealistic to expect that most of them will be privatised.

As it stands now, the construction is being privatised under Putrajaya Holdings Sdn Bhd, a company set up by the government to ensure that the project is completed before the turn of the century. The establishment of Putrajaya will provide yet another watershed achievement in the economic agenda of the country.

22  
MALAYSIAN TECHNOLOGY  
PARTNER

*Anuar Md Nor*

MALAYSIA which obtained its independence in 1957, has undergone several significant stages in order to continue transforming itself into an industrialised nation by the year 2020. From a country with a resource-based economy in 1960, Malaysia has emerged from an import-substitution economy into an export-oriented economy. Presently, with a population of about 19.2 million, Malaysia is progressively developing into an industrialised country.

When Malaysia was a resource-based economy, it was dependent on agricultural products and commodities. Primary agricultural products like rubber, crude palm oil (CPO), processed CPO, cocoa and spices generated an income of about RM10 billion in the year 1989 as compared to other commodities like crude petroleum, timber logs and tin which contributed approximately RM20 billion to the economy in the same year. However, the Malaysian Government has long realised that the economy should not be overly dependent on agricultural-based products and raw material commodities. Malaysian companies need to generate more high value-added products from these resources.

#### **Becoming a Technology-based Nation**

In order for Malaysia to become an industrialised nation, the Industrial Master Plan (IMP) was launched in 1985. The plan which covered the period from 1986 to 1995 provided a framework for developing medium and long-term policies in order to create a more diversified and integrated manufacturing sector.

The first task under the IMP was to accelerate the resource-based industry in Malaysia. This industry does not only utilise the raw materials but also the country's labour force. Initially the manufacturing sector was labour-intensive and non-capital intensive but as Malaysia continues to

progress, it is slowly adopting more technology and capital-intensive programmes.

### Promoting Technology Growth in SMIs

During the early stages of promoting more technology-based companies, the government invited many multinational companies (MNCs) like Intel, Motorola, the Matsushita group, Glaxo and others to operate in Malaysia. These companies brought key technologies of their parent company to Malaysia, enabling local workers to benefit from the process of technology transfer.

Besides promoting the growth of multinational companies, efforts were also made to promote small- and medium-scale industries (SMIs). The most important aim of this sector was to act as a venue to generate Malaysian indigenous technologies. SMIs are defined as manufacturing companies whose shareholder funds do not exceed RM2.5 million. In the 1988 industrial survey, 28,335 manufacturing facilities were identified, of which 92.6 per cent were SMI companies. The SMIs contributed about 40.2 per cent of the total employment rate in the manufacturing sector in Malaysia.

Despite the significant contribution, several drawbacks were identified. First, SMIs are usually (69 per cent) family businesses of sole proprietorship. Furthermore, about 79 per cent has a capital of less than RM50,000.

The government's vision of having indigenous technologies developed through the SMIs is retarded by minimal or none expenditure in research and development by the SMIs. In the long run, the low level of technology in these companies hampers the ability of these companies to compete on an international level.

Based on these restrictions, the government has developed several strategies to promote the development of SMIs. Agencies such as the Ministry of Science, Technology and Environment (MOSTE), Ministry of Human Resources (MHR), Implementation & Coordination Unit (ICU), Prime Minister's Support Department, MOF and MITI have been appointed to lead the process.

Through various assistance, the SMIs are expected to complement and support the large-scale, heavy and modern industries as well as the MNCs.

However, by strengthening the position of the SMIs, it does not automatically mean that indigenous technologies are being developed because R&D is a long and capital-intensive investment. In this regard, to conduct R&D is a non-attractive expenditure for the SMIs.

In order to sustain and develop the competitiveness of the SMIs, the Malaysian Government through MITI has established several agencies to promote and market the products of the SMIs, identify foreign investors and counterparts in technology sharing and to assist in technology procurement. Among these agencies are the Malaysian Industrial Development Authority (MIDA), the Malaysian External Trade Development Corporation (MATRADE) and the Malaysian Technology Development Corporation Sdn Bhd (MTDC).

#### **Malaysian Technology Development Corporation Sdn Bhd**

The government has taken a proactive step in promoting the growth of hi-tech companies. In this regard, an institution which is dedicated to be a technology developer needs to be formed. This commitment has led to the incorporation of an agency under the preview of MITI, namely the Malaysian Technology Development Corporation Sdn Bhd (MTDC). MTDC was incorporated in 1992 as a Government-Industry joint venture to promote the growth of technology-based companies in Malaysia. Presently, the government through Khazanah Holdings Berhad owns thirty per cent of its equity while the rest of the organisation belongs to sixteen other large corporate groups in Malaysia. As a technology developer, MTDC tries to increase the number of technology-based companies in Malaysia through various innovative methods.

#### **The Commercialisation Arm of the Nation**

MTDC is mandated as the commercialisation arm of the country. Billions of ringgit have been spent on research in local universities and institutions. However, the commercialisation of viable research findings need to be enhanced. Furthermore, attention must also be given to the issue of employing local experts. Many aspects of technical assistance can be extended to the local SMIs without them having to employ the services of foreign consultants.

Technology transfer from the lab to the industry is often regarded as a timely process and thus, dedicated institutions to promote the research

result of commercialisation are critical. MTDC will try and link these institutions to the industrial sector.

A strong network between the institutions will enable MTDC to keep track of the available expertise in the country. In fact, several of MTDC's subsidiary companies were established as a result of commercialisation. These companies are pioneers in their respective industries in Malaysia as well as in Southeast Asia.

### Venture Capital Activities

**Nurturing technology-based companies into hi-tech companies.** MTDC has been chosen to play a significant role in developing and catalysing the growth of technology-based companies in Malaysia.

Operating as a venture capital company, MTDC identifies potential companies that can be transformed into hi-tech companies. Investments in the local hi-tech companies can generally be classified as either seed, start-up, expansion or mezzanine investments. The transformation process begins with MTDC participating as an equity holder in the company to finance its growth and expansion. The company will be given assistance during the technology transfer process and in identifying suitable foreign partners for a R&D partnership.

Through an increase in capital, the individual company is expected to be able to finance the required technology with some assistance from MTDC. The technology is evaluated by the experts in MTDC and should there be additional financial requirements, MTDC would offer its support to the company. For example, MTDC succeeded in securing a RM100 million loan for one of its investee companies from a leading commercial bank in Malaysia.

MTDC also invests in selected foreign companies after conducting a thorough evaluation on the key technologies of the companies concerned. In one of the ventures, the R&D aspect of the joint-venture company was carried out by MTDC's American associate while the production was done in Malaysia.

MTDC also emphasises the development of management skills and ability. Former entrepreneurs are now exposed to a larger networking of multinational hi-tech companies. They will also be nurtured accordingly in order for their companies to be listed on the Kuala Lumpur Stock Exchange (KLSE).

**Investment holdings companies under the management of MTDC.** In order to increase the sources of technology financing, MTDC is managing two investment holdings companies, namely the Malaysian Technology Venture One Sdn Bhd (MTV-One) and the Malaysian Technology Venture Two Sdn Bhd (MTV-Two). MTV-One is a venture capital fund company which specialises in identifying potential companies. MTV-One provides these companies with equity capital for related investment and financial services. MTV-One is managed by MTDC-H&Q Capital Management Sdn Bhd, a joint venture between MTDC and Hambrecht & Quist, one of the leading venture capital companies in San Francisco.

As for MTV-Two, it is a private limited company incorporated in Malaysia in 1994. Its formation was initiated by MTDC to encourage Bumiputera investors to participate in mezzanine ventures. The capital from the fund will be invested in unlisted companies of high growth potential.

Besides MTV-One and MTV-Two, MTDC is also in the process of forming other investment holdings companies. These companies aim to utilise different sources of fund to increase venture capital activities in Malaysia. These funds are syndicated from various bodies such as the State Development Corporations, financial institutions or large corporations.

MTDC has successfully launched the Sumber Modal Satu Berhad (SMSB), an investment holdings company incorporated under the Company Act 1965 as an unlisted company. SMSB is a unique investment holdings company which offers Bumiputera individuals the opportunity to acquire ownership in unlisted companies which have the potential to be listed on the Kuala Lumpur Stock Exchange (KLSE).

MTDC will play a leading role in managing SMSB. It will identify potential investee companies that would maximise returns as well as reduce risk to SMSB's investments. MTDC will, through SMSB's direct representation on the investee companies' Board of Directors, provide guidance and assistance on strategic and operational matters.

### **Technology Development and Infrastructure**

In order for Malaysia to develop indigenous technologies, a proper environment for the growth of these technologies need to be developed. MTDC has taken up the challenge to provide this environment. It has incorporated MTDC Technology Infrastructure Sdn Bhd which is respon-

sible for the joint development of incubation centres with local universities and research institutions as well as science-based parks with the State Development Corporations.

In order to support the growth of technology-based companies in Malaysia, MTDC is actively engaged in prospecting strategic technologies from overseas. These technologies are offered to companies in Malaysia through syndication and joint venture arrangements.

MTDC also disseminates information through various means such as seminars and publications. It organises technology conferences such as the MTDC-H&Q Annual Technology Conference, the Technology Appreciation Series and other inter-facing programmes. In addition, MTDC is publishing an Expert Directory and the "Malaysian Technology" magazine (every quarterly), dedicated to disseminating information on the latest in science and technology through articles. The magazine also focuses on the achievements of research institutions and universities in Malaysia and abroad.

#### **Promoting Technology-based Groups**

In order to promote strategic technologies in Malaysia, there need to be productive discussions on technology ventures in Malaysia. Technology-based groups will be the foundation for possible matchmaking of technology ventures.

MTDC has formed the Malaysian Technology Forum (MTF) as a platform to create business and technology linkages as well as to enable free exchange of ideas, information and experiences for the benefit of all parties.

MTDC has also formed the Malaysian Silicon Valley (USA) Club, a joint venture with Pacific Rim Partners. Amongst its objectives are to assist Malaysia and Southeast Asian countries to identify US technology companies for investment purposes or other strategic relationships. This club enables US members of the club to access Asian capital and markets. The club also promotes technology advancements in both countries.

MTDC together with other fifteen Malaysian venture capital companies have initiated the formation of the Malaysian Venture Capital Association (MVCA) on February 28, 1995. Its objectives are to promote, develop, and maintain a venture capital industry in Malaysia as a source of equity for business enterprises, principally for the start-up and/or development of SMIs. MVCA attempts to stimulate the promotion, research

and analysis of venture capital in Malaysia and other countries as decided by the committee. It also facilitates contact with policymakers, research institutions, universities, trade associations and other relevant institutions.

### Managing Technology

In many cases, even though technology-based companies have the state-of-the-art technology, they can still fail. MTDC believes it is due to the fact that the management of these companies do not understand the workings of the technology. Since timing is crucial, introducing the technology at the right time is important. Furthermore, marketing a technology product is not similar to normal marketing. Technology-based companies must also come up with an efficient marketing time cycle to accommodate the acquired technology. Delivering technical terms to a layman market is the wrong approach. Extensive marketing will, therefore, be needed to promote these products.

When a company chooses to license technology from the originating organisation, it must be prepared to face a complicated technology transfer process which may involve running royalty or up front royalty payment, technology-transfer agreements and other forms of agreement. Despite these legalities, there should always be a concern for the real meaning of technology transfer. The latter occurs when the company's engineers and technical staff understand the fundamentals and application of the technology. This in turn will promote innovativeness because the engineers will be able to manipulate the existing or transferred technology to meet the future needs of the company.

In managing technology, one must realise that the right people existing in a particular company is the key factor. Having a group of people who acknowledges the viability of a particular technology and its benefit to the company is vital. Furthermore, in the actual implementation of the new technology, they play an important role in making the technology work.

The government through various agencies and private bodies is trying to enhance the position of Malaysian technology-based companies at both the local and international levels. In this regard, technology is the key factor. However, a technology which is not fully utilised and applied with proper marketing will fail. A technology which is static will also not be able to increase the competitiveness of a company. Since Malaysia is

progressively transforming itself into a technology-based nation, MTDC will, therefore, continue to be the partner for more technology transfers to support Malaysian companies in their efforts to create indigenous technologies.

ROAD NETWORK:  
FOCUS ON THE NORTH-SOUTH EXPRESSWAY  
BY PLUS

*Ikmal Hijaz Hashim*

BEFORE the construction of the North-South Expressway (NSE), Peninsular Malaysia was served by the Federal Highway Route 1 which runs the entire length of Peninsular Malaysia linking Penang, Ipoh, Kuala Lumpur and Johor Bahru; and the Federal Highway Route 2 which runs east-west between Kuala Lumpur and Port Klang. With the exception of a certain part of Federal Highway Route 2, these highways are only single carriageway highways (dating back to the beginning of the century) and over the years have not been able to cope adequately with the increasing volume of traffic, resulting in traffic congestion, long travelling time and high accident rates.

The government had been planning for a number of years the construction of a new dual carriageway highway. The North-South Expressway, with the first section to the south of Kuala Lumpur (i.e. Kuala Lumpur to Seremban) was opened in 1977. In 1980 the government established the Malaysia Highway Authority which shoulders the responsibility for the construction and maintenance of the expressways as well as for charging toll. However, the great recession in the early-80s forced the government to curtail public expenditure. In the mid-80s the government decided that the private sector should be involved in the project and this resulted in United Engineers (M) Berhad (UEM) being awarded the Concession in 1988, allowing it to undertake the project to complete the construction of the NSE, its maintenance as well as the collection of toll during the Concession Period.

On 20 July 1988, UEM assigned and transferred its rights, liabilities and obligations under, inter alia, the Concession Agreement and the Government Financial Agreements to its wholly-owned subsidiary, Projek Lebuhraya Utara-Selatan Berhad (PLUS), under the Novation Agreement.

### The Expressways and the Project Cost

The entire NSE network comprises the North-South Expressway (772 kilometres); the New Klang Valley Expressway (35 kilometres); the Federal Highway Route 2 between Subang and Klang (16 kilometres) and Senai to Johor Bahru section of Federal Highway Route 1 (25 kilometres). A total of 513.3 kilometres of the expressways was constructed and upgraded by PLUS. The balance had been constructed by the government prior to the award of the Concession and handed over to PLUS to operate and maintain as part of the Concession.

Twenty per cent of the NSE has concrete pavement—a fact which helped the cement industry to grow in Malaysia and prepared it for the construction boom following the completion of the NSE.

Other features of the NSE include 73 interchanges, 63 toll plazas, 487 toll booths, 345 bridges and overpasses, a tunnel, 18 rest and service areas, 45 laybys, emergency telephone at every 2km interval and patrolling services with free breakdown assistance

The original construction cost budget was RM3.4 billion which was prepared in 1986 when the construction industry in Malaysia was experiencing negative growth. By the end of 1989, only a few contracts had been awarded within the original budget.

In 1990, it became increasingly difficult to award contracts for sections of the expressway at the amounts originally budgeted for. As a result of the various extenuating factors explained below the total cost of construction ultimately increased to RM6 billion which is an increase of RM2.6 billion or 76 per cent.

The increase in cost was due to:

- (1) Bringing forward of works which had been scheduled to be undertaken during the operation stage (RM163 million).
- (2) Additional works undertaken to improve the service level to the users and also works undertaken at the request of the government (RM431 million).
- (3) Additional works dictated by unfavourable site conditions and changes in design standard (RM475 million).
- (4) Inflation on construction cost and partly the effects of the Gulf War (RM1,472 million).

The entire cost increase was absorbed by PLUS without any financial assistance from the government nor changes to the toll rates agreed in the Concession Agreement in 1988.

A total of RM8.3 billion loans and equity was raised to finance the project of which RM3.1 billion was raised at the Second Stage Financing to finance the increase in construction cost.

### **The Project Implementation Stage**

One of the difficulties faced during the implementation of the project was the escalating costs for the reasons explained above.

Problems were also faced in relation to land acquisition. Under the terms of the Concession Agreement, the government undertook to make available, free from encumbrance, all land required for the construction of the expressways within three months before the date of commencement of construction.

However, due to the complex processes as laid down in the Land Acquisition Act (necessary to protect the rights of the individual), the actual process of land acquisition was found to be very protracted and land was often not made available on a timely basis.

Delays were also experienced in removing encumbrances such as orchards, cow sheds, pig farms, burial grounds, temples, etc. Other problems concerned the need to acquire additional land due to the adjustments in the proposed routes which were necessitated by ground conditions and changes in the design. Occasional instances of mis-acquisition were also experienced.

Finally, difficulties in obtaining timely approval on designs and other decisions from various government offices also occurred.

However, all parties managed to resolve matters amicably in the spirit of cooperation and Malaysia Incorporated, with the completion of the NSE Project coming on stream some 15 months ahead of schedule.

### **Benefits of the North-South Expressway**

The privatisation of the NSE has relieved the government of a heavy financial burden and at the same time has provided the country with an efficient transportation infrastructure, the availability of which has been identified as one of the critical requirements for economic growth.

The NSE serves as the main artery of Malaysia, facilitating the even distribution of development throughout the country. New townships

and industrial areas have mushroomed along the corridor of the expressway while old ones are acquiring new dimensions of economic growth. Industrialists are now able to locate at sites further away from the congested urban areas as outlying areas and towns have become easily accessible. Shorter travelling time has also reduced operating expenditures of businesses.

The NSE project has been so undertaken that as much as possible, benefits from the project are passed on to the locals. Foreign contractors' participation in the main civil works are all through joint ventures with locals and amounts to only about 15 per cent (foreign portion) of the main civil works.

The Concession Agreement also provides that the transportation of materials, plant and equipment for the project is to be arranged and handled by local carriers and freight forwarders.

The wealth of managerial and technical expertise gained from the project was enormous and many of the local contractors who participated in the project have grown into "giants" and are now able to undertake other large infrastructure projects locally and abroad.

The entire financing of the project was raised locally, participated by almost all the banks in Malaysia. The success of the project and the experience gained has given confidence to local financial institutions to finance other privatised infrastructure projects.

The NSE has not only contributed significantly to the development of the country, but has also played a vital role in forging greater regional integration as it links Thailand and Singapore more effectively and conveniently. People from Thailand who visit Singapore for holidays make more frequent stops in Malaysia along the NSE due to its convenience. Likewise, Singaporean weekend motorists who used to frequent entertainment centres in Johor in the past decade have now ventured further north even up to Kuala Lumpur due to the shorter travelling time. This critical change in the patterns of movement of people during weekends and holidays has resulted in a growing number of new hotels and inns being opened. The NSE thus has brought about changes in the social and economic behaviour of the societies in the three Asean states.

The collection of toll can be considered as one of the fairest forms of charge. This is because only the user pays, not every tax payer. Those in Sabah and Sarawak for example who do not use the expressway do not have to pay. Consumers have a choice too. If they do not wish to enjoy

the convenience, safety and facilities along the expressway they can still use the alternative roads which are toll free. The toll rate structure is also very friendly towards the lower income group, where those who use motorcycles do not have to pay toll and toll rates for buses and taxis are only half the normal rates. Toll rates in Malaysia are among the lowest in the region and the world.

### Operation Stage

One of the toughest challenges that PLUS faced during the operation stage was to convince its customers that a fair price has to be paid for greater convenience, comfort and safety.

Like all businesses, in order to survive, PLUS has to maintain its competitive edge as well as customer satisfaction. As such, PLUS is constantly improving its facilities along the NSE and places high emphasis on user safety.

Although accidents on the NSE are only 4 per cent of the country's total accidents, PLUS is taking great efforts to further reduce such incidents. Various road safety campaigns are being undertaken and works to improve safety features on the expressway are also being carried out. For example, areas prone to aquaplaning during wet weather are being paved with porous asphalt; and additional safety signages with beacons are being installed at other accident prone areas to warn users to take caution.

PLUS is also installing the Electronic Toll Collection System, a non-stop payment system at its toll plazas. An Integrated Traffic Management System is also being developed, with facilities to quickly detect abnormal traffic flows and promptly take remedial actions, including providing proper advice to users through variable message signboards.

PLUS is also upgrading its facilities along the expressway such as constructing overhead bridge restaurants in Sungai Buloh and Ayer Keroh; and extending existing Rest and Service Areas with additional shower facilities, toilets and parking areas. In its effort to green the earth, PLUS is also planting forest species trees along the expressway.

PLUS thus, aims to make the NSE the preferred travelling alternative—"A Safer and More Convenient Choice".



PORT KLANG'S DEVELOPMENT STRATEGY  
TO MEET FUTURE DEMANDS

*M. Rajasingam*

MALAYSIA has sustained a GDP growth rate of around 8.9 per cent for the last five years. In an effort to diversify its economic activities, the thrust towards industrialisation has been emphasised. Foreign investments have been encouraged in manufacturing, heavy industries and high-tech industries. The successful implementation of the programmes indicates that the government will be able to sustain a minimum of 7 per cent GDP growth rate for at least until the end of the century. Given the country's buoyant economy, it is expected the cargo growth at Malaysian ports will continue to expand at around 8 per cent per annum during the same period. As such, most ports have embarked on major expansion programmes to meet the immediate demand for facilities and the potential need for the future.

**Growing Importance of Port Klang**

Port Klang, the largest port in Malaysia which handles approximately 55 per cent of the total Peninsular Malaysian traffic or 30 per cent of the total Malaysian traffic, presently handles more than 40 million tonnes of cargo. It is located in the central region with the largest industrial hinterland of the country on the West coast facing the Straits of Malacca. It has a total of 37 berths and provides dry bulk, liquid bulk, break bulk and container facilities. To facilitate 5th generation container vessels, Port Klang has depths of 14.5 to 17 metres alongside berths at the Container Terminal.

Given Malaysia's buoyant economy, Port Klang has forecasted an average growth rate of 8 per cent. A total tonnage of 52.8 million tonnes is expected to be handled in 1996, reaching 74.9 million tonnes by the year 2000. It is estimated that a total of 96.3 million tonnes will pass through Port Klang in 2005, to reach 113.6 million tonnes by the year 2010.

An interesting feature in the growth forecast is the rapid changeover of breakbulk traffic to containerised cargo. In 1995 approximately 74 per cent of the total containerisable cargo was brought by containers and it is expected to reach 86 per cent by the year 2000 and 90 per cent by the year 2010. Conventional breakbulk traffic on the other hand is expected to decrease from 26 per cent in the year 1995 to 14 per cent in the year 2000 and 10 per cent by the year 2010. Another strong trend in the transformation of cargo traffic is the rapid growth of manufactured exports of the country. Manufactured goods are likely to emerge as a major exporting item, overtaking agricultural and semi-processed exports. It is expected to reach more than 60 per cent of the total exports of Malaysia by the end of the century.

### **The Need for Policy Re-direction**

Historically, the policy towards development of ports in Malaysia has been demand-driven, i.e. ports have always provided facilities based on demand, often resulting in congestion and delay time to vessels. As a result, shippers tend to use Singapore as a main gateway. However, with the globalisation of international trade and a shift in national policy emphasising manufacture and an export-driven economy, the importance of a cost effective competitive advantage for Malaysian ports has become not only realistic, but urgent. The pressure of Just-in-Time deliveries, the need for synchronising factory production and final consumption have resulted in greater emphasis on the role of transport, resulting in the need for a supply-driven environment to ensure that precision timing of sailings are matched by berth availability for vessels.

Added to this growing importance is the changing strategy by shipping lines which are identifying main line ports. Concern that ports will be relegated to a feeder position resulting in higher cost and loss in time with direct impact on the competitive edge, has resulted in the emphasis for changing strategies of the maritime sector in many countries. The Malaysian Government in tandem with the development of a competitive export market has moved towards providing an efficient inland transportation system, both road and rail as well as efficient port service to help develop the export-driven economy; thus redirecting its strategy concerning Port Klang.

### Policy Directives

government policy directives towards making Port Klang more efficient are very specific. It has adopted a two-pronged approach towards enhancing the role of Port Klang as a regional load centre and a major gateway for the Malaysian market. In this respect, the policies cover the following:

- (1) To provide for supply-driven facilities.
- (2) To ensure a commercial environment that will facilitate trade.

Based on the broad policy guidelines by the government, the Ministry of Transport and Port Klang have embarked on a major restructuring process that will meet the government's policy directives. In this respect, Port Klang has taken the following actions:

**Physical Development.** To ensure that the port is able to provide berths on arrival to vessels and encourage more direct calls, the port authority initiated a master plan in 1990. The plan includes the development of facilities on an island (Pulau Indah) across the present port to provide for the needs of the growing trade and the demand for berth facilities up to year 2010. The facilities are as follows:

- (1) **Transportation Infrastructure.** Transportation infrastructure which covers roads, bridges, rail links and other public utilities will be undertaken by the government. As part of the initial phase of development, the government allocated approximately RM500 million on providing a dual-carriage highway to the island, including a one-kilometre long bridge in 1993. A feeder road connecting South Port to this highway is currently being undertaken by the government and when completed will allow the inter-terminal movement of cargo/containers between the three terminals in Port Klang.

Presently, the Port is served by two major highways, i.e. the Federal Highway and the North Klang Valley Expressway. By the turn of the century another highway, i.e. the Shah Alam Expressway will be made available to provide an efficient network of highways and feeder roads that will further reduce

transit time of cargo/containers between the port and its hinterland.

In addition, the existing rail link to Port Klang which was recently upgraded to double track will also be extended to West Port in Pulau Indah by 1997 to facilitate the movement of railbound cargo/containers handled by the terminals at North Port.

- (2) **Port Infrastructure.** To meet the anticipated demand in shipping and cargo traffic between 1992 and 2010, the authority estimated a total of 32 berths is needed in addition to the present 25. To date, the authority has spent approximately RM500 million to provide 12 berths with a total length of 2.5 kilometres on the island. Another 600 metres of container berth is still being constructed on a "fast-track" basis on the island while another berth through the conversion of two breakbulk cargo berths at the existing facilities in North Port are expected to be operational by the end of the year.

Meanwhile, the remaining berths and back-of-port facilities planned under the Master Plan are expected to be implemented between 1997 and 2005. The estimated cost for the expansion of port facilities on the island is around RM1.2-RM1.5 billion. Similarly, the cost of the planned development for the expansion at West Port by 2005 is expected to reach RM3 billion.

It is forecasted that by 2010 the island will be able to handle a total of 68.2 million tonnes of cargo, while the existing facilities are expected to handle 45.4 million tonnes. This tonnage takes into account approximately 30 million tonnes re-directed traffic and transshipment volumes over and above the normal growth that has been forecasted.

### Trade Facilitation

Initially, Port Klang was a Customs port. However, to meet the changing needs of time, the growing importance of feederling, consolidation and transshipment, major changes in commercial practices were necessary to enhance the role of Port Klang. In order that Port Klang will be able to meet the aspirations of the nation, major policy decisions were made to produce a more conducive environment, encouraging load centring by

shipping lines. In this respect, the following major policy changes have been made to provide for easy flow of goods through the Port:

- (1) Port Klang, a Customs Port, was turned into a Free Zone Port Area. With the creation of a Free Zone Authority, the Port environment was relieved of major procedures and unnecessary documentation. By the same exercise, transshipment, value-added activities and consolidation became a reality.
- (2) To encourage consolidation and value-added activities, the port authority embarked on major distripark projects. Currently, 326,000 square feet of the 1.2 million covered space planned for construction in a 62-acre land area is available for value-added activities and consolidation for re-export of products. Similar facilities are also being made available at West Port on the island.
- (3) The Cabotage Law was amended to allow foreign ships to carry cargo and containers between ports, to encourage feederling to Port Klang rather than to third country ports. The first leg of this relaxation between Penang and Port Klang was implemented in 1995 and similar relaxations are expected to be made between Port Klang and other Malaysian ports.
- (4) Action has been taken to restructure the equity of companies to encourage ship operators to set up regional offices in Malaysia. This would encourage ship operators to utilise Port Klang for consolidation and load centring in the region.
- (5) The role of freight forwarders is being reviewed with the intention of upgrading their position, in terms of finance and professionalism. This is to encourage them to play a greater role towards the exports of cargo on C&F terms rather than on F.O.B. as is presently being done.
- (6) Ancillary Services: Port Klang being the first and last port of call in the Europe/Far East route, must be able to provide ship-related services, i.e. bunkering, ship repairs and ship-related professional services. To ensure Port Klang is attractive to ship calls, maritime activities and related services are being upgraded. As for bunkering, Petronas is developing a bunker depot on Pulau Indah to be operational by mid-1997. The gov-

ernment has also withdrawn all duty to ensure supply at reasonable cost.

- (7) EDI Services: With the growth trend towards paperless transfer of information, transactions and the obvious financial benefits, the government has embarked on a major programme to set up such a system in the country. Given priority to the trading sector, it has embarked on a Port Community System involving various users. The community service was initiated in Port Klang in April 1994 and to date, both import and export transactions are performed electronically.

With major policy changes, the physical development of Port Klang is being expedited and commercial practices are being revamped to encourage the free flow of goods at Port Klang as a pivotal port of the nation. The government is encouraging the development of the Port as a regional hub. Noting the importance of ship-related services, the government has also initiated major ship repair activities and other ancillary services required by ships calling at the Port.

#### Privatisation of Port Services

Until 1986 the Klang Port Authority was responsible for all activities related to the effective functioning of the Port. This included the planning, development, trade facilitation and all operational services to port users.

With the introduction of privatisation as a policy and acknowledging that ports are part of the service industry, and that performance and productivity are vital in ensuring a cost effective service, the government privatised the terminal operations in March 1986. Moving away from the traditional management provided in the past, the government has taken additional steps to privatise the rest of the port services in December 1992. The various expansion programmes that were planned and developed on the island of Pulau Indah have also been privatised in September 1994. As such, all operational services of the port are presently privatised to three separate terminal operators. Encouraging signs are seen on the productivity levels of these terminal operators. As a further step, the Klang Port Authority is encouraging terminal operators to move away from the traditional common-user service towards dedicated operations and berth appropriation schemes especially on container terminal service.

### Regional Role for Port Klang

It is the government's principal intention that every effort should be made to encourage Malaysian exports and imports be handled through Malaysian ports. There are a number of economic reasons for these decisions. The government's efforts at encouraging foreign investments and the promotion of export-oriented industries are somewhat negated by the outflow of invisible earnings. One specific item which has a major impact on this growing negative trend is losses due to freight and insurance. It is vital that attention be given to reducing this particular loss. Acknowledging that the changing shipping trends and the importance of volume to attract direct ship calls and being in a position to negotiate for attractive freight rates, Port Klang's role need to be upgraded to that of a pivotal port for the nation. Given its geographical location, planned development of additional facilities for a supply-driven environment and the potential volume, Port Klang can be an important option as a regional port. With the various decisions made and marketing efforts through both efficient operations and the availability of sufficient facilities, greater utilisation of Port Klang as a pivotal port for the nation and a hub port for the region, is realistic.



CONTAINERISATION IN MALAYSIA:  
THE ROLE OF KONTENA NASIONAL  
AND A PERSPECTIVE FOR THE FUTURE

*Mohd Mokhtar Abu Bakar*

MALAYSIAN container transportation systems have progressed a long way in the past 25 years. Today it can boast of a better system than some of our Asean neighbours. We certainly are not the best but we are right there amongst the best. It would not do justice to the pioneers of this industry if we do not relate to the early days and difficulties that they went through to establish the transport industry which we know today.

Containerisation entered the scene in Malaysia in the early 1970s. At that time, the country's economy was predominantly commodity-based. Industrialisation was just at its infancy stage. Infrastructure was basic and facilities whether ports, airport, warehousing and even those relating to manufacturing were a far cry from what it is today. However, the catalyst effect of transport towards economic growth was demonstrated by the advancements made in the national march towards industrialisation through efficient complementary transportation services.

The government's policy was to initially limit container haulage permits to just one company. This was Kontena Nasional. The idea was to give the mandate to this single entity to spearhead the development of containerisation for the country. It was charged with the responsibility of setting up the operating system, the contractual and other transactional requirements, to set up facilities such as transport depots, Inland Clearance Depots and to develop and train Malaysians to be the transport managers for the new field of containerisation.

Additional haulage companies were approved after the first ten years and we saw the emergence of Shapadu Kontena (now Diperdana Corporation), Konsortium Perkapalan, MISC Haulage and Multimodal. This development had enabled the companies to invest heavily into equipment, manpower and systems as there was sufficient revenue gained from the share of the container movement volume among the few haul-

age companies to support such investments. The expansion towards more haulage companies was undertaken gradually, but liberalisation was not considered at all. This approach was criticised by trade organisations, especially those with foreign affiliations, who alleged that it would lead to inefficiency and high pricing.

Despite continuous efforts by foreign consultants and World Bank experts for the liberalisation of the industry to provide competition and therefore, better efficiency and lower cost to users, the government's policy of controlling the entry of players to just a few had also received favourable remarks from other foreign policy makers, especially those whose countries experienced disorganised development due to the inability to get the numerous operators to be more responsible for total development as opposed to the short-term benefits of competition and pricing alone. The benefits of keeping to a few players mainly related to its manageability, ensuring sufficient volume of business for the purpose of committing to higher investment of capital on high technology, research and development and training of manpower for the future. A totally liberalised scenario in an economy that was still in its infancy and in an industry that was still backward would have seen small players reluctant to invest or could not invest due to the low returns from the small shares of the business.

#### **Transportation Development and Economic Growth**

The approach towards industrialisation through the creation of industrial parks and free trade zones within which export-oriented manufacturers are located and given the benefits of pioneer status was attractive enough for investors. Planned industrial parks were provided with the best facilities for manufacturing as opposed to the normal unplanned location based on commercial considerations. These were created initially in the immediate hinterlands of major ports such as Port Klang and Penang. Infrastructure upgrades were mainly devoted to improvements of the Federal Highway in the Klang Valley. All other road networks in Penang and Johor did not undergo improvements until ten or fifteen years later. The planned industrial estates of Shah Alam and Petaling Jaya gained much progress throughout the 1970s.

During this period, a lot more imports were passing through the ports compared to exports. Most companies started by using 20ft containers. In a majority of cases where container users were just beginning

to convert from conventional transport to containerisation, a great deal of difficulties were experienced by both the haulage providers and users themselves. Some of the problems faced by the haulage providers were poor road infrastructure such as narrow lanes, small junctions and routes passing through residential areas with great risk of damaging houses. At the factories, stuffing and unstuffing facilities were inadequate, mostly relying on manual labour to load or unload hundreds of packages. As a result, the work required to fill or empty a container may take more than six hours.

Most of the supporting facilities, rules and systems were also in the early stages of development. Telephone was a major problem with too few lines and poor connections. Water supply to the North Port was often inadequate, due to poor supply lines. Much of the laws and regulations imposed were based on the older conventional transport requirements and not suitable for the faster and bigger loads of the containers.

Haulage providers themselves were faced with the requirements of building on experiences emerging from the needs of this new form of transportation. The basic conditions of carriage needed to be drawn up in order to form the parameters that sets the transactions in proper perspectives and for the users and providers to be clear about their roles and responsibilities. Pricing too needed to be worked out. Most important to all concerned were the operating procedures and systems needed to enable the ship, port, haulier and user to move the cargo and containers effectively.

In the meantime, the industrial climate was changing relentlessly. More foreign manufacturers invested to set up export-oriented manufacturing plants in the country. With this influx of foreign investment, the container volumes and export requirements grew. The demand for facilities and infrastructure became greater and more diversified. Export-oriented industries then ensured that the percentage of containers for export also grew. With increasing pressure on the systems and structure, the haulage and terminal facilities began to break at the seams. Containers began to pile up as haulage company could not deliver them in time. Accusations were thrown around, by haulier against port and by forwarders against both facilities. The situation, however, was not unusual as these were the growing pains normally experienced by a developing economy facing for the first time an overwhelming demand inflicted upon it by rapid industrialisation.

Despite all the difficulties of the early years, the country prospered and containerisation found its way into every aspect of the country's economic development. Today, the Malaysian containerisation system can be considered better than most of its Asian neighbours except Singapore even though we still have lingering problems with systems, rules and other issues related to the legal and regulatory environment of the industry.

### Meeting the Challenges of the 21st Century

In meeting the challenges of the future, we should begin by identifying the elements that would make an impact on the industry. Of course, the very nature of economic transformation and technological development themselves are influential in changing the lifestyles of the people and civilisation. Transportation providers may either trail these developments and adjust their service capability and capacity to meet the ever changing requirements, or they can attempt to foretell the impending changes and provide the impetus for these changes by implementing the systems and services that would influence the direction of those changes.

What would be the apparent changes in the next century? Judging from the current trends, there seems to be a strong tendency towards dismantling economic borders as world trade and manufacturers seek to maximise efficiency and cost effectiveness in order to compete in the global market place. Sourcing of raw materials, manufacturing of semi-finished products and the final product manufacturing are relentlessly pursued across the globe, targeting routes that provide the best marketing and profit advantage. The traditional sense of location and space has been replaced by time.

Transport and logistics requirement must fall in line with these trends. This means companies providing such services must invest now in manpower training and technological applications that can position them for future requirements.

**Infrastructure.** Infrastructure represents the foundation on which transportation networks operate. A good network of roads and terminal facilities ensures efficiency and effectiveness of transportation. As mentioned earlier, infrastructure plays an important role in ensuring that transportation becomes a catalyst for economic growth. A lack of infrastructure investment can stifle the economic progress due to bottlenecks in goods

distribution and raw materials transfer. In addition, communications infrastructure will also play a critical role in the future scenario. As sourcing, manufacturing and distribution shift to time-based rather than location-based functions, information flow will be the most important ingredient of transportation and logistics functions.

**Technology.** Technological advances in the transportation systems and facilities are important tools in the industry. However, in advanced countries these are implemented on a smaller scale by individual companies which treat their discoveries as proprietary because of the marketing and operational competitive advantage of keeping it to themselves. Any spreading of such technology is carried out only after ensuring the inventor stays in control of the worldwide application and therefore reaps the benefits of such technology. We see today technology-related companies are offering their inventions for use by our transport companies.

Due to the size limitation of these companies, sometimes supporting services for repairs, are not forthcoming. Alternatively, they appoint local representatives who knew little more than to install but not to follow up or provide supporting services for their installations. There are also many cases of competing products utilising the same support base such as the case in communications suppliers.

A basic problem with this sort of development is the high cost of initial installation in order to provide earlier payback or even ensure the survival of the inventors. As the utilisation increases, cost can be cut further and this benefits the later users. Early users also face the 'testing' stage where things can go wrong and even though corrected would have cost the user in terms of delays, breakdowns and customer loss of confidence.

**Legal and Regulatory Roles.** One of the continuing difficulties undermining the transportation activities in tandem with advances of such systems and techniques in advanced countries are the archaic laws and regulations. EDI, for example, could not be implemented when it should have been implemented many years ago due to a lack of regulatory changes which can accommodate the paperless transactions scenario of the future. Road and rail usage in terms of inter-modalism and multi-modalism were also much curtailed for many years due to the lack of regulatory amendments to enable such methods of transportation to take

place. There is also unwillingness on the part of enforcement and implementation officers to shift from their comfortable situation into an unknown state.

In the last five years, concerted efforts are being made to institute legal and regulatory changes to accommodate the transportation development. However, it must be noted that this was carried out after the realisation that the country's progress towards an industrialised-nation status could not proceed without these changes.

**Manpower and Human Resources Development.** Human resources play a vital role in ensuring that the infrastructure, technology, equipment and facilities are used to maximum potential. Technology could be imported by purchase or other means. However, its usage by the local management and personnel must be efficient for optimum value.

Another area that the human resources development will be required is in the management of the transportation systems. The resolution of transport problems and proactive determination of what needs to be done is best undertaken by those trained to do so. Otherwise *ad-hoc* solutions may take place which either do not solve the real problems or will solve a symptom and create more problems in other and related areas in the future.

**Putting it All Together.** The efforts undertaken in manpower training, high-technology installation and other measures can be successfully implemented if care is taken to integrate them. A segmented approach will result in ends not meeting, and would stifle the development of other elements or components. There is certainly an urgent need for the government to bring together experts and leaders in various aspects of transportation to plan not only for the future but more importantly, to prepare from now the managers and administrators who are the ingredients of today. Thus the education and training systems should ensure that the thinking processes of the future generation can maximise the resources that we have for the future. At this point when Malaysia is enjoying growth and development, we must not lose sight of the hard work required to ensure continued efforts are being carried out by future generations of Malaysians.

MALAYSIA INTERNATIONAL  
SHIPPING CORPORATION*Ariffin Alias*

IN the 1960s, Malaysia had already progressed to become a successful trading nation, exporting raw materials, forest, agricultural and manufactured products as well as importing manufactured goods. However, the shipment of exports and imports was mainly handled by foreign shipping lines, resulting in large sums of money in the form of freight costs being drained out of the country. Hence, to curb the substantial outflow of funds, the idea of making Malaysia a seafaring nation by setting up a truly Malaysian shipping line to handle Malaysia's international seatriade was conceived.

Consequently, on November 6, 1968, a new shipowner, Malaysian International Shipping Corporation (MISC) (now known as Malaysia International Shipping Corporation Berhad) was incorporated as a public company on a joint-venture basis between the government and the private sector to engage in the principal activities of owning and operating sea-going vessels. The company was subsequently designated as the national shipping line of Malaysia and entrusted to serve the country's maritime interests while being run on a sound commercial basis.

With an initial paid-up capital of only RM3 million, the company's capital has escalated rapidly to reach the present value of RM1.0 billion. Through a period of twenty odd years, MISC has also grown from a humble beginning of two secondhand vessels to an existing fleet of sixty-one vessels with a total of 2,247,485 dwt. These comprised five LNG vessels, three crude oil tankers, eight product tankers, seventeen cellular container vessels, two multi-purpose bulk vessels, six panamaxs, three parcel tankers, four chemical tankers, two regional tankers and two offshore vessels. To meet the Malaysian Government's objective of having exports and imports carried as far as possible by Malaysian ships, MISC's vessels are rather diversified to cater to Malaysia's varied exports and imports

such as raw materials, petroleum, gas, manufactured goods, meat, fruits, vegetables, chemical and metal products. Participation in the various diversified sectors of the shipping business also underscores the need for MISC to have a comprehensive wide ranging types of services as well as to maintain a stable base in an industry beset by ups and downs.

MISC is involved in the liner services through the carriage of goods in containers by its cellular container vessels which call regularly at a predetermined range of ports covering regions such as Europe, the Mediterranean, South Africa, Australia, New Zealand, East Asia, Southeast Asia and East Malaysia. For petroleum services, crude oil tankers and product tankers are deployed in the regional waters to carry crude oils (crude petroleum), dirty petroleum products like fuel and clear petroleum products like motor gasoline and jet fuel. The LNG service, which provides MISC with the most stable source of earnings, commenced in 1983 with its five LNG carriers contracted on a 20-year time charter to Malaysian LNG Sdn Bhd to carry LNG from Bintulu to Japan. Meanwhile, the bulk vessels are used for carrying grain, woodchip, coal, ores, fertilizers, steel and forestry products in worldwide cross trading on voyage or time charters. MISC is also involved in the carriage of palm oil, coconut oil and other vegetable oils and chemicals on the Southeast Asia/Europe/Red Sea, Mediterranean and Indian Ocean routes as well as to Taiwan, Hong Kong, Japan and Korea.

To meet the challenges of the 21st century in shipping and to help Malaysia achieve the status of a maritime nation, MISC is fully aware of its role as a national shipping line. As international shipping is a very competitive business, there is a need to have sufficient modern ships to provide efficient services to meet the increasing demands of customers. Thus, as a response to the government's call to increase Malaysian-owned tonnage to enable a higher volume of the nation's exports and imports to be carried by Malaysian ships, MISC has embarked on a bold programme of fleet expansion and improvement. The current fleet of 61 ships will increase to 70 ships by 1998. MISC has also set a target to have a fleet of 100 ships within the first five years of the 21st century.

The ambitious fleet expansion programme serves to enhance MISC's services regionally and globally and also assists in supporting the Malaysian Government's policy to contain the outflow of funds from the country while simultaneously earning foreign exchange. In this respect, the Malaysian Government should also be commended for setting up a Ship-

ping Fund of RM1.1 billion to provide financing for purchase of vessels by Malaysian companies to increase the size of Malaysian-owned fleet as well as shipyards and ship-repairing facilities.

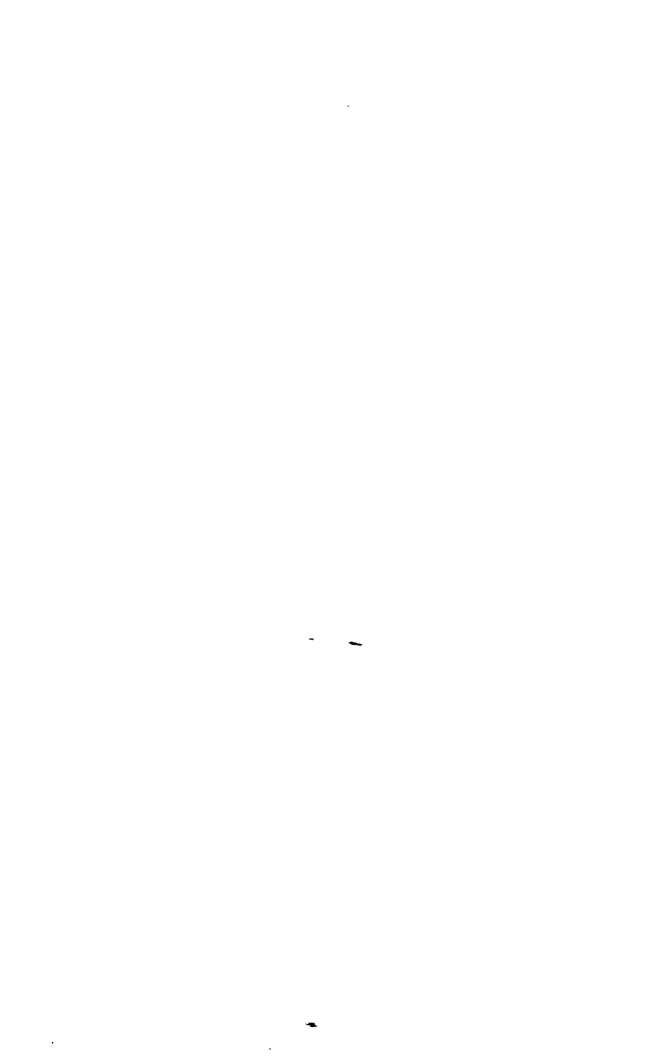
Besides the Shipping Fund, the Malaysian Government has also taken several other measures to increase the utilisation of Malaysian ports and shipping facilities. The government has spent large sums of money to encourage the use of the nation's ports by increasing the capacity and efficiency of major ports such as Port Klang, Penang Port and Kuantan Port. In connection with this, the Electronic Data Interchange (EDI) for handling transactions will also be introduced in ports and airports to simplify and speed up import-export procedures to facilitate faster movement of goods, improve communications, particularly in terms of speed and accuracy, thus leading to the development of a network of links. Port Klang, the nation's premier port has also been designated as a Free Commercial Zone to facilitate cargo transfer and reexport activities. In order to have better facilities and services at Port Klang, a project to provide bunkering service will be implemented in the West Port of Port Klang to store and supply bunker fuel. The aim is to put Malaysia's ports on par with the best in the region as well as to develop Port Klang as a transshipment hub for the region.

After having weathered earlier struggles and obstacles, MISC is facing greater challenges ahead. Taking cognizance of the highly competitive shipping industry, MISC constantly seeks to upgrade its services and efficiency by employing the latest technology and embarking on a new course to provide a totally integrated transport and distribution service. In order to stay abreast with other foreign ship-owners, MISC recognises the need to continuously enhance its human resources development to further upgrade the skills and competence of its shore as well as crew staff. Competent and highly skilled crew staff are required to run the company's vessels which are becoming more sophisticated. Crew selection is carried out carefully with continuous and vigorous training being provided to ensure a constant supply of professional seafarers. Towards this end and also to assist Malaysia to achieve the status of a maritime nation, MISC was actively involved in the setting up of a fully-equipped maritime training centre, Akademi Laut Malaysia (ALAM), which enables seamen to be trained locally. MISC has been awarded an equity of 35 per cent in the privatisation of ALAM, enabling it to take a lead role in the soon to be privatised academy.

In view of the cyclical nature of the shipping business and not being complacent with its creditable performance so far, MISC has ventured to enlarge its earnings base, realising synergistic benefits and supporting shipping services by diversifying into shipping-related and non-shipping-related activities. In this respect, MISC has to date established several services and operations such as shipping agencies, container repair and refurbishment, ship-repair and shipbuilding, haulage, trucking, warehousing and container depot operations, port operations, merchant banking, palm oil storage and refinery, food-related business and a travel agency. During 1995, a corporate restructuring exercise was also carried out under which all non-shipping activities were grouped under a wholly-owned subsidiary company, MISC Enterprises Holdings Sdn Bhd, while the core shipping business remained under MISC Bhd. The objective of the restructuring exercise was to have a better focus on shipping and non-shipping business as well as to accelerate future business diversification.

New challenges lie ahead with the vision of Malaysia becoming a fully-industrialised nation by the year 2020. Towards this end, MISC with its quest for shipping excellence, has equipped itself with the required manpower, fleet, machinery and financial strength, backed by an increasing global presence, to be the nation's premier shipping corporation as well as an internationally recognised corporation. MISC, therefore, is ready to explore new frontiers with the aim of assisting Malaysia to realise its Vision 2020 of becoming a fully industrialised and developed nation by the year 2020.

INDUSTRIAL  
DEVELOPMENT



MALAYSIA AS A REGIONAL CENTRE  
OF EDUCATIONAL EXCELLENCE:  
THE CHALLENGE OF GLOBALISATION

*Mohd Najib Tun Razak*

MALAYSIA needs to build a strong foundation to ensure the sustainability of its economic growth. As such, it is generally agreed that education holds the key to the country's continued success. Therefore, Malaysia is taking actions to reform the education system. Malaysia has been reforming the education system periodically with the aim of providing a balance in education.

#### Concept

Globalisation has reached Malaysian shores. Many scholars have already put forward their views on this. Although the essence of scholarship is about ideas and the clash of ideas, I believe the emerging trends towards globalisation have received almost universal agreement with, I must add, differing angles. As Malaysia is an open economy and a player in the regional and international arena, we cannot insulate and isolate ourselves from this inevitable force. Therefore, we need to make preparations for our population to face this sometimes, uncontrollable trend.

In a highly competitive world, we need to strive towards higher goals. For the last thirty years, we have been working out the basics and surely the time has come for us to strive for higher standards. That is why we have introduced the concept of world-class education for Malaysia in our mission statement.

I would like to use Professor Rosabeth Kantor's definition of 'world class' as a guide to what we mean by this term. According to Kantor, "World class' is a play on words suggesting both the need to meet the highest standard anywhere in order to compete and the growth of a social class defined by its ability to command resources and operate beyond borders and across wide territories." She also introduced the three Cs. Although she discussed this in economic terms, I believe they could easily

be applied to education. The first is concepts, i.e. the best and latest knowledge and ideas. The second C is competence, that is the ability to operate at the highest standards in any place anywhere. The third C is connections, i.e. the best relationships which provide access to the resources of other people and organisations around the world.

Concomitantly, as a way to achieve a world-class education system, we are undergoing a reformation. In practice we would like to make Malaysia a regional centre of educational excellence.

To establish such a centre would inevitably mean institutions of higher learning must provide world-class quality education. These institutions would not only provide academic courses comparable to the standards provided by world-renowned universities, but must also be noted for quality research and publications that enhance knowledge and contribute towards the advancement of sciences.

What are the special characteristics of the Malaysian education system that make it attractive and suitable to become a centre of educational excellence for the region? Let me share with you several reasons.

We have several public universities and in the near future, we will also have private universities. The former are being corporatised, as a way to maintain and enhance quality tertiary education. We are also encouraging local private institutions to establish universities. With already three private universities to be set up by Petronas, Tenaga and Telekom, the number is expected to increase.

Malaysia is also encouraging top foreign universities to set up their off-shore campuses in Malaysia. By opening our system to foreign participation, it will indirectly provide competition as well as improvement in the overall quality of education in the country.

We have the existing twinning programmes which are very popular even with foreign students, especially those from around the region. Regional students would be able to come here to study without having to go too far or to shoulder a heavier financial burden.

We believe we have quality education in Malaysia, at least equal to that of other countries in the region. This is apparent now that we have an open and liberal education system, especially with the new Acts, such as the Private Higher Education Act. Furthermore, English is also widely used in the country, a language accepted as the *lingua franca* of the region.

While we strive for excellence, we are also, at the same time, trying to increase the pool of our manpower. In other words, we would like Malaysians to enter the education system and stay there as long as they can fulfil the principles of the Second Outline Prospective Plan (OPP2) on tertiary education. Therefore, we are moving away from elite education to one that is based on egalitarianism. We are in a way, bringing elite education, one that is based on excellence, to the general population. In this respect, we are committed to growth with equity.

For example, we are advocating a rapid democratisation process of higher education so that by 2020, we hope to see 40 per cent of school leavers joining higher education institutions, thus moving away from the elitist concept of higher education. In this context, the enrolment of undergraduate students will be increased substantially, thus opening up new avenues for aspiring secondary school leavers. Hence, the Ministry aims to have 20,000 undergraduate students in every university by the year 2020.

Education is and will always remain a public service and as such, we need to exercise a large degree of social responsibility. As we prepare our society for globalisation, we also need to be mindful of the fact that there will be people who are going to be left behind. Therefore, the education system has to be flexible enough to pay equal attention to both high and low achievers. At the end of the day, we would like to see the emergence of growth with equity to be based on a much more egalitarian basis, without hindering the quest for excellence.

Many would argue that education is a determinant and also a reflection of society. Therefore, in a multiracial, complex and sophisticated society like ours, reforming education has to take into consideration many conflicting, extreme as well as contradictory views. At present, our reforms already reflect changes in the society, brought about by rapid economic growth.

The current educational reforms are comprehensive in nature—hardware (infrastructure and teachers) and software (curriculum, with special attention given to science and technology). We are concentrating on producing better teachers of higher standards following the changes in the curriculum in teacher training colleges. We believe that the ambience and the environment of educational institutions is an integral part of a quality education. They must be equipped with the latest equipment to assist and aid students. That is why we have introduced the Comput-

ers in Education (CIE) Programme as a way to enhance learning. We are also concentrating on the software, mainly improving the quality of the curriculum as well as encouraging the introduction of newer courses, those that are at the forefront of technology and knowledge.

With reference to public universities, we are trying to be as innovative as possible, without being too bogged down by conservative and dogmatic thinking. Given the specialisation of some universities as well as the shortage of such institutions within the country, we are thinking of the concept of borderless universities where students in local universities would be allowed greater mobility by making the institutions more flexible in terms of admission and placement. Credit transfer mechanisms ought to be institutionalised and core courses may be taken at the principal university while elective or other relevant courses can be conducted in other universities.

We are also in the midst of making some structural and managerial adjustments. The Ministry is looking at the actual governance of the educational institutions. For instance, we have changed the way a university is governed. The University of Malaya's Senate, for example, used to have some 300 members. Now, it has been trimmed to about 30. The *Majlis Universiti* is also being converted to something that resembles the Board of Directors of a company, where decision-making is more effective and faster.

Focusing on the postgraduate level, the system must be based on meritocracy and specialisation. Research and Development (R&D) in these universities are encouraged. In most industrialised countries, the reputation of their universities rests not so much on teaching but on the level and amount of R&D conducted. Funds are being secured from the private sector for R&D projects whereby such institutions are seen as being at the forefront of technology breakthrough.

Given the fact that our economic growth is private sector-driven, we are also encouraging this sector to participate in the education system. The Malaysian Government recently introduced the concept of Malaysia Incorporated as a means to promote greater cooperation between the public and private sectors. It is believed that such a cooperation is needed as Malaysia's economic growth must be maintained and sustained. This concept also aims to lessen the financial burden of the government. Therefore, through Malaysia Inc., we hope to get the private sector to play a more active role in economic development. However, as

education is often seen as a public good, there is a need to ensure a balance between private and public interests. That is why we need to encourage public and private cooperative ventures. Naturally, standards have to be set and maintained. With this in mind, the National Accreditation Board as well as the National Higher Education Council have been established.

Having stated this, I must also stress that while Malaysia encourages the private sector to participate in the country's education system, the government will in no way compromise its social responsibilities. The Education Ministry will monitor the situation closely and together with the cooperation of the private sector, we aim to make our country the region's centre of educational excellence.



28  
HEALTHCARE SERVICES  
INTO THE 21ST CENTURY

*Chua Jui Meng*

MALAYSIA is today in the era of some very exciting challenges in the field of healthcare services. Since independence in 1957, Malaysia has achieved tremendous advances through economic and social development. The Ministry of Health has risen to the challenge of healthcare provision over the years, meeting the health needs of the population and successfully raising the standards of health in the country at reasonable cost to the government.

Malaysia has to date maintained levels of expenditure on health lower than comparable countries in the region. While the World Health Organisation (WHO) recommends that countries should spend at least 5 per cent of its GNP on health, in Malaysia, levels of expenditure of between 1.8 and 3.5 per cent of GNP have been maintained. Nevertheless, improvements in the health status of the population have proceeded with a steady pace, as widely reflected in the various health indicators.

During the initial stage, emphasis was placed on the development of a comprehensive network of health services in the rural areas, where during that time 70 per cent of the population lived. The objective was to provide the rural population with preventive and basic curative services. These services were to be made easily available, accessible and affordable, and provide continuity of care, and must be of a quality acceptable to the community.

Following the initial developments, the government through the Ministry of Health as the lead agency in health, has continued to develop a healthcare network in Malaysia which ensures universal access to a comprehensive package of public sector services and largely provided free to those who could not afford it. The more affluent among the population have the choice of private sector healthcare. Accessibility to secondary and tertiary care centres, which are usually located in large towns,

has been made easier through an effective referral system. This ensures that the patient receives the appropriate level of care based on need.

However, as we approach the turn of the century, the Ministry of Health has had to re-examine the direction of future growth and development to face the 21st century. Malaysia, in common with other countries at a global level, is facing many issues which directly affect the health sector:

- (1) Increasing consumer demand which is placing more emphasis on value and quality of life.
- (2) Increasing proportion of an aging population with different dependency needs.
- (3) Changing patterns of disease affecting the way health services are delivered.
- (4) The need to improve unequal distribution of health services:
  - (a) primary care—estates and urban slums;
  - (b) secondary care—private hospitals in smaller towns; and
  - (c) tertiary care—limited to a few hospitals.
- (5) Increasing specialisation of healthcare providers with fragmentation of services.
- (6) Introduction of new services and advancing medical technologies which increase the cost of healthcare.
- (7) Increasing costs of healthcare leading to new ways of delivering and new ways of financing health services.

The Ministry of Health has examined the changing scenario and looks to the future with confidence and optimism. In line with the nation's Vision 2020, the Ministry of Health aims to: "... develop a nation of healthy individuals, families and communities, through a health system that is equitable, affordable, efficient, technologically appropriate, environmentally adaptable and consumer friendly, with emphasis on quality, innovation, health promotion and respect for human dignity, and which promotes individual responsibility and community participation towards an enhanced quality of life."

Malaysia's healthcare is a mixed public-private system with heavy involvement of the public sector in the provision of promotive, curative and rehabilitative care. The Sixth and Seventh Malaysia Plans have emphasised the private sector as the engine of economic growth. In the

healthcare industry, the government expects the private sector to play its part in complementing and supplementing the public health services.

The privatisation of hospital-support services is one of the largest privatisation projects undertaken by the Ministry of Health. The Ministry feels that the hospital-support services should be run professionally and by professionals well-versed in their fields. The 'contracting-out' or the 'buying-in' of such services will benefit the Ministry of Health through more efficient and effective services. The services which are in the process of being privatised include the non-clinical services such as laundry, security, cleaning and housekeeping together with engineering and bioengineering maintenance.

While the 'buying-in' or 'out-sourcing' of these support services are relatively new developments, the MOH have been involved in purchasing certain clinical services from the private sector:

- (1) Private sector specialists providing services in government hospitals.
- (2) Using private sector facilities (buying of services) when government facilities are not available or insufficient, such as:
  - (a) diagnostic and imaging services;
  - (b) therapeutic services; and
  - (c) hotel facilities.
- (3) Contracting out routine screening procedures.
- (4) In health-facility development—the building of hospitals and clinics in urban areas in the form of build and transfer in exchange for land assets.

In the Seventh Malaysia Plan, the intention to corporatise hospitals was announced. The major thrust of this exercise is targeted at:

- (1) Achieving a greater degree of capability in fulfilling functions as service organisations; and
- (2) Making hospitals more efficient, effective and sustainable self-financing organisations.

The ongoing corporatisation and privatisation policy will dictate that the supervisory role of the Ministry will be to regulate and to monitor the healthcare industry, primarily to safeguard consumer interest.

The regulatory function will ensure that the development of the corporatised and privatised bodies will not be at the expense of the government's social responsibility.

The government through the Ministry of Health, will continue to monitor the overall national health needs and ensure a good match of care need and supply. The government will adhere to its responsibility in providing a 'safety net' and in subsidising those who cannot afford to pay as well as ensure equity of access to health services.

Looking at financing the future expansion of healthcare services in the country, and keeping in view of the fact that increasing demands from all sectors are being placed on the government, various studies have been carried out to identify a suitable financial model.

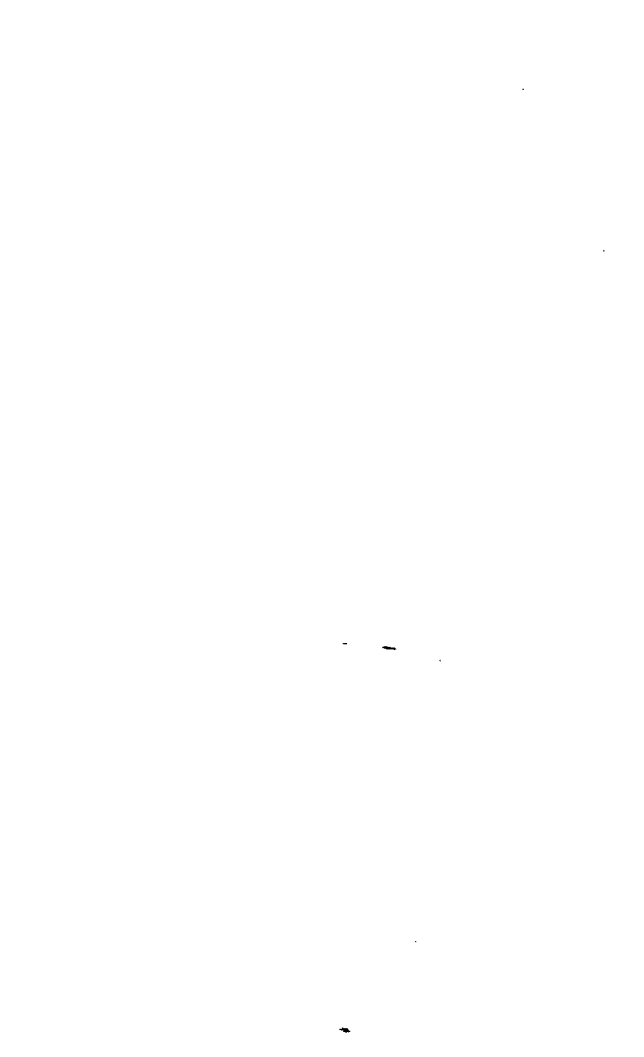
The multi-factorial aspects of demographic changes, economic growth, varying patterns of healthcare-service utilisation and the vast geographic and economic diversity of the populace at large have compounded the problem. Realising that the proposed financing mechanism will have far-reaching implications on the basic tenets of access and equity, more study is needed. It suffices to say that all the possible interventions and interactions, as well as the resultant implications have to be carefully presented and deliberated by all interested parties to ensure that any decision made will be a carefully considered one.

The eventual financing scheme will have far-reaching consequences both in the private as well as public sectors. The proper management of such substantial funds will have a significant bearing on the containment of escalating healthcare expenditure. Inherent and underlying all the principles of the national health security fund will be the concern that the less privileged and the under-served shall not suffer and that they be adequately provided for. Progressive forms of contributions determined by ability to pay and not by actual or potential need of health services should be the criterion in assessing individual contributions. The rich should subsidise the poor and the healthy will underwrite part of the expenses of the less healthy. The community risk rating that evaluates these factors is perhaps more applicable in line with the concept of Malaysia as a 'Caring Society'.

In light of the above, new and challenging issues facing the country's health sector has resulted in an urgent need for a review and examination of the existing health sector. The government has integrated the involvement of the private and public sectors in order to expand, distribute and

utilise healthcare resources more equitably. Various kinds of duplication and shortcomings will be avoided through appropriate coordination and collaboration between the private and public sectors. The government will thus need to manage the public-private mix as well as medical charges imposed by suppliers to avoid any substantial rise in cost.

With heavy emphasis on the use of modern technology in medical science, the innovation of management and service excellence in healthcare services, the Malaysian healthcare industry is well geared in providing service excellence to its end users. Invitations are opened to the world to join hands with our public and private sectors to further accelerate development in the healthcare services sector. This will also include training and equipping our human resources to meet future demands. The government's programme for the healthcare services has also provided new opportunities to further enhance the progress of the National Development Policy. This will eventually contribute towards achieving the goals of Vision 2020.



29  
DEVELOPING THE  
AGRO-BASED INDUSTRY

*Sulaiman Daud*

THE government had long recognised the valuable contribution of the agro-based industry to the national economy. It had, therefore, taken concerted efforts to promote and strengthen the structural linkage between the agriculture and non-agriculture sectors as evidenced by the special emphasis given to it in all of Malaysia's economic development plans, most importantly, the Five-Year Plan, the National Agriculture Policy and the Industrial Master Plan. The government realised that agro-based industries would provide the farm-industry linkage which created both backward and forward linkages, and thereby raising the income of farmers, creating employment opportunities and accelerating the pace of development of rural areas and rural industries. It was indeed, the Industrial Master Plan, launched in 1985, that set the pace for the development of the agro-based industry by identifying four main sectors which were considered strategic and priority industries given the abundant availability of local raw materials. These comprised palm oil, rubber, food-processing and wood-based industries. The government is currently reviewing the Industrial Master Plan (IMP) with the view of strengthening the linkages in the industrial sector including the food sector. There are four sectors identified in the new IMP for the food-processing industry: meat, seafood, cocoa and confectionery, fruits and vegetables.

In the early 1970s and 1980s the manufacturing sector was skewed and largely concentrated on electrical machinery appliances, electrical and electronic components and textile where the value-added was very low. Most of these manufacturing activities were merely assembly-type operations. Realising the inherent risk attached to the over-reliance on a few industries, emphasis was placed to broaden, diversify and strengthen the industrial base of the country by optimising the use of our own natu-

ral resources especially in the utilisation of agricultural raw materials of rubber, palm oil, timber and food crops. The scope for value-adding was considered tremendous in these products. This was instrumental in the rapid development of these subsectors.

Today, although manufacturing accounts for 80 per cent of exports, the exports of agro-based products are still confined to industrial crops like oil palm, rubber, timber and to a small extent coconut, cocoa and pineapple. The rapid development of these industrial crops was strengthened by deliberate policies of the government such as the restriction placed on the exports of crude palm oil and in the provision of various incentives to promote downstream processing primarily for exports and to a lesser extent, domestic consumption. The development of these product groups was further enhanced by the intensive research undertaken by research institutions: the Palm Oil Research Institute of Malaysia (PORIM) for palm oil, the Rubber Research Institute of Malaysia (RRIM) for rubber and the establishment of the Malaysian Timber Industry Board, Pineapple and Cocoa Board. The inflow of foreign investment and technology also provided the expertise in the area of downstream activities and together with the production surpluses of these products, further accelerated and strengthened the linkage.

As a result, these subsectors achieved a laudable amount of success. For example, the total value of output of the rubber products industry was RM3,595.6 million in 1994 with export earnings of RM2,898.5 million; while output of the palm oil products industry was 11.6 million tonnes with export earnings of RM8,052.2 million for the same year. Today, Malaysia is one of the leading exporters of rubber, palm oil and wood-based products. This shows that the most important aspect of linkage between the agriculture and industrial sector is getting consistent and regular supply of local raw materials. It can thus be concluded that the abundant availability of raw materials led to the automatic inflow of foreign investment in these subsectors.

While this may be true of the processing of industrial crops, the linkage between primary food production and food processing is still relatively low. The majority of the food-based industries faced difficulties in getting constant supply of raw materials. This is evidenced by the fact that about 70 per cent of the Malaysian food-processing industry is still relying on imported raw materials. These include the imports of wheat, raw sugar, maize for animal feed, dairy milk, meat, seafood, fruits and

vegetables, beverages, and miscellaneous food products for processing. For example, Malaysia only produces 15 per cent of the raw sugar needed for processing and imports about RM600 million worth of sugar and the value will be increasing with the increase in population. The total output of the nine main subsectors of the food industry was RM7,869.2 million in 1995 and RM7,139.3 million in 1994.

In Malaysia, food produce like fruits, vegetables and livestock is still produced in a small, scattered and uneconomical manner. This places a serious constraint on supply. The food-processing industry is also characterised by the overdependence on a few large multinational companies. The small- and medium-sized indigenous companies, in many cases family owned, apply low levels of technology, outdated machinery, and do not possess adequate marketing skills. This resulted in poor quality produce which are not acceptable in the highly competitive international markets. Ignorance of packaging and labelling requirements has also led to a loss of markets. This is not so prevalent in the rubber, palm oil and timber subsectors where the combined efforts of institutions like PORIM, RRIM, MATRADE, MTIB, PORLA have succeeded in guiding the SMIs.

In developing the agro-based industries in Malaysia, various strategies are required. Some of these strategies are contained in the Seventh Malaysia Plan. The Ministry of Agriculture will continue to reorientate farmers to commercialise through the adoption and use of better and more efficient farm management techniques, new technologies and to establish forward linkage of product processing and marketing. To develop a strong agro-based industry, information dissemination and creation of awareness of new technologies and research on further downstream activities have to be intensified and strengthened.

Opportunities for further processing and value-added activities are ample. For example in the fisheries sector, the intensification of deep sea fishing and promotion of agriculture would increase the supply of fish. To encourage processing activities, the government will establish many new integrated fishing complexes while upgrading facilities at existing fish landing complexes. To strengthen the linkage between fish catches and processing, these complexes would be integrated with fish processing parks. Private participation to develop these parks are necessary. It is enlightening to note that many Malaysian companies are already moving

in the direction of processing a wide range of seafood for domestic consumption and exports.

However, in some cases, raw materials need to be imported as local production is found to be insufficient and uneconomical. Beef, mutton, dairy produce and raw sugar are some examples where local production cost is high and Malaysia does not have a comparative advantage. In the case of meat, Malaysia only produces 20 per cent of domestic demand. Nevertheless, the availability of beef from India and mutton from Australia and New Zealand has accelerated the growth of the meat-processing industry. The government would continue to assist and facilitate the development of such industries to make Malaysia the hub of processed food in the region and for exports to many new and emerging markets. Malaysia aims to use "halal" as a promotion mechanism to penetrate markets in West Asia and other Muslim countries. Competitiveness would be important as there are many accredited *halal* plants in the world that export meat produce to Muslim countries. However, *halal* ingredients are lacking. This is an important area that would be promoted as the use of *halal* ingredients would spin off the meat and other food-processing industries. Research on finding alternatives to animal-based additives of conditioners, stabilisers, natural flavours and food colouring is important in the full development of the food industry.

The private sector is also encouraged to shift their raw material production base to areas where the cost of production is low to serve as a resource base for the processing industries. Taiwan and Singapore are examples of nations that have very limited raw materials but have relatively well-developed food-processing industries. Some of the raw materials are from investment by Taiwan and Singapore companies in production processes in third countries. Malaysian companies are encouraged to take advantage of the opportunities to increase raw material production by investing in the "growth triangles" or even land surplus nations such as Vietnam and Cambodia.

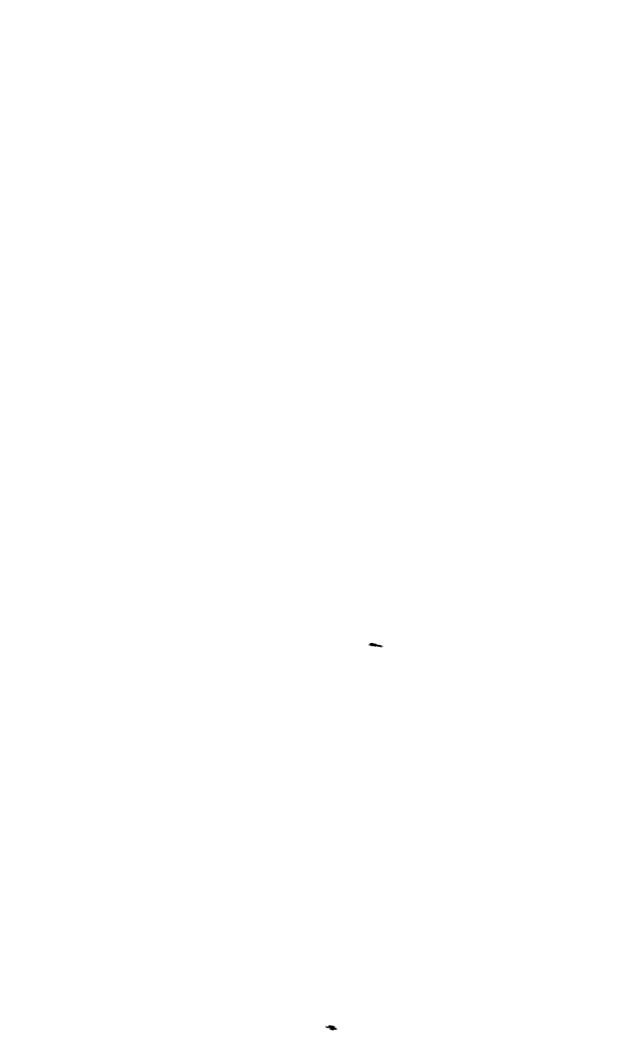
Malaysia should apply specific strategies to promote the agro-based industry in Malaysia. In cases where raw materials are available locally, further value-added activities would be promoted. Large-scale plantation-based companies or joint ventures would be encouraged to integrate by investing in production in low-cost areas or countries to ensure steady and stable supplies for their processing industries, and where raw

materials continue to be imported, efforts should be intensified to add value by further deepening downstream activities.

To assist the development of agro-based industry, the establishment of small- and medium-scale industries is timely and important. Such institutions would assist the development of the SMIs which are the vehicle for the successful industrialisation of many countries. It would hasten the pace of the development of technologically strong and well-structured SMIs. Today, there are over 8,000 small- and medium-scale food-processing manufacturers; a credible figure given the size of Malaysia. However, many of them are family-owned or simple processing plants. They utilise low level of technology, lack funds to pursue R&D and upgrade facilities and possess only basic marketing skills. The SMIs in rubber, palm oil and wood-based sectors are more established although there is a need for improvement.

Over and above this, gaining expertise in marketing is equally important. International markets especially the emerging economies are becoming more sophisticated and demanding in terms of presentation, quality, taste and preference. Stringent regulations have also been imposed on health and for protection of human life. Having good quality produce or products alone will not guarantee availability of markets. Marketing skills become critical. The strategy to develop the agro-based industry must also take cognizance of international developments and market opportunities.

Under the New Industrial Master Plan, forward and backward linkages in agro-based industry would be intensified and refined through the promotion of inter-cluster linkages. This essentially means that in picking the winning product, the traditional approach will be discarded for a better alternative that promotes structural linkages, especially in the supporting and intermediate industry, both horizontally and vertically.



THE LEISURE AND TOURISM INDUSTRY:  
AN INVITATION TO THE WORLD

*Sabbaruddin Chik*

THE tourism industry was a late entrant to the mainstream of the Malaysian economy. In the early 1960s it was almost non-existent. However, it has made a meteoric rise since then to become an important contributor to the nation's economy. When the Ministry of Culture, Arts and Tourism was set up in 1987, the tourism industry was given a boost in terms of budget allocations for infrastructural development of products and promotional activities. This was made possible when the government started to diversify its foreign exchange earnings base which was heavily dependent on primary commodities. In 1994, when the tourism industry recorded RM9 billion tourism receipts, it surpassed the National Tourism Policy's target of RM8.3 billion tourism receipts set for the year 2000. This target had to be revised to RM15.7 billion for the year 2000. Not surprisingly therefore, the tourism sector has, since 1990, been a positive contributor to the Services Account in the Balance of Payment.

Malaysia's tourism product is derived from an amalgam of four basic components, viz, a broad-based attractive environment, multicultural people, varied and interesting heritage and a wide range of tourism facilities and activities including numerous local festivals and events.

**What Malaysia has to Offer**

Malaysia as a tourist destination offers several attractions such as historical architecture, a unique culture and art heritage as well as an interesting way of life comprising Malaysians of different races, cultures and religions living in harmony. Religious celebrations such as Hari Raya Puasa, Chinese New Year, Deepavali, Christmas, Gawai Day and many more are celebrated by all in a truly unique Malaysian goodwill spirit of "open house".

Besides these, Malaysia also offers a variety of food. Local fruits, especially durian, rambutan, mangosteen, bananas, starfruit and many more can definitely attract any visitor's imagination and enjoyment. Likewise, Malaysia also offers a variety of cuisines consisting of spicy Malay food, Chinese delicacies, delicious northern and southern Indian cuisines, plus Nyonya and Portuguese cooking. The growth of the tropical rain forest, shelters all sorts of exotic birds, insects and animals such as tigers, elephants, rhinoceros, orangutans, monkeys, seladang and mousedeer. Certain parts of the Malaysian jungle are a million years old. It is home to about 14,500 species of flowering plants including hibiscus, orchids and trees, 600 species of birds, 210 species of mammals, 150 species of frogs, 140 species of snakes, 80 species of lizards and numerous species of insects and other life-forms. Taman Negara (National Park) favoured for its animal observation, is one of the world's oldest tropical rainforests.

For the adventurous, and those who wish to visit the National Park, the tapir and other tropical animals can be observed in the natural habitats. For the mountain climbers, the Mount Kinabalu, the highest mountain in Southeast Asia at the Sabah National Park beckons them. In Sarawak, one can visit the Niah Caves which is one of the longest and most decorated caves in the world. It is 13 times larger than a football field.

Along the white sandy beaches of the East Coast of Peninsular Malaysia, one can also observe turtles laying eggs at night. Similarly, islands such as Pulau Tioman and Pulau Redang are home to the beautiful and rich marine life.

Apart from parks such as Taman Negara, Endau-Rompin, Kinabalu Park, Sepilok Orang Utan Sanctuary, Mulu National Park and Bako National Park, there are also special parks such as Bird Parks, Butterfly Parks, Deer Parks in Kuala Lumpur, Penang and Melaka.

Complementing these natural attractions, there is also a range of man-made attractions, such as:

**Golf Clubs.** With around 200 golf courses in diverse settings with relatively low green fees, Malaysia is a golfer's paradise. Golf courses are found in "air-conditioned" hill resorts, islands, beaches, cities, towns and off the beaten tracks. Night golfing is also getting popular amongst many avid golfers.

**Theme Parks.** To add to the diversity of attractions, theme parks which are popular with the young are increasing. These would include the Planetarium, Sunway Lagoon, Mines Wonderland, Underwater World, Aquabeat and Malaysian Agriculture Park.

**Museums and Art Galleries.** Malaysia has many museums, art galleries and theme museums such as the Tin Museum, Natural Rubber Museum and Geological Museum. The Orang Asli Museum and Central Market add to the variety of places of interest for tourists.

**Convention Centres.** Most cities in Malaysia offer facilities for conventions. Scheduled to open in July 1997 is the RM200 million Mines International Exhibition Convention and Showroom Centre located just 10 minutes from Kuala Lumpur. The special feature of this Centre is its 400,000 sq ft of exhibition space with a loading capacity of 600lbs per sq ft making it the ideal choice for exhibiting military vehicles and equipment.

**Special Interests.** For nature lovers, Malaysia is a perfect location to savour enriching experiences ranging from bird watching, jungle trekking, white-water rafting, scuba diving, snorkelling and river fishing. These can be experienced at various national parks such as Taman Negara, Kinabalu Park, Niah National Park, Gunung Mulu and Bako National Park.

Against this backdrop of an interesting natural heritage combined with the uniqueness of a peaceful multiracial society, Malaysia is indeed a fascinating destination.

Efforts of the government to promote Malaysia during the first Visit Malaysia Year (VMY) 1990 and the second Visit Malaysia Year (VMY-2) 1994 were successful in drawing 7.4 and 7.2 million tourists respectively. This was a far cry from the average of 4 million tourists in the pre-1990 period. The VMYs were also successful in achieving the objective of contributing towards redressing the deficit in the services account of the Balance of Payment. With a contribution of RM5 billion receipts in VMY (1990) and VMY-2 (1994), tourism has become an important foreign exchange earner. In 1994 the tourism sector was the second income earner after the manufacturing industry. Efforts to draw more tourists were fur-

ther enhanced in 1995, whereby 7.5 million tourists, amounting to RM9.2 billion revenue for the country, was recorded.

After the VMY-2, the marketing stance adopted was to promote eight destinations, to be carried out over a period of at least 3 years. The destinations are Pulau Langkawi, Penang, Pulau Pangkor, Kuala Lumpur, Melaka, Taman Negara, Sarawak and Sabah. This strategy aims to provide a more focused image on the many attractions in Malaysia. More destinations will be added to the plan in the near future.

Malaysia's marketing and promotion efforts are carried out by the eighteen Tourism Malaysia branch offices located overseas and in regional countries as well as by tourist information centres in every state in Malaysia. Visitors are welcomed to enquire on any destination of interest at these offices.

KUALA LUMPUR STOCK EXCHANGE:  
ASIA'S RISING STAR

*Nik Mohamed Din*

THE Kuala Lumpur Stock Exchange (KLSE) is about a quarter of a century old. Since its establishment in 1973, the KLSE has evolved from a little known, "backwater" bourse to a modern and highly sophisticated exchange, offering the Malaysian economy an efficient capital-raising vehicle, listed companies an avenue for the raising of funds and investors a wide choice of investment instruments.

The Malaysian capital market has advanced tremendously in tandem with the national economy as a result of prevailing healthy macroeconomic factors in the country. The continued strong growth of the nation has translated into ever increasing funding requirements which need to be fulfilled and much of this has been achieved through the local capital market.

The KLSE has been pivotal in the growth of the capital market. With a market capitalisation of RM806.77 billion on December 31, 1996, the KLSE is, at present, the largest bourse within ASEAN. The International Federation of Stock Exchanges (FIBV) ranks the KLSE as the fourth largest stock exchange in Asia and 14th in the world.

The performance of the local bourse in 1996 indicates increased confidence by local and foreign institutional funds. In 1996, the volume of shares traded totalled 66.46 billion units valued at RM463.27 billion. These figures represent an increase of 95 per cent and 158 per cent respectively of 1995's total volume and value. The main market barometer, the KLSE Composite Index, closed at 1237.96 points on December 31, 1996, an increase of around 242.42 points from the 1995 close.

There are 621 companies listed on the Exchange as at December 31, 1996 with 413 being on the Main Board and 208 on the Second Board as compared to 271 companies listed in 1990 when Malaysia decided to de-list the Malaysian incorporated stocks from the Stock Exchange of Sin-

gapore in order to forge an identity of its own. In 1996, a record of 92 companies joined the ranks of listed companies contributing to the total funds mobilised by the market last year, of RM20.826 billion.

Of the present 621 listed companies, 31 are companies which are privatised by the government (including 4 which are privatisation of existing PLCs) and which represent approximately 20.51 per cent of the total market capitalisation. The listing of privatised former public enterprises has contributed to the diversity and added depth as well as breadth to the Malaysian stock market, offering a greater level of attractiveness and interest to investors.

There are 60 stockbroking companies with at least one (1) in each state to service investors and facilitate trading in securities.

### The KLSE's Vision

The KLSE aspires to become a world-class Stock Exchange, and in the endeavour to achieve this vision, a ten-point goal plan has been identified to chart the direction of development of the Exchange from 1996-2000. These ten goals are:

- (1) To achieve a sustainable market capitalisation of RM1.25 trillion.
- (2) To enhance accessibility of the market to as many investors as possible, locally and abroad.
- (3) To achieve an efficient trading and settlement system capable of handling 1 million trades or 7 billion shares a day.
- (4) To have a full-fledged Central Depository System, handling all aspects of depository operations.
- (5) To have an efficient information dissemination system through concrete infrastructure improvements.
- (6) To have a high level of investors' confidence through the effective implementation, recommendation/enforcement of laws and regulations.
- (7) To enhance and uphold a high level of professionalism at all levels of the industry.
- (8) To be the most efficient and cost effective market in the region.
- (9) To achieve a 100 per cent disaster recovery environment.
- (10) To have in place efficient office automation system and management information system for the entire KLSE Group.

Guided by these goals, the Exchange has intensified its efforts to provide a more conducive market. Based on information from more developed stock exchanges and input from industry experts and practitioners, the KLSE has thus earmarked certain priority areas of action, such as:

- (1) Infrastructure;
- (2) Regulatory—Membership Behaviour;
- (3) Regulatory—Corporate Behaviour;
- (4) Promotion of Market; and
- (5) Human Resources Development.

### Recent Developments

Some of the more recent developments in the KLSE, and the Malaysian securities industry in general, include:

**Central Depository System.** The Central Depository System (CDS), the automated clearing and settlement system of the KLSE, was implemented in 1993 to enable the KLSE to rank with the best in the world. By the end of 1996, the ordinary shares of all KLSE listed companies have been placed in the CDS, thus, creating an electronic clearing and settlement environment for all trades on the KLSE. KLSE will now evaluate the possibility of shortening its settlement cycle from the current T + 5 days. Some benefits of the CDS are:

- (1) Elimination of risk of lost, forged and misplaced share certificates;
- (2) Automatic registration of shares;
- (3) No more human error from handling large volumes of physical scrip at the stockbroking companies;
- (4) Reduction in settlement risks; and
- (5) Less "back office" constraints to enable stockbroking companies to handle larger volumes of business.

**Technological Developments.** In order to maintain competitiveness, the Exchange has kept pace with the global technological revolution. Since the implementation of computerised trading on the KLSE in 1989, the system has been continually upgraded and enhanced with the latest de-

velopment being the implementation of the WINSORE system which is aimed at increasing the efficiency of broking services. This system comprises an integrated terminal whereby clients' orders can be executed and the risk exposure of the dealers and broking firms can be closely monitored on a real-time and on-line basis. This also ensures fair execution of orders as well as equal accessibility of trading information to all investors.

The KLSE's market surveillance is also conducted on an on-line basis with the implementation of the automated Surveillance Information System (SIS). The SIS enables the KLSE to closely monitor all trading activity on a real-time basis.

The balloting of shares for Initial Public Offerings can now be done through a computerised balloting system. Further advances in this area can be expected in the near future when electronic share application is introduced and investors can apply for IPOs via automatic bank teller machines.

The KLSE Composite Index and other sectorial indices computed by the KLSE to track the performance of the market are now computed on a minute-by-minute basis as opposed to every 15 minutes previously. This is in line with the Exchange's aim to improve the transparency of the market and investors' accessibility to timely information.

With technology playing such a vital role in all operations, a Business Continuity Plan for the KLSE has been formulated and a Disaster Recovery site set up to provide the Exchange with backup facilities for critical operations such as trading, clearing and depository.

**Wider Range of Investment Instruments and Activities.** The Exchange keeps abreast of developments in other markets around the world, especially with regard to new trading instruments which could possibly be introduced to the Malaysian market. This is aimed at adding to the diversity and attractiveness of the KLSE and also to keep it on par with other stock markets.

Apart from ordinary shares, other instruments, such as fixed income securities and derivatives, are also listed on the Exchange. Call warrants have already been launched and at present, there are three (3) call warrant issues being traded on the Exchange.

Another development in the local securities industry was the introduction of securities borrowing and lending activities. Rules pertaining

to Regulated Short Selling (RSS) have been issued and a list of 50 stocks approved for RSS by the Securities Commission was released in September 1996. This will contribute towards the development of an active derivatives market.

The availability of risk management instruments is an important consideration in attracting foreign fund managers to invest in Malaysia. In this regard, the Kuala Lumpur Options and Financial Futures Exchange (KLOFFE), an electronic-based private exchange, began trading stock index futures based on the KLSE Composite Index on December 15, 1995. The KLOFFE is expected to introduce stock options and stock index options in the near future. Meanwhile, the Malaysian Monetary Exchange (MME), which offers trading on interest rate derivatives, began its operations on May 28, 1996.

Also among measures recently introduced to promote the growth of the capital market was the listing of closed-end funds on the KLSE.

**Greater Accessibility of the Market.** In line with the bourse's objective of making high-priced shares accessible to a greater number of investors, the Exchange has introduced trading in reduced board lot size of 200 shares as compared to the normal board lot of 1,000 shares. There are currently 16 companies with shares traded in this smaller board lot denomination.

Another channel for increasing the accessibility of the stock market to individual investors is through the establishment of unit trusts. In this regard, suitably qualified local broking houses are also allowed to operate unit trusts in addition to their current activities.

**Regulatory Framework.** The regulatory framework of the industry is constantly being reviewed. The recent move from a merit-based to disclosure-based system as well as the increase in minimum paid-up capital requirements for companies seeking a listing on the KLSE will inculcate higher standards of disclosure and accountability by public companies and their advisers to investors. This is in line with the emphasis on corporate disclosure to improve transparency of the public-listed companies and ensure the protection of small investors. A Code of Ethics for directors of public-listed companies is also currently being formulated.

### **The Future**

While the Malaysian capital market is currently fulfilling its role in financing a large part of the economic expansion, the challenge now is to be able to support the country's continued progress. The focus is on instituting measures necessary for further development with the ultimate objective of establishing Kuala Lumpur as a regional financial and capital market centre. These measures are aimed at creating greater diversification of capital market instruments, wider participation by institutions, both local and foreign, in the capital market, and a higher level of professionalism among the market practitioners.

The KLSE is committed to working with the government in achieving its aim under the Seventh Malaysia Plan of gearing developments in the financial sector towards the creation of a sound and dynamic regional financial centre. As a major component of the financial sector, the KLSE will forge ahead with its developmental plans and continue its deep commitment towards furthering the interests of the investing community, stockbroking companies, business and industry and the nation.

## MALAYSIA'S PROPERTY OUTLOOK: PROSPECTS AND OPPORTUNITIES

*Abdul Rahim Rahman*

FOR the past eight years the Malaysian economy recorded a growth rate of more than 8 per cent per annum. Even though this growth is expected to slow down, it is expected to remain in the region of 7 to 8 per cent during the next five years. This development will be in the years of the Seventh Malaysia Plan during which the government plans to keep the economy growing by at least 7 per cent per annum.

Given the stable political situation and the continued growth of the economy, sustained mainly by the manufacturing sector which is continuing to attract foreign investment into the country, it is certain that the proposed growth rate can be sustained.

There is ample liquidity in the country as foreign funds continue to flow in either through investment in the various manufacturing and other sectors or in the Malaysian stock market. This liquidity continues to fuel growth and keeps the property market growing.

Besides, the Malaysian Government will also continue to improve upon the infrastructure of the country. This commitment is reflected in the improvement of the road and rail networks, and the upgrading of nearly all of the country's ports and airports. These improvements have led to the opening up of new areas for development. One example of such a move is seen in the development currently taking place along certain portions of the North-South Expressway.

We can expect further improvements to take place when other highways are completed.

### Growth Areas

The completion of the North-South Expressway has led to new growth areas being created. Some of these areas are also formed by states agree-

ing to jointly develop border areas. In addition, there are also the following:

- (1) The Northern Growth Triangle formed by Malaysia, Thailand and Indonesia
- (2) The Southern Growth Triangle formed by Malaysia, Singapore and Indonesia
- (3) The Eastern Growth Triangle formed by Malaysia, Brunei, Indonesia and the Philippines

As far as Malaysia is concerned, the Northern Growth Triangle involves the states of Perlis, Kedah, Pulau Pinang and Perak, while the Southern Growth Triangle consists of Johor, Melaka, Negeri Sembilan and Southern Pahang. The Eastern Growth Triangle meanwhile, involves the states of Sarawak and Sabah.

Furthermore, the area bounded by the Federal Highway from Kuala Lumpur to Klang, the old Kuala Lumpur-Seremban Road from Kuala Lumpur to Melaka, and the coastal road from Port Klang to Melaka has become what I would term as "the heart" of the country as far as property development is concerned.

### Prospects and Opportunities

The Malaysian property market has seen tremendous growth during the past eight years in tandem with the growth of the economy. In all sectors of the property market, rapid development was recorded during the period from 1988 to 1995. In order to consider prospects and opportunities in the property market, it would be pertinent to consider the performance of each sector of the market.

Offices. During the past few years, the best performing town was Petaling Jaya which recorded an overall increase of 101 per cent in rentals from 1990 to 1995 and an overall increase of 63 per cent in capital values. However, as can be seen from the following statistics, Johor Baru, Melaka, Kuala Lumpur, Pulau Pinang and Kuantan also performed well.

It would appear that there are good prospects in developing offices. However, many developers have taken advantage of the situation and are currently constructing more office blocks in those towns. As such, there is a possibility of oversupply in Johor Baru, Kuala Lumpur, Petaling Jaya

and Pulau Pinang. Nonetheless, opportunities are to be found in other towns especially in Kuantan and those in East Malaysia.

Table 32.1: Overall Increase in Office Rentals and Prices (1990-1995)

Town	Rental Increase (%)	Price Increase (%)
Johor Baru	47	73
Melaka	72	67
Kuala Lumpur	52	33
Petaling Jaya	101	63
Pulau Pinang	59	70
Kuantan	32	96

Retail. In this section only shopping complexes are considered. The performance of this sector over the period of 1990-1995 is shown in Table 32.2.

As can be seen, the best performance was recorded in Kuantan. This sector did fairly well in the other towns and as a result more complexes are being built. Here again the possibility of oversupply developing in Johor Baru, Kuala Lumpur, Petaling Jaya and Pulau Pinang is real. The current trend is to build shopping complexes outside the central business area. This trend would work only if the local population has the required income to support the neighbourhood complex.

Table 32.2: Overall Increase in Shopping Complexes Rentals and Prices (1990-1995)

Town	Rental Increase (%)	Price Increase (%)
Johor Baru	54	39
Melaka	46	25
Kuala Lumpur	23	35
Petaling Jaya	73	66
Pulau Pinang	36	40
Kuantan	57	146

Shophouses and Offices. Table 32.3 shows the performance of this sector during the period under review.

It is clear from Table 32.3 that this sector outperformed the retail sector in all the towns except Kuantan. This type of development has always been popular even during recession. Its popularity is dependent on its ability to stand alone and to have its corporate image displayed prominently for all to see. Its popularity has also led many developers becoming involved in its construction. Provided this type of property is properly located and is in sufficient numbers to be supported by the surrounding population, its success can be assured.

Table 32.3: Overall Increase in Shophouse or Office Rentals and Prices (1990-1995)

Town	Rental Increase (%)	Price Increase (%)
Johor Baru	56	61
Melaka	114	70
Kuala Lumpur	60	70
Petaling Jaya	85	88
Pulau Pinang	93	78
Kuantan	70	61

**Industrial.** The performance of this sector can be seen in Table 32.4. Kuantan and Petaling Jaya are currently performing well and this contributes to the country's economic growth. It is expected to continue to do well particularly with the opening up of more export markets. The growth areas foreseen are located to the north of Selangor and the north and south of Perak, Pahang and Terengganu should also experience further growth in the future. Growth in the other states will be sustained.

Table 32.4: Overall Increase in Industrial Rentals and Prices (1990-1995)

Town	Rental Increase	Price Increase
Johor Baru	24	73
Melaka	45	64
Kuala Lumpur	53	59
Petaling Jaya	66	74
Pulau Pinang	50	26
Kuantan	80	84

**Hotels.** The success of the Visit Malaysia Years of 1990 and 1994 can be seen from Table 32.5 which shows the occupancy rates of hotels.

As can be seen, budget hotels performed better than their 4- and 5-star counterpart. Currently, there are many hotels and service apartments scheduled to be built to take advantage of the 1998 Commonwealth Games. Most of the people involved in this industry hope that the Malaysian Tourism Board will be able to promote the country, resulting in the projected 12 million tourist arrivals by the year 2000.

Table 32.5: Occupancy Rates of Hotels (1990-1995)

Town	4- & 5-Star (%)	Budget (%)
Johor Baru	55	75
Melaka	65	85
Kuala Lumpur	80	90
Petaling Jaya	80	90
Pulau Pinang	60	75
Kuantan	50	75

**Residential.** This sector of the property market has to be considered in two subparts, viz, traditional housing and condominiums.

- (1) **Traditional Housing.** This is perhaps the only sector which can outperform all the others especially in Kuala Lumpur and Pulau Pinang as can be seen from Table 32.6.

Table 32.6: Overall Increase in Residential Rentals and Prices (1990-1995)

Town	Rental Increase (%)	Price Increase (%)
Johor Baru	40	53
Melaka	90	70
Kuala Lumpur	122	112
Petaling Jaya	49	66
Pulau Pinang	78	111
Kuantan	65	21

The supply of housing somehow does not meet the demand of a growing population. Since there will always be a need for housing, this sector of the market, especially the medium and low cost subsectors, will always be popular. The only problem here is the cost of land, building materials and labour—all of which keep rising thus making the construction of low- and medium-cost housing more problematic.

- (2) **Condominiums.** This type of development is popular in areas where land is scarce as in Kuala Lumpur and Pulau Pinang. However, condominium living as a lifestyle is becoming more popular because it offers better security features and facilities. Growth in this subsector of the residential market from 1990 to 1995 is shown by Table 32.7.

Kuala Lumpur and Melaka have shown good growth in this subsector. Kuantan is a relatively new player and has the potential for further development. The popularity of this type of development in Kuala Lumpur, Petaling Jaya, Pulau Pinang and possibly Melaka is increasingly leading to an oversupply situation in these towns.

Table 32.7: Overall Increase in Condominium Rentals and Prices (1990-1995)

Town	Rental Increase (%)	Price Increase (%)
Johor Baru	74	65
Melaka	227	137
Kuala Lumpur	113	141
Petaling Jaya	22	32
Pulau Pinang	9	59
Kuantan	n.a.	n.a.

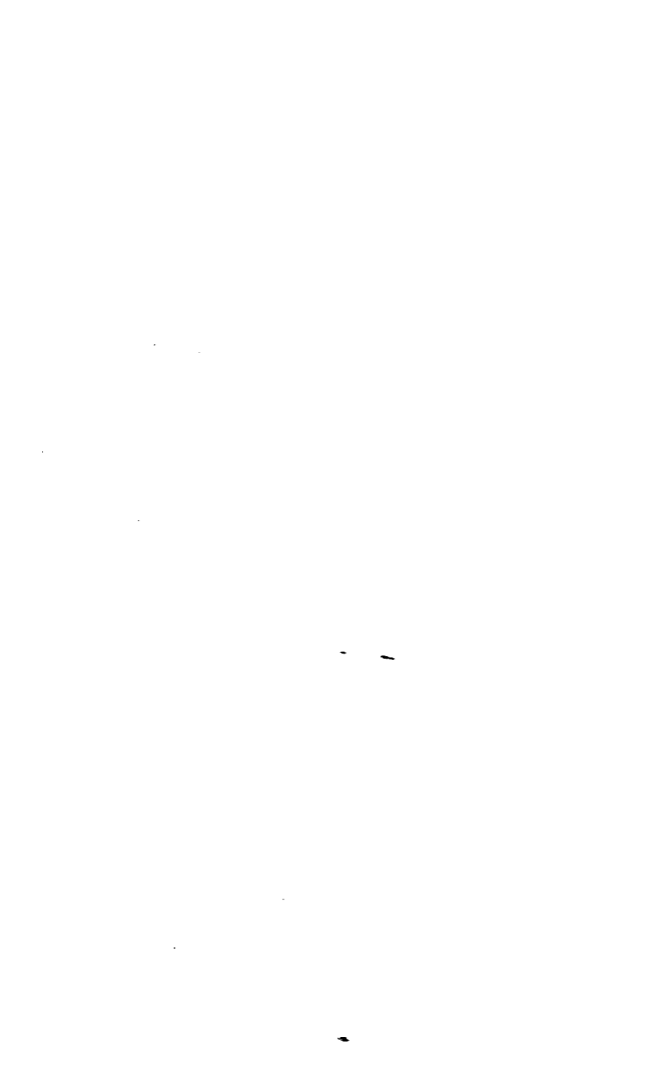
### Conclusion

If we are to go by past performance, then opportunities seem to be in the sector of the property market that has shown the greatest increases over the previous five years. However, this need not always be true as those sectors that have shown the greatest increases have reached their peak and are currently facing an oversupply situation. This is certainly true of the condominium sector in Kuala Lumpur and the office sector in Petal-

ing Jaya. Opportunities, therefore, lie in those sectors that have not achieved their full potential.

There are indeed good prospects in the property market in the area described as "the heart" of the country. Prospects and opportunities are also present in the various growth triangle areas, where growth can be expected not only in rentals but also in capital appreciation.

As long as the Malaysian economy continues to prosper (and there is every indication that it will continue to do so during the Seventh Malaysian Plan period) the property market will also perform well. We expect that there will be a slight correction in the market after the Commonwealth Games in 1998 after which the market will show good performance again.



## THE FUTURE OF MALAYSIA'S AEROSPACE INDUSTRY

*Tajudin Ramli*

MALAYSIA'S aerospace industry has principally revolved around engine and component activities. These activities are undertaken substantially by Malaysia Airlines Aerotechnologies and Airod, primarily for the needs of Malaysia Airlines and the Royal Malaysian Air Force. Repair and overhaul capabilities have been developed over the last 20 years, forming the bulk of Malaysian aerospace activities while the manufacturing sector has lagged behind. In recent years, however, the government has taken a much more proactive stance in terms of supporting policies to widen and deepen the indigenous aerospace industry in Malaysia. The government will provide a strategic gateway to critical core technologies that can later be diffused to other industries. The Prime Minister, Dato' Seri Dr. Mahathir Mohamad, is personally encouraging the development of the aerospace industry as part of the new blueprint (IMP 1996-2005) that will propel Malaysia forward to achieve an industrialised status.

### **Global Industry Structure**

The global aerospace industry covers civil and military aircraft, missiles and space equipment as well as their related products and services, such as manufacturing, direct operations, maintenance and specialised services. Within manufacturing, there are airframe makers, engine manufacturers, avionics system and component suppliers. The aerospace industry is a growing international business with a corresponding high entry barrier. It is capital intensive and requires professionals operating at the leading-edge of technology. It has been and will always be associated with all the superlatives of high-profits, large investments and high risks. The products and services rendered face fierce competition but are potentially lucrative.

Presently, Boeing dominates the medium and large civil aircraft segments of the market. The United States' production accounts for approximately two-thirds of the world total aerospace production of US\$200 billion. Aerospace is America's biggest export industry. The United States has long identified aerospace as a key strategic industry for the country's future. Despite a massive budget deficit, it has kept funds flowing. In 1993 the Pentagon alone handed out US\$22.3 billion in research and development grants. Aerospace sales constitute 2.5 per cent of GNP and almost 5 per cent of the value of all manufactured goods.

Across the Atlantic in Europe the strategy of Airbus Industries (Britain, France, Germany and Spain) has concentrated on technical innovations thus differentiating their products with improved operating performance. They are very successful in developing their aerospace industry in this manner and have chalked up impressive sales in Asia. However, Airbus has spent 20 years and US\$13 billion of taxpayers' money in building up this position. The German government too has now been persuaded to inject nearly US\$100 million a year into civil aerospace research to help the beleaguered industry emerge from the recession to become a world leader.

The battleground for the medium to large aircraft segment of the market is now set between these two groups. However, there are many manufacturers competing for the regional aircraft segment and countries like France, UK, Germany, Italy, Canada, Brazil, China and Indonesia have established their own industries, catering primarily to their own needs.

Fokker had earlier this year declared bankruptcy after undergoing a radical programme of restructuring, job cuts and site closures in a bid to pull itself back into profit. Losses had been mounting as output dwindled to only 50 aircraft a year from a peak of 85.

Meanwhile, the superpowers—the United States and Russia dominate the military market while the European consortia has provided military aircraft mainly for their own needs. They both dominate the military and civil use of space.

### Emerging Asia

Asian markets already account for a quarter of worldwide air travel; by 2010 the share could rise to more than 40 per cent. Aircraft manufacturers predict that Asian airlines will buy some 3,000 aircraft worth around

US\$250 billion between now and 2010. This would represent about a third of the world market for civil aircraft. As it is, every other Boeing 747-400 aircraft is now delivered to an Asian airline.

Nearly all the aircraft arriving at Singapore's Changi airport for the opening of the last Asian Aerospace airshow had one feature in common; they were not made in Asia. Yet Asia's dreams and ambitions persist; they have a fledging aerospace industry which they would like to get airborne.

Japan is planning its second attempt at building an aircraft. In the 1960s a Japanese consortium built the YS-11, a twin-engine turboprop but fewer than 200 ever flew and the project guzzled yen. South Korean firms, with their advanced industrial base, also want to build a mid-size aircraft. They are evaluating all sorts of projects, including an Asian version of Airbus Industries. The Korean government has offered to pay half the US\$300 million cost of an initial study to build the aircraft. Meanwhile, China's aerospace industry, which employs more than 500,000 workers, wants to build modern aircraft to replace the elderly Russian ones. Indonesia has invested US\$1.6 billion in IPTN since it was established in 1976. The first wholly Indonesian-designed aircraft, a twin-engine turboprop that seats up to 70 passengers made a successful maiden flight last August. They remain committed to building a 130-seat jet within a decade.

As Asian nations climb the technological ladder, their governments' policies are so formulated to ensure that they are not left behind. They are expanding research and development, luring home expatriate engineers and scientists, improving education in the technical field and offering attractive tax incentives to encourage foreign multinationals to make direct investments and to set up research facilities.

In short, the global setting is that the United States dominates the manufacturing industry in all sectors. However, strong challenges are being mounted in some sectors by consortia such as Airbus. The international market in civil aviation and space communications is growing rapidly whereas that in the military aircraft is declining. Due to the high development costs for new aircraft the industry is highly dependent on government support. The demand is global and highly cyclical. It is in this perspective that Malaysia's aerospace ambitions must be seen.

### A Possible Strategy

The aerospace industry in Malaysia is relatively undeveloped as compared to many other manufacturing activities in the country. The industry consists largely of aircraft, engine and component repair and overhaul. However, given the correct support and direction, the industry has the potential to make significant contributions to national development objectives.

Although the Malaysian aerospace industry is currently undeveloped, we have numerous competitive advantages that will allow rapid development of the industry, such as:

- (1) Good geographical location and features;
- (2) Kuala Lumpur International Airport (KLIA) emerging as a regional hub; and
- (3) Significant allocation for the defence sector:
  - (a) Political stability;
  - (b) Government's commitment towards building a strong infrastructure system;
  - (c) Suitable labour force;
  - (d) Low production costs;
  - (e) Adoption of global aerospace standards; and
  - (f) Existing engineering industrial capabilities.

It appears that countries in the Asian region that have large economies have developed capabilities in aircraft manufacturing, while countries with heavy international passenger traffic have focused on aircraft maintenance and remanufacturing. The latter approach has many attractions for Malaysia. Focusing on aircraft maintenance, repair and overhaul makes sense in an economy which is a natural destination or on the way point of the world's trade routes. Malaysia enjoys a good strategic location and such an approach would fit well with the country's other development objectives, inclusive of promoting KLIA as a regional hub and the growth of Malaysia's tourism industry.

The major civil aircraft manufacturers have forecasted that the world jet fleet will double by the year 2000. While many new aircraft will be added to the fleet, a growing number of old aircraft will require regular maintenance and modifications. Thus the repair and overhaul of aircraft, engines and components can be expanded to include high-tech repair

techniques, e.g. plasma spray metal processes, be the dominant aerospace business sector in the future. Besides satisfying the domestic demands it will be expanded to take on aircraft maintenance work from third-party operators and become the centre of excellence for this business sector.

To support this expanding market, certain high-tech maintenance and repair capabilities may be added to complement the existing capabilities in order to widen and deepen the existing technology base. Some of these capabilities are:

- (1) Civil and military Avionics equipment and system upgrade;
- (2) System integration;
- (3) Software engineering;
- (4) Structural repair development;
- (5) Military aircraft refurbish and upgrade;
- (6) Fan blade, compressor components, engine casing and hot section components repair;
- (7) Thrust reverser and nacelle as well as related composite parts repair; and
- (8) Landing gear components repair.

This approach also recognises the opportunities for manufacturing. The first priority must be to develop the capability to design and manufacture aerospace components which may include aircraft structural, mechanical, composite, avionics and communications components by using leading-edge production methods capable of giving the required quality standards. This would propel the country from low-tech/labour-intensive route to the state-of-the-art high capital cost production methods.

Some of the manufacturing areas are:

- (1) Transparencies and Composite components;
- (2) Aircraft cabin equipment;
- (3) Mould making and high precision casting;
- (4) Aerospace electro-plating service;
- (5) Pneumatic and hydraulic valves and actuators;
- (6) Engine compressor and turbine components;
- (7) Sheetmetal parts;

- (8) Avionics components; and
- (9) Test equipment and software.

### Implementation

Aerospace manpower development and training at all levels have been accorded high priority. To ensure that there is a growing pool of skilled professionals, the Malaysia Airlines Academy is expected to train about 7,000 engineers and mechanics by the year 2000. It will spearhead the establishment of Malaysia's very own aerospace and aviation industry.

A centralised Aerospace Park could also be developed to become the technology oasis which can gain easy access to universities and research centres. It will lay the foundation to develop the industry along the cluster concept of a collection of key and supporting aerospace industries, infrastructure and institutions that are interlinked and interdependent, behaving as a whole.

The research and development infrastructure must be set-up to support the growing industry. The agenda for the aerospace R&D must be focused and to be established jointly by the institutions of higher learning and the main players of the industry.

The Space Science Studies Division under the Prime Minister's Department is expected to nurture interest in space science amongst Malaysians. The establishment of the Malaysian Space and Telecommunications Research Consortium (Maxstar) will fast-track Malaysia to be in a position to launch Malaysian-made spacecraft and satellites.

The Malaysian Industry-Government Group for High Technology (MIGHT), launched in 1993, as a partnership between the government and the industry will continue to promote prospects for business and technology through technology exploitation.

To support the increased manufacturing activities, The Department of Civil Aviation will widen its role. One area is to have Bilateral Airworthiness Agreement between the DCA and foreign regulatory authorities. This mutual recognition of standards will facilitate the export of components manufactured in Malaysia.

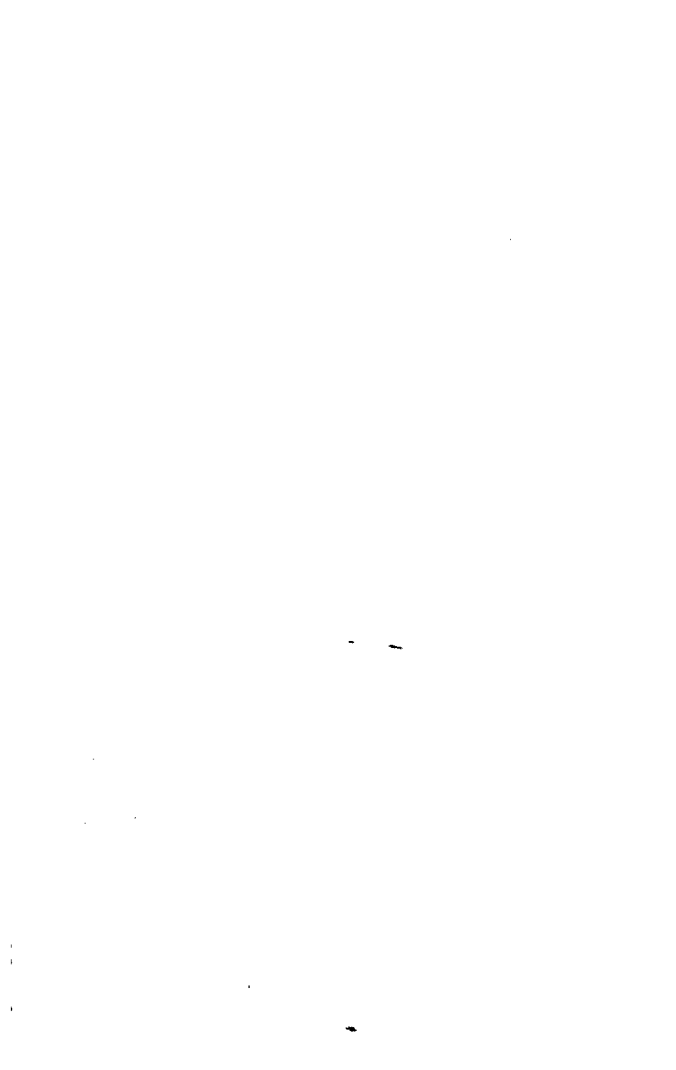
### Conclusion

With a structured approach, the Malaysian aerospace industry will emerge as a consolidated and well-linked aerospace industry by the year 2020, with production of aircraft components as well as expanded repair

and overhaul activities. It will also be augmented by multi-disciplinary training facilities and collaborative style of R&D framework. Thus, the Malaysian aerospace industry is poised to be:

- (1) A state-of-the-art centre of excellence for the repair and overhaul of aircraft, engine and components;
- (2) A base for the design and manufacture of strategic aerospace components;
- (3) A centre for the development of avionics, satellite telecommunications and aerospace-related systems and components;
- (4) Centralised training centre for skilled aerospace professionals; and
- (5) Platform for the formation of strategic alliances with MNCs to jointly develop the design and manufacture of components and systems for the aerospace industry.

We are confident that the objectives and processes identified would spearhead the establishment of Malaysia's own exciting and challenging aerospace and aviation industry to meet the objectives of Vision 2020.



INFORMATION TECHNOLOGY DEVELOPMENT  
IN MALAYSIA: FOCUS ON MALAYSIA'S  
MULTIMEDIA SUPER CORRIDOR

*Mohd Azzman Shariffadeen*

THE establishment of the National Information Technology Council (NITC), under the chairmanship of The Hon. Prime Minister, is indicative of the recognition and critical role assigned to information technology in national development. It also marks the initiation of more systematic planning for IT development at the national level.

The NITC, which also has the Deputy Prime Minister as its Deputy Chairman and eighteen other members representing senior officers from the public and private sectors, aims to maximise the potential of IT to accelerate the achievement of the goals and targets of Vision 2020, while positioning Malaysia strategically in the emerging digital economy.

The NITC has become the focal point for national efforts in strategic planning for the IT sector, emphasising IT's role in transforming the Malaysian society into a knowledge-based society. The NITC has helped articulate national IT policies and programmes. In the Seventh Malaysia Plan focus has been given to information technology and its role as a critical enabling tool in national development. Two high-level national conferences, the INFOTECH and Multimedia Asia were organised by the NITC to provide a forum for the articulation and discussion of key issues in IT development and IT's role in national development. These events received nationwide and international media coverage. Such programmes have been instrumental in highlighting and drawing the attention of Malaysians to the importance of IT. Key players are thus, able to realign themselves and become more effective partners in development. Closer linkages have also been forged between major national development programmes and IT, ensuring greater synergy and acceleration in moving towards national goals.

The NITC, in its efforts to formulate the framework for national IT planning and development has been guided by seven key aspects, namely:

**Bringing Order to National IT Planning and Management.** Prior to the establishment of the NITC, IT planning and implementation was fragmented and sometimes, *ad hoc*, meeting the needs of individual organisations or individuals. While in the public sector, efforts to integrate and rationalise the use of IT were well-developed and on-going, but such efforts were mainly in the sphere of automation or specific applications and confined to meeting the needs of the public sector itself. At least 30 different government agencies and industry associations were involved in one way or another in IT planning and implementation. Thus, one of the main tasks of the NITC is to integrate and accelerate strategic national planning for IT development.

**Creating a Shared Vision of IT.** The increasing importance and pervasiveness of IT in the world, its transformative impact on society and its dynamism are just some of the features that demand expression of a deeper meaning for IT than is necessary for other traditional technologies. This requires a process of information acculturation which goes beyond awareness creation and education to changes in attitude and behavioural patterns.

**Generating the Necessary Human Resources.** One of the most critical impacts of IT is the transformation of work and the acquisition of knowledge and skills necessary to perform new work functions. Automation will displace workers and these have to be retained in new skills relevant to the emerging digital economy. Specialised skills will become important.

This requires mobilisation of the nation's education and training facilities to ensure the continuous and sufficient supply of the necessary skills.

**Accelerating the Development of IT Infrastructure.** Infrastructure for IT includes both the hard infrastructure such as computers, telecommunications and networks as well as the soft infrastructure such as software, databases and services. Equally important is the development of the right

environment such as the regulatory and legal framework as well as a good business environment, funding and other facilities to support IT development. Such an infrastructure is a pre-requisite and needs to be put in place urgently.

**Initiating and Facilitating Organisational Restructuring.** The changing nature, mode and content of work resulting from information technology development implies the need to restructure organisations. IT enables organisations to be flatter while providing accessibility to information to empower workers. Decision-making becomes quicker and more transparent. Organisations need to capitalise on these capabilities of IT to increase competitiveness and sustain growth.

Over and above these principles, emphasis is also given to demonstrating the usefulness and transformative powers of IT. Malaysia's Multimedia Super Corridor will be a pioneer in this field.

### **The Multimedia Super Corridor**

The Multimedia Super Corridor (MSC) is as yet, the most comprehensive and integrated project undertaken globally, to showcase the potential and power of IT in development. Physically, the MSC covers an area of approximately 15 km by 40 km to the south of Kuala Lumpur, the capital of Malaysia. It encompasses various mega development projects, namely, the Kuala Lumpur City Centre project (KLCC), Putrajaya, the new national administrative capital of Malaysia, the new international airport at Sepang and the new facilities being developed at the West Port. In the cards is the development of an IT city, as a pivot for various information industries. Each of these projects will feature advanced IT infrastructure.

### **Putrajaya**

Putrajaya will be the first major intelligent city to be developed in Malaysia. Being targeted to begin functioning by 1998, it will house the Prime Minister's office as well as most of the federal Ministries and Departments. Putrajaya will be the pioneer for electronic government and a model for IT-enabled administration and management in the information age. It will feature major IT capabilities such as advanced networks, intranets, data-warehousing and on-line transactions to improve efficiency and quality of services provided by the government agencies. This

will be achieved through IT-enabled re-engineering of the government's internal systems and processes as well as through their linkage and integration with external systems and processes, both local and global, to facilitate on-line information and service delivery. At the same time, the city itself will be managed using an integrated IT system, enabling more efficient and cost-effective movement of people and goods. Overall, this will assist in better and quicker access to information and more transparent decision-making, which will be reflected in improved efficiency and competitiveness of industry. Putrajaya will also be a model for more open and responsive governance in Malaysia as well as a paperless management and administration. This model will be extended to the rest of the nation in the coming years.

#### **The Kuala Lumpur International Airport (KLIA)**

The new international airport at Sepang, scheduled to be operational by 1998, will also be the most advanced in terms of IT-enabled systems and services. The Total Airport Management System (TAMS) being developed will enable more efficient and cost-effective management of airport services. The linking of this system to the national and global information highways will improve the management and control of air traffic, especially the movement of people and goods globally. IT enables real-time links to be made between TAMS and other logistic systems such as road, rail and sea traffic to produce a totally integrated and on-line logistic system to function.

#### **Kuala Lumpur City Centre (KLCC)**

The Kuala Lumpur City Centre (KLCC) development is being designed as a city-within-a-city, and will be positioned as the financial and business hub of the MSC. The building within the KLCC have been designed as intelligent buildings which can become models for the development of telecommunications and IT infrastructure and applications for other buildings.

#### **IT City**

Yet another trail-blazer in the MSC will be the IT City, being planned for development to the south of Putrajaya. The IT city is being designed and developed to meet the needs of industries and services that capitalise on multimedia technology. The potential for multimedia application spans

the full spectrum of economic sectors, product categories and services and this potential will be unleashed in the MSC by creating the right facilities and environment for such industries to flourish. These include world class or even more advanced telecommunications infrastructure, open standards, tight protection of intellectual property, good business facilities and support services, access to funds at competitive rates and the availability of a sufficient supply of relevant skills. To ensure that the MSC is competitive in attracting world-class companies to locate and operate from, an even more attractive package of incentives, backed by government guarantee, has been prepared. The package includes traditional financial incentives such as tax exemptions as well as new incentives such as removal of restriction on employment and equity participation. Such a package is seen as critical to ensuring that world-class companies can be drawn to operate competitively from the MSC.

#### The MSC Strategy

The main strategy in the development of the MSC is the creation of critical mass through concentration of multimedia system producers and consumers in the MSC. This will be done by providing the most competitive and attractive business environment in the MSC, whereby companies could source for the best and cheapest resources from around the world and use the advanced infrastructure to enhance design and improve production and marketing. Such an environment will be further enhanced through a more conducive legal and regulatory framework to facilitate electronic inter-faces and on-line transactions. The MSC will feature a set of commerce-enabling cyber laws. Among those being formulated currently are laws which will allow for the use of digital signatures, protection of privacy, protection against computer-aided crime, protection of intellectual property, electronic government and tele-medicine.

#### Multimedia Development Corporation (MDC)

To ensure that the development of the MSC is planned and coordinated in a systematic manner, the government has established the Multimedia Development Corporation (MDC) as a one-stop agency for all matters pertaining to the MSC. The MDC's key functions include co-ordination of planning and implementation, as well as marketing of the MSC. The MDC will be equipped with the necessary powers and resources to play

its role effectively. Such empowerment of the MDC will facilitate meeting the very tight schedule being envisioned for the MSC to be operational. The MDC will work closely with the relevant government agencies, the NITC as well as the private sector in formulating and operationalising the plan of action.

### **Flagship Applications**

Eight flagship applications have been identified to spearhead the development of the MSC. These are in the areas of R&D clusters, telemedicine, multimedia funds haven, electronic government, smart schools, world-wide manufacturing web, borderless marketing and a multi-purpose card. The MDC, with the assistance of relevant government departments, has established high-level task forces to prepare detailed plans of action for the implementation of these applications in the MSC. In the spirit of Malaysia Incorporated, the task forces will comprise members from the private sector to assist in the planning as well as to take the lead in the implementation of projects identified within each flagship application.

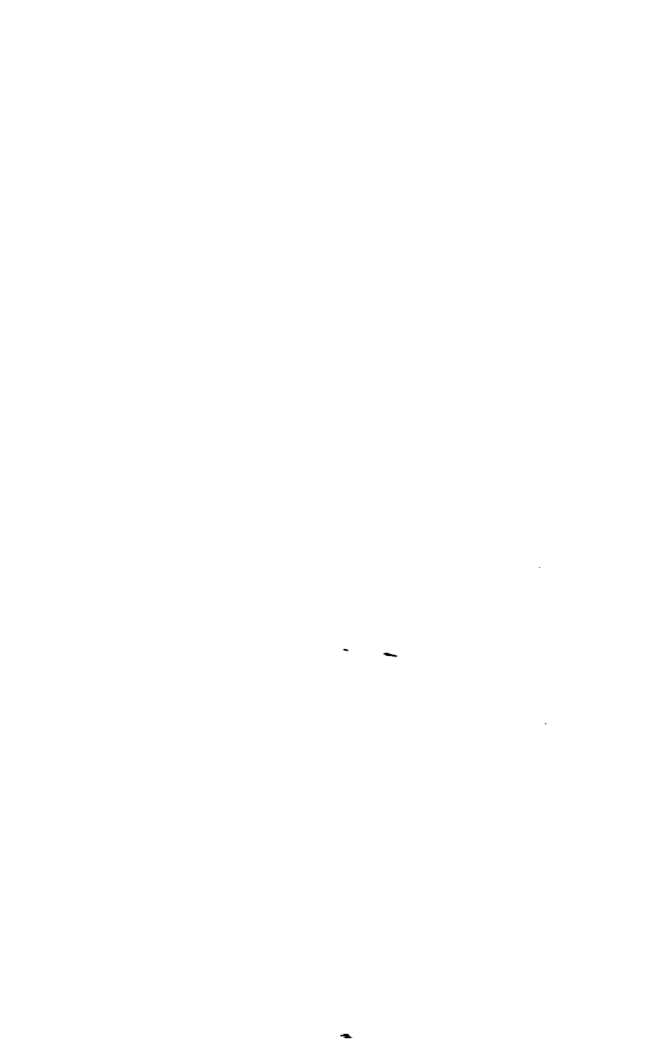
### **International Advisory Panel**

The MDC will work closely with an international advisory panel to plan the development of the MSC. The views of several leading corporations from around the world, which are users of multimedia infrastructure or producers of multimedia goods and services, will be sought through meetings between their chief executives and the MDC to ensure that the MSC is geared in every way to meet the needs of such companies and sets world standards for multimedia infrastructure. The meetings of the panel will be chaired by the Prime Minister to indicate the importance and priority attached to effectively designing the MSC.

### **The MSC Model**

The successful development of the MSC and the eight flagship applications will be important to act as a test-bed and model which can be extended beyond other parts of Malaysia or utilised as a model for other similar developments, such that its benefits permeate to the whole nation eventually. The success of the MSC is important to demonstrate to Malaysians that concerted and strategic planning and integrated implementation efforts can facilitate the nation to position itself in the infor-

mation age to assist in sustaining development into the 21st century. It will also assist in the transformation of the Malaysian society into a knowledge society, as envisioned in Vision 2020. Most importantly, the MSC will be Malaysia's showcase to the world as a centre of excellence for multimedia development.



OIL AND GAS INDUSTRY:  
GLOBALISATION THROUGH  
PARTNERSHIP AND ALLIANCE

*Mohd Hassan Marican*

UNDER the Seventh Malaysia Plan (1996-2000), the Malaysian Government will increase efforts to develop the petroleum industry by encouraging greater emphasis on research and development activities. It is aimed to efficiently harness and utilise energy resources. Of the total allocation of RM43.3 billion for the Plan, 39.3 per cent or approximately RM17 billion is reserved for the development of the petroleum sector. The government through Petronas is also expected to invest RM32 billion in the upstream and downstream activities of the industry, of which 52 per cent will be for exploration, development and production activities in Malaysian waters.

Measure will be directed towards the sustainable development of depletable resources and the continued diversification of energy resources. In the crude oil sector, exploration activities will continue especially in deepwater areas while measure to further encourage the development of gas fields will also be undertaken. In the midst of such activities, Malaysia is looking into adopting international standards for the regulation of its oil and gas industry. The adoption and implementation of such standards will ensure the safety of consumers of these products as well as international competitiveness of the country's petroleum industry exports.

As at August 1995, Malaysia's exploration areas totalled 515,600 square km, of which 64.5 per cent of the activities were carried out in the country's continental shelf, 16.5 per cent on shore and 19.1 per cent in deepwater areas. In the same year Malaysia produced 600.0 oil Mbopd and 2725 gas Mmcf. This level of production is expected to be maintained if not increased, following the government's policy to promote upstream activities such as sustaining and enhancing the country's reserves base which at present is estimated to be able to produce 4.1 billion bar-

rels of oil and 85 trillion standard cubic feet of gas. Malaysia ranks 23rd in the world for crude oil reserves, with 4.1 billion barrels.

Today, Malaysia ranks eleventh in the world in terms of gas reserves, with 85.0 trillion cubic feet, while exploration activities have resulted in the discovery of more than 165 gas fields. In fact, gas discovery in Malaysia are evoking as much enthusiasm as oil finds. Through Petronas, Malaysia has already embarked on the multi-phase Peninsular Gas Utilisation (PGM) project to spearhead the development of the country's gas industry. To further enhance the utilisation of gas, other projects such as the Gas District Cooling (GDC) System which uses national gas as an energy source to produce chilled water for air-conditioning and co-generating, is being introduced. The Kuala Lumpur City Centre (KLCC) as well as the new Kuala Lumpur International Airport (KLIA) at Sepang will be the antecedent users of the system.

Malaysia is also encouraging foreign companies to invest in approved oil and gas exploration projects through Production Sharing Contracts and the sharing of crude oil and natural gas production between the government and the companies. Having successfully developed the domestic market, Malaysia is seeking to expand its scope abroad through Petronas.

Petronas, since its incorporation in August 1974, has gone through an evolution and has adapted to many changes that has brought the company to what it is today. Petronas has, over the last 22 years, expanded and diversified its business portfolio to become a fully integrated oil and gas company. In that process, it has faced many challenges which it managed to overcome. There will undoubtedly be greater challenges and expectations as Malaysia embarks on the next phase of its journey to ensure its continual development and survival. Petronas is therefore, actively positioning itself in the international arena to forge towards its vision to become "A Leading Oil and Gas Multinational of Choice".

Since 1990, when Petronas embarked on its first international venture, we have been setting up the building blocks for a global integrated system. We believe that the integration, from exploration and production to refining, retailing petrochemical and gas business in our chosen geographies, will allow us to enhance our competitive edge. Our future in this competitive and borderless world is our continued growth and success. We have set a target that by the year 2005, 30 per cent of our revenue will be earned from international operations.

The oil and gas business is a global business and Malaysia, being a small nation in terms of population, has a limited market and therefore our growth will have to come from overseas. The route we have chosen to achieve this target is through partnership and alliance.

Apart from the normal process of business expansion, there are two main reasons behind the development of our global strategy. Firstly, to secure additional petroleum reserves for the nation. Malaysia's oil reserves could be considered small and at the present rate of production, the country will be a net importer by the year 2010. The prospects of discovering major oil fields at home is getting tougher. It is only natural that we go out to seek new reserves in our chosen geographies to add to the nation's reserves.

Secondly, to add value to our business by sharing our expertise with the host countries while at the same time providing new challenges to our employees.

The concept of partnership and alliance is not new to Petronas. Our first partnership was in 1976 with Esso Production Malaysia Inc. (EPMI) when the first Production Sharing Contract (PSC) was signed. Since then, we have entered into partnerships with many multinationals from different countries in both the upstream and downstream operations of our business in Malaysia.

By entering into these partnerships, Petronas has been able to contribute to the development of the oil and gas industry in Malaysia through the transfer of technology from our partners. At the same time, our employees have acquired new knowledge and skills and have been able to adapt to working with people from different cultures and nationalities. The knowledge gained has enabled Petronas to become a versatile business entity while maintaining the characteristics of a national oil company.

The concept of partnership has been defined and interpreted by many. Through our experience, we have developed our own meaning. To Petronas, partnership is a relationship that will create more value than a market transaction. We believe that companies, nations and even individuals should strive for this value-adding relationship-based partnership which would benefit both instead of one at the expense of the other. We believe that this philosophy will help enrich individuals, businesses and nations.

A relationship is a long-term commitment, with common objectives, mutual understanding and benefit, mutual respect and above all, mutual trust. Perfect agreements will not work if there is no relationship. A relationship requires the meaningful participation of all partners to ensure an effective contribution to create more value.

There are instances where a partnership may consist of partners with conflicting interests. In this situation, the interest of the partnership must come with transparency in all dealings and above all, the integrity of the partner in protecting the interests of the partnership will be truly tested.

Our partnership in the Malaysia LNG company is perhaps a good example of this situation. The LNG business is a long-term commitment between the producer and buyer which demands mutual understanding and mutual trust by all parties. In this venture, the upstream gas producer is a partner in the plant, a PSC contactor to Petronas and is a competitor in the LNG business. The other partner is involved in providing construction services, services to the buyers and is also involved in other LNG projects. Believe me, it cannot get more complicated than this. However, the relationship that has developed amongst the parties has made this partnership a true success.

The uniqueness in our approach, adaptability and versatility, developed through managing relationships in Malaysia has enabled us to achieve the success in our global ventures.

As we go global, we have been able to enter into partnership with national oil companies, local companies in the host country as well as multinational companies. It has not been easy to prove that we are capable and able to bring into the partnership a meaningful and effective contribution in order to create more value.

In the early days, we faced some reluctance on the part of a few multinational companies in partnering with a national oil company outside its home country. However, it is slowly being realised that a national oil company from a small country, like Malaysia, can contribute not only through its own unique strengths but also through the bilateral relations between the home country and the host nations.

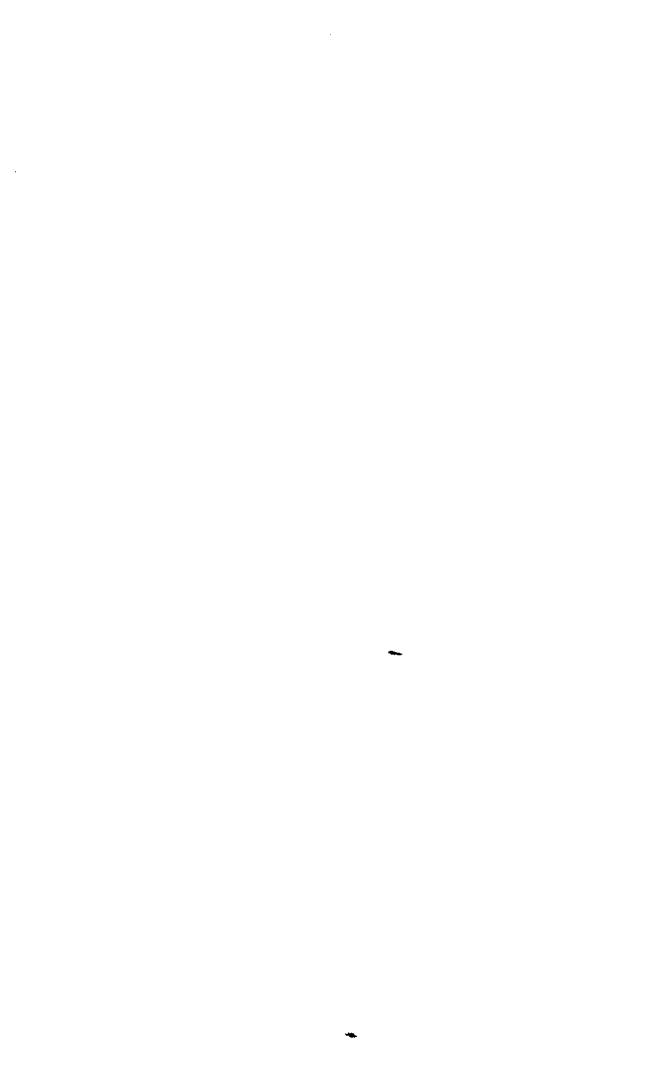
In our selection of partners, apart from the synergies in the business, we look for common shared values and the potential for growth. As I have mentioned earlier, a partnership is not a market transaction but a long-term commitment.

Our investment in Vietnam is based on a long-term commitment to develop the oil and gas industry in that country. We were prepared to take a long-term view and grow our business with the country's growth. We have been fortunate that our philosophy was accepted by PetroVietnam, the national oil company of Vietnam. In this relationship, we are a contractor to PetroVietnam in the upstream business as well as a partner with them in some of the downstream businesses. This experience required a major shift in the mindset of our employees. The experience of having to work on the reverse role from being a national oil company to a contractor has been educational to Petronas.

Control goes to the one with the ability and not size. Size can denote power and dominance. Petronas does not seek to control nor dominate any partnership. What we seek is an opportunity to grow.

I believe that it is for this reason that we are successful in entering into a partnership with Engen of South Africa. It is a partnership where we can both grow the business as well as tap the opportunities available in the growing market of the African continent. It is a partnership which will allow the shared business objectives of both Engen and Petronas to be accelerated and enhanced, while allowing a number of synergies within the two companies to develop.

Petronas is a young company and is new in the international area. As we continue to pursue our Vision, we will bring with us the lessons and experiences that we have learned from our operations in Malaysia and elsewhere. We will continue to seek for opportunities in our chosen geographies. In that search, we will also continue to seek for new partners. Partners with common shared values. Partners who share our philosophy and approach. Above all, partners that can accept a national oil company like Petronas.



DEFENCE &  
FOREIGN POLICY



MALAYSIAN FOREIGN POLICY:  
FOSTERING GREATER POLITICAL  
AND ECONOMIC COOPERATION

*Abdullah Ahmad Badawi*

THE main fundamentals of Malaysian foreign policy can be described as: the strengthening of Asean, and through Asean the development of other regional (e.g. EAEC) and inter-regional (e.g. ASEM) cooperative relations; together with the continuing enhancement of bilateral relations with as many countries as possible throughout the world.

The priority Malaysia gives to the enhancement of relations with its immediate neighbours and the workings of Asean has not, however, overshadowed in any way the importance Malaysia attaches to relations with countries from outside the region. Malaysia has long emphasised the need to expand the network of friendly bilateral relations, to cover not only the wider Asia-Pacific area but also countries much further afield in other continents. The maintenance of good relations at the government-to-government level is necessary to promote and benefit ties established by the private sector, especially the business community.

Malaysia's ability to foster greater economic cooperation with other countries is crucial to its own continued progress. In today's competitive environment, a small developing country like Malaysia has little choice but to develop relations and establish friendship with as many countries as possible. More importantly, Malaysia's partners in trade and investment must continuously have confidence in Malaysia's economic strength and political stability. Malaysia must, therefore, establish a reputation as a credible and reliable partner in all ventures, not only economically but also politically; not only at the bilateral but also the regional and international levels. In this regard, Malaysia can claim a good track record as reflected in the attention given to Malaysia's views at various international fora and the confidence accorded to Malaysia to participate in United Nations' undertakings such as peacekeeping operations.

Be it in Asean, the APEC, the OIC, the NAM, the G15, the Commonwealth or the United Nations, Malaysia has never shied away from expressing its views in an open and candid manner. Malaysia was at the forefront in trying to bring AFTA into early realisation. In APEC, Malaysia stood up against the trend for imposition by the strong over the weaker economies. In many other international fora, Malaysia together with some other countries, has successfully resisted efforts by the developed countries to use global issues like human rights, democracy, labour standards and the environment to impose their values and interests on others.

Malaysia must be vigilant to these new forms of trade protectionism and conditionalities for the development of trade and investment. Malaysia may need to rely more and more upon group action together with other like-minded nations to marshal support in resisting the political and economic pressures applied by the developed against the developing countries. Malaysia has been quite successful in fostering such coalitions with other countries.

Malaysia is one of the very few countries in the South possessing the necessary credibility to play a prominent and constructive role, ensuring a share for developing countries in the management of world economic and political affairs. Coalitions of like-minded countries have indeed proved effective in protecting and promoting the interests of smaller countries in multilateral settings, especially when new global standards or agreements are being negotiated. Malaysia's experience at the 1992 UN Conference on Environment and Development in Rio de Janeiro and in the 1993 World Conference on Human Rights in Vienna testifies to this.

Liberalisations in the world trading system have created intense economic competition for limited resources, capital and markets. In this context, the Ministry of Foreign Affairs at Wisma Putra, and its network of Diplomatic Missions abroad as well as Malaysian multinationals should provide support to each other more effectively in the spirit of Malaysia Incorporated. This is necessary in order to enable Malaysia to remain competitive internationally. Regular and close consultations and exchange of information should be practised to facilitate the search for new markets and investment opportunities, to monitor advancements in science and technology, research and development. Effective use of Wisma Putra's resources in this manner would contribute towards main-

taining Malaysia's competitive edge, be it in value-added manufactured products, in identifying investment opportunities, in venturing into new markets, or simply in increasing Malaysia's share in traditional markets.

With the globalisation of many issues, it is also important that successful developing countries like Malaysia encourage constructive dialogue and cooperation, to spread the message of tolerance to the world and to accept social and political norms which may differ from region to region.

Malaysians who live in a plural society as a legacy of history have a lesson or two to share with others in dealing with issues such as democracy, community rights and minority obligations, race relations and affirmative action. Democracy as practised in Malaysia has proved its relevance, suitable for emulation by other multiracial societies and nations.

Clearly, Malaysia's continued progress in the coming years would depend on its ability to seize economic opportunities abroad, efficient usage of indigenous and foreign resources, supported by competency in the conduct of its international relations. There is a need to increasingly coordinate and integrate national efforts, including diplomacy, to secure market access for Malaysian products, capital funds, scientific and technical know-how. The fostering of greater political and economic cooperation with other countries is key to the achievement of these objectives.



TOWARDS REGIONAL PEACE  
AND SECURITY

*Syed Hamid Albar Syed Jaafar Albar*

THE end of the Cold War has brought to the fore the shift in focus among nations from military and security concerns to economic development and competitiveness. Since then, much of the Asia-Pacific region has been experiencing high economic growth, transforming the area into a dynamic economic centre of the world. It has also often been said that the 21st century will be the "Pacific Era". Based on the economic indicators, such a forecast will be hard to dispel. The region currently produces a little over half of the global goods and services in terms of nominal value and substantially more in terms of purchasing power. As for world GNP and trade, the region holds approximately 55 per cent and 40 per cent respectively. Intra-regional trade has also grown to nearly 70 per cent. The indications are that the region's share of global output will continue to grow.

East Asia, next to Europe and North America, has already become one of the three major economic centres of the world. Recent statistics revealed that China is the third largest economy in the world with Japan as the second richest economy. If present trends continue, East Asia will displace North America and Western Europe as the region with the greatest economic power.

Economics will therefore be the new pragmatism which governs the future of inter-state relations. This leads to concerns that economics and trade will create greater dissatisfaction, tensions and fears of shift in economic power and hegemonism. Whilst I subscribe to the view that trade will dominate the future relations between nations, nevertheless this also signifies a high level of interdependence for mutual progress and prosperity. The new challenge facing us would therefore depend very much on the management of the new partnerships and interdependence between nations.

Since the relationship is that of independent nation-states, there must be mutual respect and tolerance on the right of sovereign nations to determine their own directions. It will be unjust for one nation to impose its systems on others based on military and economic power. Notions of democracy and human rights may be the most ideal model to adopt but there cannot be one standard form of democracy, applicable to all, without taking into account differences based on cultures, values, history and development in the country concerned. There cannot be imposition but there should be an evolutionary of process.

In our situation, we acknowledge the interdependence in the economic sphere for mutual interests. This should be premised on goodwill, collaboration and understanding. In this regard it will not be right to link economic and trade issues with social or political considerations. This would be against the basic traits of sovereignty and free trade.

What is needed is to ensure continued economic growth to improve the standard of living and quality of lives of the peoples of this region. It is only through improvement of the standard of living and increasing prosperity that peace and stability can be assured. We cannot deny that the Asia-Pacific region has been blessed with a peaceful environment since the end of the Cold War. This is in contrast with the Cold War scenario where the region was preoccupied with super power rivalries. Even though we can see the emerging peace dividends, this does not mean that we have totally overcome the political and security uncertainties that continue to cloud relations within and outside the region.

### The Security Outlook of the Region

The security outlook of the region has to be viewed together with the growing appreciation of the maritime environment and issues. Today, littoral states are becoming more aware and competitive over resources which lie on or under the seabed. Issues on the law of the seas, maritime boundaries, conflicting claims to offshore territories, resources, sea borne, transit rights, and piracy are growing in importance. These issues are new dimensions that we have to be concerned with and finally to find solutions that will reduce possible conflicts.

The prevailing disputes in the South China Sea among the littoral states and more importantly between the more powerful and the smaller claimants are issues that cannot be ignored. For so long as we recognise that disputes should be resolved through negotiation, we will continue

to enjoy peace and stability. Otherwise, conflicting claims over the islands, reefs and atolls are potential explosive problems within the region that will bring back big power rivalry. They become more complex due to the political, strategic and economic interests of the parties involved. No solutions can be found if there exist the uncompromising assertion of sovereignty prior to negotiations. There is a strong belief that there are vast mineral resources surrounding the islands which can be exploited. It is therefore necessary for countries in the region to enhance their efforts to establish credible mechanisms to prevent such conflicts from turning into aggressive confrontations.

China plays a pivotal role in the South China Sea to avoid tensions. China's growing power projection capabilities in particular its navy, seem to reinforce the perception of China asserting its strategic interest in the South China Sea dispute. My view is that despite China's ongoing efforts towards military developments, it is unlikely that it will attempt to pursue any deliberate military adventurism. The country's focus is currently on its domestic economy. Thus, the concept of rapprochement and conciliation will be the best way of preventing potential conflicts.

By virtue of its geography and history, the United States is and has for more than 200 years been a Pacific power. Undoubtedly, the United States too, has a large and growing economic stake in the region. Hence, the security and stability of the Pacific Rim is not only important in terms of its global role but are also considered indistinguishable from the security of the United States itself. However, in view of the prevailing domestic constraints, the United States is compelled to review its military presence in the region. Nevertheless, it is anticipated that the United States will still continue to maintain an influence to protect its economic and political interests.

Having given the security dimension, let me now dwell briefly on the economic dimension. It is often said that remarkable economic growth will change the perception of governments. I believe that future economic challenges will be in the areas of unilateralism, protectionism and imposition of administrative measures. Developed countries will not hesitate to impose unilateral measures to coerce developing countries to conform to their domestic legislations to open markets for their products. Such measures will make countries which are heavily dependent on trade and financial assistance from developed countries most vulnerable.

There is also the common trend of resorting to protectionism by developed countries in order to support their domestic industry. Of course, such an approach is contrary to the spirit of trade liberalisation as espoused by the World Trade Organisation. Imposition of tariff barriers, high technical standards and stringent administrative procedures are methods used to disguise protectionist policies. We accept that trade will benefit nations at large but negative measures will pose barriers and threats to economic development in the region.

### Prospects for Security Cooperation

Given the various uncertainties that often confront us, the challenge before us is how best to manage them. What we are sure of is that there is no single or simple solution to overcome the uncertainties surrounding the maintenance of regional peace and stability. New approaches, frameworks and mechanisms appropriate to the situation have to be explored from time to time. There cannot be one standard formula.

Even though I have mentioned that the world has become more interdependent with the increase of trade and commerce, this does not in any way imply that we ignore the importance of self reliance in maintaining stability and survival. The situation in Bosnia-Herzegovina, though we could explain from the historical perspective of the problems in the Balkans, is indeed a case in point. In the final analysis, a country's best defence is its strength and resilience. However, this does not mean that security cooperation is not important. In fact, in my view regional resilience can only be achieved through national resilience.

It is in this respect that Malaysia fully subscribes to building security cooperation. Given the ever changing geostrategic scenario and unresolved territorial claims, such differences could easily explode into open aggressive confrontations which will jeopardise peace and stability in the region. Security cooperation among countries in the region (without turning into a military pact) will contribute towards breaking down barriers created by mistrust and misunderstanding. At the same time it will also promote transparency and confidence building.

The most significant benefit that could be derived from security cooperation is in the area of technology transfer and access to new technology. Currently, the sophisticated defence technology is mainly within the domain of the more advanced and major industrialised powers. The cost of technology will act as a limiting factor for smaller countries to develop

or acquire such technology. It is through security cooperation that developed countries will be more willing to adopt a more positive approach in the sharing and transfer of technology.

Whilst acknowledging the benefits of security cooperation, one is often inundated with the issue of forms and mechanisms in order to strengthen the foundations for regional peace and security. However, cooperation in the form of security alliances based on anti-bloc which was popular during the Cold War is no longer acceptable in the current global environment. The trend today is not to be inhibited by such formal and tight arrangements, but more on cooperating within a looser framework either bilaterally or multilaterally.

The Asean Regional Forum (ARF) is an example of establishing dialogue without having to form structures of institutional formalities. Asean realises that it can no longer isolate itself from discussing security issues. The ARF thus, is a testimony of Asean's willingness to respond towards enhancing security cooperation through the dialogue process. The ARF provides an avenue for major and regional powers as well as other Southeast Asian countries to engage in a security dialogue as partners. This also enables member countries to discuss security issues which affect and impinge upon the security of their countries more openly. The ARF can and will continue to play a positive role in defusing any potential conflicts between member nations. In this regard, the contribution of constructive dialogue towards achieving regional and world peace is indeed significant.

Multilateral mechanism on cooperation, however, need to be complemented and strengthened by cooperation at the subregional and bilateral levels. Asean as a subregional organisation has been successful in achieving its goal of creating an environment conducive to the fostering of regional peace. With the security and political problems of Vietnam and Cambodia behind us, Asean is in a better position to further enhance its subregional security relations. Asean's decision to include discussion on security issues at the Asean Ministerial and Senior Official Meeting is a move in this direction. Asean has been a successful model for other subregional bodies in the Asia-Pacific to emulate. This cooperative framework will further enhance peace and stability.

Regional cooperation, could be further complemented through bilateral cooperation. Bilateralism will allow for cooperation to be tailored taking into account the specific needs of the country concerned. Malay-

sia's good bilateral defence relations with the United States have benefited both countries in the area of military exercises, training and exchange of information. Bilateral cooperation can provide the basis for the development of cooperation in a wider regional framework. However, such form of cooperation need to be based on cooperation at subregional and bilateral levels. Asean itself is a good illustration of cooperation at subregional level.

Earlier in my deliberation, I highlighted the significance of trade challenges. Today, the trend towards regionalism is to work within the framework of multilateralism. Malaysia sees trade regionalism as complimentary to multilateral trade liberalisation, so long as it conforms to the World Trade Organisation's rules and guidelines. EAEC is one such vehicle for countries in the East Asian region to discuss international trade issues to further enhance trade ties and liberalisation.

#### Constraints for Security Cooperation

Despite the benefits and promises of security cooperation, we have to deal with the constraints. Obviously the Asia-Pacific is not a homogeneous region. Within it, there is diversity of culture, political systems and different levels of economics development. If we were to attempt to develop mutual set of values and interests, it can be complicated. This is made more complex with the existing problems of territorial claims and disputes among the regional countries.

The potential obstacles to peace and stability is the different emphasis placed by the governments in their national goals and objectives. Under the circumstances, the question is whether the regional states can develop a mutual set of values and interests. We have to therefore, find a common denominator for security cooperation. National domestic sensitivities and mutual suspicion will continue to haunt the region and pose as real obstacles to security cooperation. Establishing a common basis for security cooperation is the main challenge.

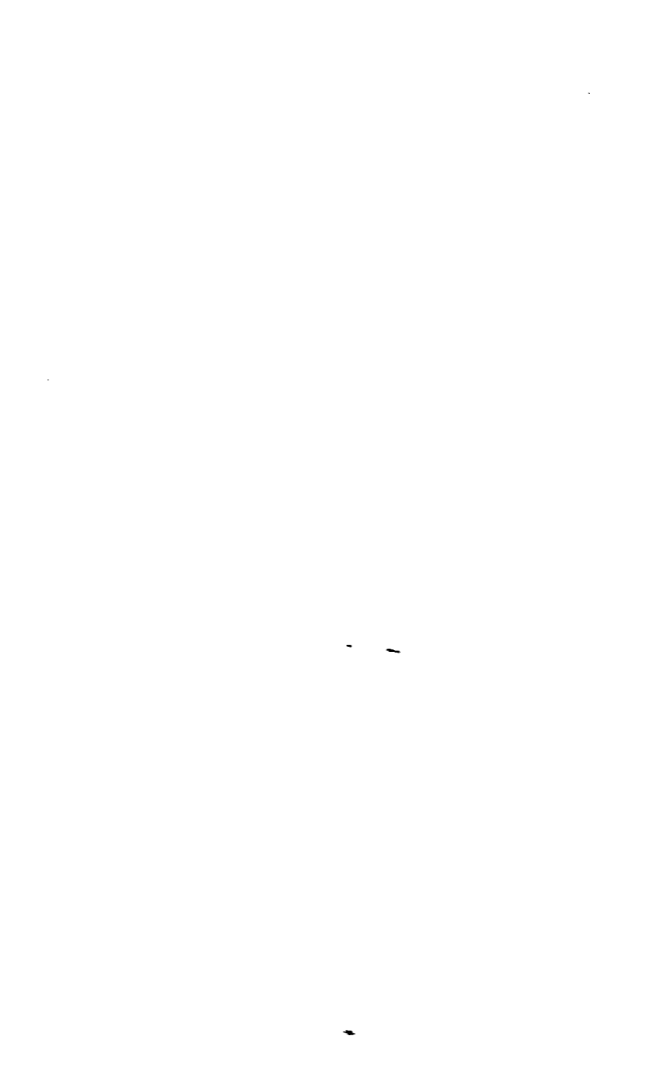
In order to ensure the success of security cooperation, certain fundamental principles has to be accepted. Firstly, security cooperation must be seen to benefit all member countries, on a "win-win" situation. The countries in the region must perceive that they have a common objective and feel there are mutual benefits in cooperation. Secondly, such cooperation must meet the requirements and suit the strategic realities and cultures prevailing in the region consistent with the underlying political,

economic and cultural dynamism of the region. Thirdly, cooperative initiatives must be implemented on a gradual and incremental basis. Any attempt to pressure and accelerate the implementation of such initiatives is counter productive. Finally, consensus building shall be the prerequisite for the decision making process.

### Conclusion

I am positive the Asia-Pacific Region has a very bright future. As an economic entity, the region is increasingly becoming more important global players. Let me reiterate that economics will be a major factor in future security matrix. Countries in the region must coexist to develop mutual economics interests. We have to exercise restraints in trade measures to avoid tensions between nations.

Likewise, security cooperation must be given a balanced focus to defuse any potential conflict. I am confident such endeavours would bring benefits, increase transparency and develop confidence building in our defence planning and policy formulations. While I feel that there are opportunities for a wider regional cooperative engagement, cooperation in the security field should complement other efforts of cooperation in the politico-socio-economic sectors. Towards this end, the third-tiered approach of cooperation would ensure a strong network of cooperative efforts towards achieving continued peace, stability and prosperity. This will assist in minimising frictions in the region. Indeed, such cooperation would contribute to the well being of the peoples and the states in the Asia-Pacific region.



EAST ASIA ECONOMIC CAUCUS:  
FACT AND FICTION*Noordin Sopiee*

I BELIEVE few ideas in the post-World War II period have been so deliberately misrepresented and misunderstood as the idea of the EAEC. It shakes confidences in the sense of fair play of much of the western media.

In December 1990, immediately after the breakdown of the Brussels negotiations in the Uruguay Round and during the state visit of Chinese Premier Li Peng to Kuala Lumpur, the Prime Minister of Malaysia, Dato' Seri Dr Mahathir suggested in a banquet speech the formation of what he called the "East Asian Economic Group" (EAEG).

In late 1991, at the Asean Economic Ministers' Meeting held in Kuala Lumpur, Indonesia put forward the proposal for an "East Asian Economic Caucus" or EAEC. This was immediately accepted by Malaysia and the rest of Asean.

When the Association met for its fourth Summit in Singapore in January 1992, the Heads of Government adopted "The Singapore Declaration." This Declaration states: "With respect to EAEC, Asean recognises that consultations on issues of common concern among East Asian economies, as and when the need arises, could contribute to expanding cooperation among the region's economies, and promotion of an open and free global trading system."

The EAEC is, therefore, a proposal for "consultations" between East Asian "economies". (At this stage, the "economies" envisaged were the seven Asean economies (Brunei, Indonesia, Malaysia, the Philippines, Singapore, Vietnam and Thailand) China, Japan and South Korea.) The development of EAEG, EAEC or any enterprise for economic cooperation in East Asia will of course depend on the decisions of the members involved. Since Dr Mahathir is the father of the idea, it is important to study closely his views.

On May 13, 1993, in a major speech to the Asia Society Conference on "Asia and the Changing World Order", delivered in Tokyo, he said: "I believe that it is now time for all of East Asia to launch a process which are already in place—a process whose final destination is a zone of cooperative peace and prosperity stretching from Jakarta to Tokyo.

"I believe that the immediate need is for East Asia to do two things. First, to take advantage of the regional synergies and opportunities for cooperation in order to maximise the short, medium and long-term mutual economic advancement of the region. Second, to build a productive coalition for the success of the Uruguay Round, for the sustenance of the open multilateral global trading system and for other non-trade goals that are productive of regional and global economic interests.

"For what it is worth, let me set out what I think should be the design parameters for the EAEC—design parameters which probably will be equally relevant to where other East Asian economic cooperation process is undertaken in the year ahead.

"First, we should be concerned with both a regional and an extra-regional agenda.

"Second, with regard to both the internal and external dimensions, although trade is crucially important, we should not be confined to trade.

"Third, on matters related to world trade, we must be champions of free and fair trade.

"Fourth, we must champion the cause of open regionalism, we must not be inward-looking.

"Fifth, we should aspire to be a model for true North-South cooperation.

"Sixth, we must seek to contribute to a sense of security and well being on the part of all the economies in East Asia.

"Seventh, whatever schemes of cooperation we embark upon must be founded upon the principles of mutual benefit, mutual respect, egalitarianism, consensus and democracy. Each one of these principles is basic."

In March 1994 at the tenth Pacific Economic Cooperation Council (PECG) general meeting, convened in Kuala Lumpur, Dr Mahathir said: "As an East Asian, I am committed to the building of an East Asian community in which our common peace is cooperatively constructed and our common prosperity is cooperatively built; an East Asian community

in which the giants of our region—China, Japan, Indonesia—shall have their rightful place, discharging their rightful responsibilities, all of us living in harmony in an egalitarian community of mutual respect and mutual benefit.

“As a global citizen, my country must play an active role in the making of a new world community based on egalitarianism, mutual respect and justice.”

Many regard the EAEC and East Asian economic cooperation as something that is very natural. Yasuhiro Nakasone said it was destined and inevitable. Lee Kuan Yew was of the opinion “it will not go away”. West Asia is today the only region in the world where economic cooperation has not been implemented.

Despite the fact that East Asian economic cooperation is natural and despite the arguments of Dr Mahathir and other Asean leaders, a ton of bricks has fallen on the EAEC proposal. The main criticisms are that:

- (1) It is an attempt to create a closed trade bloc;
- (2) It will result in Japanese economic hegemony;
- (3) It is an attempt to draw a line down the Pacific and to divide the Pacific;
- (4) It is racist;
- (5) It is exclusivity and exclusionary; and
- (6) It is an attempt to destroy or undermine APEC.

A basic question that should be posed to the detractor is, “Why would the economies of East Asia want to do any of these things?” Those who argue that EAEC would draw a line down the Pacific, thus dividing it into two should tell East Asian why they want this. What would be the purpose? They also have to explain why NAFTA does not divide the Pacific and ANZCERTA does not divide the Pacific, but a loose East Asian consultative forum which will only meet, “as and when the need arises,” will do so.

Those who say that the EAEC is a racist enterprise should begin by asking what race we are talking about. Perhaps there is no appreciation of the fact that Asean itself is multiracial, and East Asia even more so.

The rise of East Asia is no fiction and East Asian economic cooperation is fast becoming a reality. East Asia must take its rightful place and carry out its rightful responsibilities in both the regional and global

arena. In a recent speech to the Global Issues Forum, the Deputy Director General of the WTO, Mr Kim Chu-so, pointed out that Asia has yet to "find its full voice" in the debate on the multilateral trading system and called upon the trading nations of Asia to play a leadership role in shaping the multilateral trading system of the future. According to the Deputy Director, a greater leadership role for East Asia is "logical" and indeed, necessary.

Nations of East Asia will find from time to time that it will be "logical" and necessary for them to meet to discuss issues of common concern. The logical and the natural has indeed happened. Foreign Ministers of Asean, China, South Korea, and Japan have met three times in the past two years. Asean's economic ministers have also had regular meetings with Japan's Minister of International Trade and Industry. In Osaka in November last year, Asean economic ministers met jointly with economic ministers from China, Japan and South Korea for the first time.

Despite the incredible amount of misinformation and repeated attempts to undermine the process of East Asian cooperation, it will continue because it is natural and unstoppable—under whatever names the process may employ. As Dr Mahathir said recently in Tokyo: "Let me confess that when I look back at the history of the EAEG and the EAEC I am reminded of Shakespeare's words from *Romeo and Juliet*: *What's in a name? That which we call a rose; By any other name would smell as sweet.*"

Indeed it would.

MALAYSIAN  
EXPERIENCE



MALAYSIAN HERITAGE AND CULTURE:  
PAST, PRESENT AND FUTURE

*Khoo Kay Kim*

MALAYSIA'S geographical position was the single most important factor contributing to the major role that it played in the commercial links between east and west prior and subsequent to the advent of the European powers. As a consequence it served not merely, at first, the needs of Arab countries, India and China as well as countries in Southeast Asia but later, Europe too. None more manifestly reflected this reality than Malacca in ancient (comparatively speaking) times and Singapore (although now a nation in its own right) in more modern times. Both were (Singapore still is) leading commercial centres in Southeast Asia.

Economics was the catalyst which contributed primarily to social change and, at a later stage, transformed the country's landscape too. It brought together people of diverse cultures and although the propensity to forge strong intra-ethnic links was always there, cross-cultural relationships nevertheless occurred.

In fact, by the time of the Malacca Sultanate, integration between Indian Muslims and the indigenous peoples had already taken place quite manifestly at the higher echelon of society. Also, what had emerged in the process was an elaborate political system which incorporated elements from Indian political culture.

The arrival of Islam at this juncture (about the 15th century) and Malacca's close political ties with China added to the heterogeneity of Malay political culture. Islam, in particular, was synthesised with tradition (*adat*) and the result was a polity which, in its bare form, has survived to this day.

In modern times, there was further infusion of new elements to the political culture, namely the introduction of Western administration, the most important aspect of which was the effecting of British laws without,

however, totally obliterating indigenous laws (especially with regard to land administration) and Islamic laws.

What ensued eventually, by the early phase of decolonisation, was the introduction of the democratic process leading in 1957 to the establishment of parliamentary democracy—with a written constitution, a House of Representatives (to which members are elected based on universal suffrage) and a Senate. In the process, the Malay kingdoms were first united into a nation.

The colonial era also witnessed major economic transformation. Trade, in the past, had been the mainstay of the economy of the various Peninsular Malay kingdoms. The early 19th century marked the beginnings of an economy anchored to the export of raw materials. Tin production though not new expanded radically in response to Britain's growing tin-plate industry; commercial agriculture, a new phenomenon, assumed increasingly greater importance; and the development of infrastructure to meet the needs of the new economy took off by the 1800s (railway, urbanisation with all its ramifications, and road transport being the most important until World War I).

During the inter-war years, although the export of raw materials continued to be the focus of the country's economy, the move to diversify (i.e. to avoid a total dependence on tin and rubber) had begun. Food production was already deemed to be crucial at the turn of the 20th century. It was further emphasised after the Depression of 1920-1921 and given more effective push after the 1930 Depression with the establishment of the Drainage and Irrigation Department as the prelude to the introduction of large padi schemes.

Industrialisation, not commonly known today, had its beginnings in the 1920s and expanded moderately in the 1930s. It was directly linked to two of the country's important agricultural produce, namely pineapples and rubber.

Malaysia's political and economic change, however, is not really terra incognita in Malaysian historiography but considerably less has been said of sociocultural development.

Yet neither politics nor economics and for that matter, physical and technological development ought to be discussed without direct reference to the general populace.

In the days of maritime trade, society was also fundamentally feudal in structure. The gap between the ruling class and the subject class was

distinct and stark. Foreigners, with exceptions of course, stayed outside the sociopolitical structure. They were allotted specific settlements and in general, administered indirectly through their own leaders. Economically, they dealt with members of the ruling class and conformed to rules and regulations established to govern commercial transactions.

But for a foreign population which was basically transient in nature, the situation then presented no major problem. By the 19th century, the scenario had radically changed.

Western economic needs as well as technology, which was geared towards expanding production and expediting distribution, unavoidably contributed to population growth together with social change. Perceptions, thoughts, values, and parallel with that, the mode of living, changed in tandem with development.

The complexity of change was compounded by the fact that a plural society had emerged as the demands of labour and services brought an influx of population in particular from China and India. Though neither Indians nor Chinese were new to the country in the 19th century, sheer numbers in subsequent years led to the formation of ethnic enclaves which led a Western writer to describe the situation as one where the various communities "mix but do not combine".

Still, with the passage of time, mutual exposure brought about cultural borrowings which witnessed the emergence of a composite culture that can be justifiably described as distinctly Malaysian in character.

Food, architecture, dressing, habits, behaviour, beliefs, speech, rituals, and the like, while reflecting the heterogeneity of the society, nevertheless, reveal a fair amount of integration or at least unconscious reciprocal influence which not merely lend colour to Malaysia's culture but, to a large extent, constitute its cultural strength because the resulting culture is global in texture.

Malaysia today indeed is "Asia in miniature". But more than that, because of distinct Western cultural and technological influence, perceptions, discernment, perspicacity and comprehension—in short, its worldview is, in general, more modern than that prevailing in the majority of Asian countries.

Divisiveness admittedly still exists in the Malaysian society and, from time to time, presents a problem which threatens social and political stability but by and large, the process of integration and synthesis

which began albeit somewhat slowly decades ago appears now quite irreversible.

Already inter-ethnic marriages no longer pose a major problem and increasingly, it is becoming difficult to distinguish Malaysians ethnically purely by physical appearance. Increasingly too differences in cultural practices do not seriously interfere with social interaction even if there still remains a desire to preserve, as far as possible, ancestral tradition.

Political ideology has already succeeded in cutting across ethnic boundaries. In general, all parties subscribe to similar laws and approve of democracy. Even if society is not yet as egalitarian as the idealist expects it to be, the old feudal structure now hardly impinges on the political process.

The evolution of a more and more transparent Malaysian culture takes place somewhat unobtrusively. It is not far-fetched to say that the subsequent generations will no longer subscribe faithfully to historical tradition except where its preservation is of benefit to them.

At present the influence of technology is creating a large group of young Malaysians, irrespective of ethnic origin, who are unafraid of change and who can find more common denominators in their social lives than their immediate predecessors.

Although in the face of rapid change, there is always an inclination, especially among the highly educated, to be nostalgic and, therefore, endeavour to look retrospectively in order to uncover cultural elements which may help to resist modernisation, the total past cannot be revived. In Malaysia, as in many other Asian countries, the present rate of transformation, brought about largely by technology and the constant need to enhance or sustain economic growth, may indeed lead to an even faster rate of social change in the immediate future than the country has hitherto experienced.

NATION-BUILDING: PROSPECTS  
AND PATHWAYS FOR THE FUTURE

*Mohamed Jawhar Hassan*

STATES which are ethnically and culturally diverse take several generations to develop into nation-states (meaning a citizenry which perceives itself as having a common identity and a shared destiny). Malaysia, on the other hand, is only a generation old. There was no Malaysia before 1963, no independent Malaya before 1957. A quarter of the population we have today—27 per cent to be exact—is older than Malaysia.

Yet the country has made tremendous advances in forging national unity within this short space of time. Few countries faced the odds the nation did when it gained independence and Malaysia was formed. To many, it appeared a hopeless case, so full of internal contradictions that the only logical outcome appeared to be implosion.

Many lines, mutually reinforcing, divided the population. Ethnicity, religion, language, income levels, occupation types, geographical residence and a federal system all conspired to keep the people apart. The South China Sea separated the peninsular states and Sabah and Sarawak. A communist insurrection succored from abroad lingered in the peninsula and broke out in Sarawak. Indonesia launched *Konfrontasi* even as Malaysia was born.

One short generation span later, Malaysia has emerged as a confident and vibrant entity largely secure, stable and increasingly prosperous at home, and at peace with its neighbours and full of initiative abroad. Though our identification with race and even the component states remains strong, a powerful sense of being Malaysian prevails among the population. No longer are loyalties being questioned. A common indigenous language binds us. The identity between race on the one hand and geographical location, occupation, and relative wealth on the other is much less evident today.

Though differences remain, the quality of life of all Malaysians has improved by quantum leaps—taking the income measure alone, Malaysians today enjoy a level of income in purchasing parity terms that is 10 times higher than what they possessed just 26 years ago. Most important of all, a common vision of a shared future grounded firmly in the Constitution and guided by the *Rukunegara* and Vision 2020 inspires the people.

We seem to be firmly on the road towards becoming a united Malaysian nation, a united *Bangsa Malaysia*.

### Our Limitations

Nonetheless, it would be foolish to rest on these achievements, and the government appears to be only too well aware of this fact. The road to mature nationhood is a long one. In many respects, the journey has only just begun. Regardless of how secure and confident one may feel now, we can easily regress. Much of our success in fostering racial harmony is arguably built on our dynamic economic growth. All groups have benefited, and this—among some other factors—has helped blunt the edges of ethnic animosity. The acid test for Malaysia's successes at nation-building will come during recessions, when adverse economic conditions can rekindle dormant ethnic grievances. For instance, during the recession just a decade ago, racial issues resurfaced and tensions mounted.

Economic imbalances remain and have in fact deteriorated since 1990. Although all groups had increased incomes, the gaps between the ethnic communities and between the rural and urban areas widened. According to the Seventh Malaysia Plan, between 1990 and 1995 the income disparity between the Bumiputera and Chinese communities increased from 1:1.74 to 1:1.81; the difference between the Bumiputera and Indian communities grew from 1:1.29 to 1:1.35. The rural-urban gap widened from 1:1.7 to 1:2.0.

Until these imbalances are generally rectified, the socioeconomic roots of ethnic conflict will remain unsatisfactorily addressed and the country will continue to be vulnerable. Things can and must be improved in other areas too before we can consider ourselves fully successful:

- (1) Affirmative action is absolutely necessary to reduce imbalances, but it will have to be phased out quickly once broad parity is achieved because it also excites much dissatisfaction and emphasises ethnic cleavages.
- (2) A plural system of education at the primary level which allows for education in the Chinese and Tamil languages besides the national language is not fully conducive to nation-building.
- (3) A system involving the coalition of major ethnic- and state-based political parties has been found to be the most successful and pragmatic way of governing the country given the present levels of ethnic and state accommodation and interaction. However, it has its drawbacks in institutionalising ethnic and parochial approaches to governance which may not always be in the larger national interest, especially if a higher level of national unity is desired.
- (4) While state identity and consciousness are legitimate and must be protected as a consequence of the federal system adopted by the country, excessive and narrow state parochialism as sometimes evident in a couple of states, detracts from the development of a strong and cohesive national ethos.
- (5) Ethnic enclaves and poor inter-ethnic socialisation in institutions of higher learning and to some extent also in upper secondary schools are impediments to greater integration among the various ethnic groups.

### Pathways for the Future

Quite clearly, there must be many paths, not just one. Quite obviously too, we must continue along some of the paths we have taken, because they remain the right paths. But we must also be prepared to abandon some old trails and blaze new ones if we want to make progress more efficiently and arrive at our destination more expeditiously. As we progress, things which appeared unthinkable a few decades ago become more thinkable. The approach will have to be evolutionary, adjusting to changes in the social, economic and political environment as we move along.

Most importantly, however high the priority we attach to the task of fostering national unity, it cannot be pursued in isolation from other national priorities. These are set out in Vision 2020. Where necessary there

will have to be some give and take. Fortunately, given the right circumstances, all our key national goals are mutually reinforcing and complementary.

Having made these preliminary remarks, let me outline some of the pathways that I think we could take as we journey into the future:

- (1) Unless a new social contract is forged—and there seems to be no compelling reasons for this—our pathways must continue to be built within the strategic framework provided by the Federal Constitution and illuminated by the Rukunegara and Vision 2020. They enshrine the accommodation arrived at among the various communities and states of the country as to the kind of nation they want to build, and they embody the shared vision we have of our future destiny. They at once set the possibilities as well as the limits of our nation-building enterprise. For instance, in the interests of promoting national unity we cannot contemplate establishing a unitary state.
- (2) The momentum of affirmative action programmes should not be allowed to slow down. These programmes are central and critical to the entire strategy for successful nation-building, and the sooner they achieve their targets, the more quickly they can be dispensed with. The recession of the late 1980s, which necessitated a curtailment in the programmes, is no longer with us. The economy looks set to enjoying its ninth straight year of nearly 9 per cent per annum growth. If we do not make the most of this favourable situation now, the next recession may not be far away. Once targets are met, however, it will be in the interests of all, including the Bumiputera community and its resilience and vitality, to phase out affirmative action programmes except for the most needy irrespective of race.
- (3) The thrust of our education and language policies should continue, but the following changes may need to be seriously considered by all parties concerned:
  - (a) The teaching of the Chinese and Tamil languages in national schools should be significantly improved, so that Chinese and Indian parents who wish their children to

- have a good grounding in their mother tongues will be more prepared to send their children to these schools.
- (b) The Chinese and Indian communities should reconsider their resistance to the phasing out of Chinese and Tamil medium schools in the interests of facilitating efforts to promote national unity. There are no satisfactory grounds for resistance if the quality of teaching of their languages in national schools is good. This calls for wise and courageous decisions to be made by political and education leaders of the two communities in the national interest.
  - (c) Financial assistance should also be made available to deserving non-Bumiputera students. It can begin with a modest allocation. By the same token, there should be more stringent observance of criteria for granting scholarships to Bumiputera students, so that the affluent are not granted what they do not really need.
  - (d) Universities should adopt a strict policy of ensuring that hostel rooms are shared by students of different ethnic backgrounds. There are no real religious impediments to this; only tolerance and mutual respect are required, and both are enjoined by all religions.
  - (e) More inter-ethnic student societies should be encouraged, and greater interaction among ethnic- and religion-based groups should be promoted. Needless to add, the support and cooperation of these groups will need to be solicited, and it will not always be forthcoming.
- (4) As we attain higher levels of integration, we may want to again test the viability of political parties which cut across ethnic, religious and state boundaries. Various options may be considered to bring this about—through legislation, through consultation and consensus among the major parties in the government as well as in the opposition, or through the natural course of democratic elections, when the electorate itself eventually shows a preference for broader-based parties. The most sustainable in the long run will be the last option, because it emerges from a grassroots desire among the people, but the second option too can be a viable one. The Barisan Nasional for instance, can reconstitute itself as a single, broad-based politi-

cal party and initiate a new and historic phase in the evolution towards a *Bangsa Malaysia*.

- (5) Maximum encouragement should be given to the development of a civil society which organises and mobilises itself along non-ethnic lines and issues. This is not as difficult or as unrealistic as it may seem. Already many of the burning issues of the day have little to do with race, religion or state. They are more likely to do with issues such as upholding the law, protecting the environment, corruption, child abuse, "road bullies", AIDS, and the position of women. They serve to unite society across ethnic and other lines, and quietly and unobtrusively promote national unity. In this respect, they perform the same important function as sports, etc.

### Conclusion

The popular notion is that the government is the entity most responsible for national unity and nation-building efforts. This is certainly true with regard to national laws, policies and programmes as well as their implementation. But it obscures the fact that many other important and key actors are involved, and they too need to do their bit. Ultimately, the most important actors are the people themselves. It is their ideals, aspirations, values and attitudes, as well as their insecurities and prejudices that will finally decide which pathways we choose, and how fast we proceed.

THE MALAYSIAN CONCEPT  
OF MULTIRELIGIOUS AND RACIAL HARMONY

*Ghazali Yusoff*

AS a keen observer of Malaysian Development, particularly interracial development, this nation is without doubt one blessed by God—hence the uninterrupted good times we have all experienced since independence in 1957 apart from the unfortunate May 1969 episode, which incidentally strengthened our resolve to continue existing as a happy and prosperous multiracial nation even further.

These happy developments have been due to the positive blend of abundant natural resources, good management and most importantly—a pragmatic, tolerant and wise population.

The average Malaysian personality is a happy and contented one with no strong reasons to mistrust one another. "Love of peace and working towards peace" is the Malaysian forte.

However, all these have been possible largely because at the on-set of nationhood in 1957, interracial harmony and its management has formed the foundation of Malaysian economic development. My personal reaction to this interracial challenge has always been a positive and comfortable one. Positive, because no religion has amongst its tenets a negative objective. Comfortable, because as a multiracial society all these years, a combination of all these diverse beliefs can and will only strengthen the process of nation-building. The blend of cultures over the centuries has made this evolution unique.

A quick look at the various tenets of the religions practised in Malaysia profess belief in God, love, tolerance, charity, etc. have been "lived" by the Malaysian society. A common foundation has been put in place over the years.

I personally have faith in the rationale that this inter-faith understanding brings with it a spirit of tolerance and patience and the role played by the national leadership in this instance has been crucial. In-

deed, a unique Malaysian formula or mechanism has evolved over the years which has been quoted as a model of nation-building in the eyes of the world. Based upon these values, a sociopolitical system has emerged, and this system yet again demonstrates the spirit of compromise and tolerance.

The present government—a coalition of diverse parties—is a manifestation of this commitment. Any stress and strains are managed within the ambit of the coalition. This formula has proved to be so workable that the present government has been in office for well over three decades since 1957. Attempts at creating political parties on narrow interest groups have not been successful. When one considers that Malaysia is a federation of states, this success story becomes even more outstanding.

Since independence, the government has recognised that economic inequalities could provide “flashpoints” in society. Such an occurrence did take place in 1969 and a pragmatic and affirmative social engineering programme was introduced—the New Economic Policy (NEP)—to review the balance of wealth between the Malays and non-Malays. This engineering continues till today and it has taken place with little traumatic responses from the other races. Why? I believe this has been possible due to the structures of the political parties and leadership as well as the sincerity and transparency of the strategies undertaken. The rapid economic development and a relatively effective distributive mechanism “balanced” the situation so much so that everyone gained in the process. This social engineering exercise is indeed unique in the world and Malaysia has often been made a model of such redistribution plus growth exercise.

### Challenges and the Future

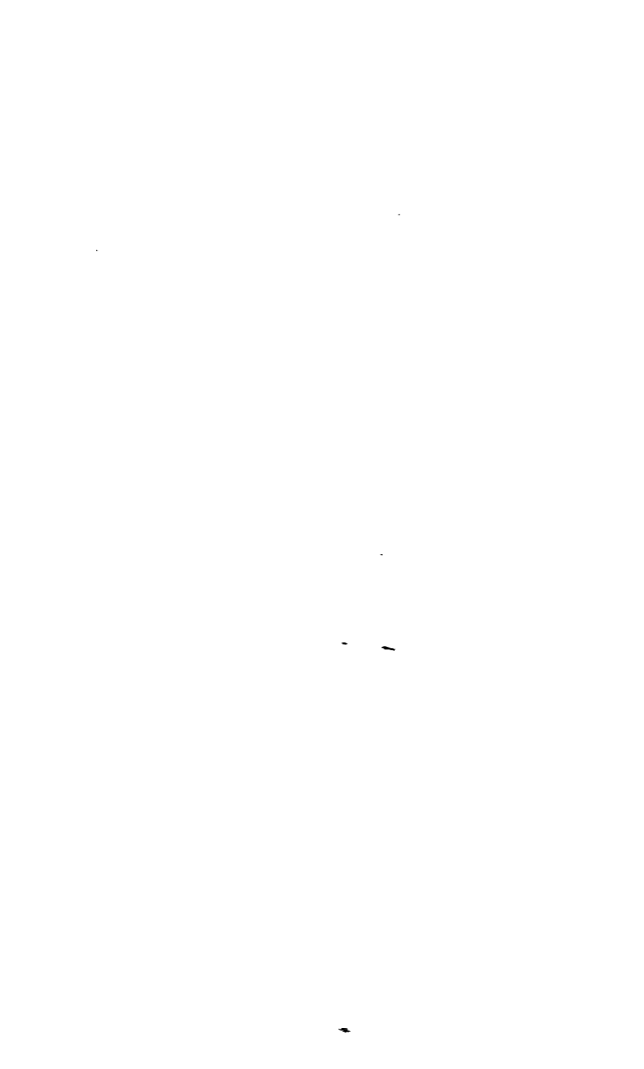
The challenges ahead are tremendous and have largely evolved due to the increasing industrialisation and internationalisation of the country's economy. Our cultural values are being continuously challenged and tested. Malaysians are generally well-exposed to the world. We have educated our children concerning the ways of the world. We now have to remind them not to give up such time-tested values which have brought us this far. How? The Caring Society concept introduced in Vision 2020 indicates this challenge. Parents, social organisations, charitable societies can play a significant role. Not forgetting of course, the various religious organisations functioning not only as independents but having frequent

interchange on a multireligious basis. These efforts are being continuously pursued by various bodies.

We are also implanting qualities of civic consciousness in a more focused manner in educational institutions, business entities, homes and in youth programmes throughout the country.

It is also hoped that the new generation of Malaysian entrepreneurs will have embodied in their business philosophy such values.

The Malaysian experience has been a gift from God. The management of this gift has been by Malaysians and we have done reasonably well. The challenge of the 21st century would be more daunting and complex. I believe that our strong sense of pragmatism, compromise and goodwill will pull us through, provided we do not forget the lessons of history, continue to have faith in our respective religions and learn to respect others.



LIVING IN MALAYSIA:  
AN EXPATRIATE'S POINT OF VIEW

*Roger A. Bertelson*

MALAYSIA has seen phenomenal growth and change in the years my family has lived here as an expatriate. It has been and it continues to be exciting to live and work in such a dynamic country.

When our family first moved to Kuala Lumpur in 1981 from Singapore, a friend commented to me that he thought we would enjoy our stay in Malaysia more than we had in Singapore. He also told us that Malaysia was a well-kept secret in the world of international living and that we should do our part to keep it that way.

If you were to ask ten expatriates to itemise the things he or she feels are most important to them in an overseas post, you would no doubt receive a different list from each one. However, each one would include personal safety, education for their children, activities for family members, housing, travel opportunities and a positive working environment. Because of the availability of each of the above, my experiences of living in Malaysia have been extremely positive.

My wife and I live in Bangsar and one of our favourite pastimes is to take evening walks to the village and back up the hill to our house. While our younger son was living with us, Bangsar was a haunt for him and his friends as well. The subject of safety for ourselves or for any of our family members rarely, if ever, crossed our minds. When our boys were a bit older and took to more adventurous pursuits beyond the parameters of Bangsar, we continued to be satisfied that safety was not an issue. Peace of mind creates a great deal of stability for a family living in a foreign country. Malaysia gives you that feeling.

With Malaysia being situated just a few degrees from the Equator, activities outside have very few restrictions aside from the two periods of monsoon rain seasons. When it does rain, it normally rains hard for a short period and then clears off and the sun comes out again. This lends

for a bit of steamy recovery but nevertheless you can get back out and continue doing whatever you were doing before it started.

During the past 10 years, construction of golf courses in all of West Malaysia has reached a fever pitch. Most are private but it's easy to find a member of some course that will take you for a game. Many of the membership purchase fees have come down significantly from where they were just a few years ago and you can now purchase a transferable membership at a good golf course for a fraction of what you would have had to pay at their peak.

Golf, tennis, jogging, firefly watching, walking or hiking in one of the forest reserves are just a few of the outdoor activities you can enjoy while living in Malaysia.

One of the activities my sons and I discovered while they were living with us in Malaysia is scuba diving. Experts say that the area around Malaysia, the South China Sea and the Indian Ocean offers some of the finest diving anywhere in the world. We have been diving around some of the islands east of Malaysia, in the Republic of Maldives and in the Great Barrier Reef in Australia and will attest to that belief. I can't imagine that the coral and fish can be any more beautiful anywhere in the world than it is here in Southeast Asia. The cost is reasonable and the diving instruction and standards world class.

Travelling around Asia is something that our family did a lot of when we first arrived in Asia. Bangkok is only a couple of hours from Kuala Lumpur as is Jakarta and Hong Kong. Singapore is merely a half-hour flight and with the North-South highway completed, a reasonable drive. The culture and experiences from all are different from the ones that you will find in Malaysia and visiting them is worth the time and expense.

One of the first trips we made out of Malaysia in the early 1980s was to Bali, Indonesia. Some of the wood carvings we purchased during that trip are still some of our most prized possessions. Australia, New Zealand, China, Vietnam and the Philippines are some of the other places in Asia that are easily accessible from Malaysia which we have visited during our years living in Asia.

Perhaps the aspect that I enjoy the most about living in Malaysia is the opportunity to share in and learn other cultures. There are three distinct cultures that have evolved over the years: Malay, Chinese and Indian. All three have been influenced by the British who controlled the country for several hundred years before Malaysia gained its inde-

pendence in 1957. The people, the customs, the food, the holidays, the dances, the clothing all hold onto something unique and private from their ancestry. I think it is a real strength and a compliment for the country to be able to blend the three together and still have one Malaysian culture that is universally sponsored by everyone. For a foreign resident, it is a thrill to be able to meet the people and to share in their cultures and to be welcomed by so many.

We have thoroughly enjoyed our years in Malaysia and have seen it grow in ways that even the most optimistic person would have not thought possible ten years ago. One thing is certain though: Malaysia is no longer a well-kept secret.



THE 1998 XVI COMMONWEALTH GAMES:  
THE KUALA LUMPUR CHALLENGE

*Hashim Mohd Ali*

ONE could say that it all started with a dream. It was a dream that eventually evolved into coffee-table exchange which only a handful regarded seriously enough. After all, no Asian country has done it before. Still, the idea grew and on July 14, 1990, the intention no longer remained ambiguous but had well developed into a passionate aspiration for those who believed. With optimism the bid was officially submitted. Armed with RM4 million and sheer resolve, Malaysia prepared itself to bid for one of the grandest sporting events in the world—the Commonwealth Games.

And so the Games movement started, that was, in many ways, the excitement of many Malaysians and observers from other Commonwealth counterparts. The Bid Committee was formed. The intense bid campaign began. A comprehensive proposal on the sports programme, sports facilities, Games Village and other incentives was submitted to the Commonwealth Games Federation. Delegates from 56 Commonwealth countries were brought in to inspect existing sporting venues where presentations were delivered and drafts of would-be venues and facilities promptly unfurled.

On July 21, 1992 in Barcelona, the mood was a tense one, as all awaited the results of the ballot. Then it came, "Kuala Lumpur—40 votes. Adelaide—25 votes." The merging of absolute efforts with nerve and pluck finally launched the burning aspiration to a state of reality. We won. On that day, Malaysia was declared the host for the XVI Commonwealth Games. Date of the Games: 11-21 September 1998. Host City: Kuala Lumpur. The elated Malaysian team looked at each other with their minds solely on a solitary thought—from there on, there would be no turning back.

For us, the triumphant moment etched an extraordinary sense of achievement and breakthrough. The reason simply being, since its inception in 1930 in Hamilton, Canada, the Games, held once every four years in between the Summer Olympics, had only gone outside the Big Four of Great Britain, Canada, Australia and New Zealand once before in Kingston, Jamaica with only individual events as its prototypical sports for a period of 10 days.

Now, as the Commonwealth Games marks its XVI anniversary, Kuala Lumpur, apart from rising as the first proud Asian host, also benchmarked a breakthrough in history as the first host city to introduce four team sports into the Game's sporting calendar in 1998.

Perhaps, as an international sporting festival, the Commonwealth Games, comes second after the Olympic Games in terms of magnitude. Nonetheless, it must be admitted that the former has long embraced the "less stern and merrier" spirit which it is very much in favour. Dubbed also as the "Friendly Games", it epitomises that victory is not only about excessive international rivalry and polished medals, but also in achieving solidarity, forging friendship, peace and harmony between all Commonwealth nations. The past Games had settled upon some of the most glorious moments in the spirit and goodwill of the sports, savoured by millions of people across the world, who have become firmer friends within a larger family as a result of this special "family" charm and excitement.

An example of how the Commonwealth Games differed from the Olympics was pointed out in the third heat of the 100 yards of the first Commonwealth Games (formerly known as the British Empire Games) when New Zealander Allan Elliot made false starts and was, rightfully, disqualified from the competition. While Elliot sadly watched from the sidelines, the crowd (regardless of nationalities) turned into a frenzy and made so much noise that the starter could not begin the heat until Elliot was allowed back into the race.

Another touching moment was recorded during the XIV Commonwealth Games. When flyweight Wayne McCullough of North Ireland stood in the victory podium waiting to receive his gold medal, the tape machine that was supposed to play his national anthem jammed. Without wasting any time, the Kiwi official working on the machine grabbed the microphone and sang "Danny Boy". The crowd joined in the singing while the boxer who came from a troubled and tattered land, fought back the tears.

Here and now, with Kuala Lumpur steadily pacing its way to put together this international sporting extravaganza that will be more prestigious and larger than any of the previous Commonwealth Games, the heat is on. The path to witness 6,000 athletes and officials from 70 nations worldwide giving their finest in 15 different sporting events over a period of 10 days, right on Malaysia's doorstep, though poignant, is unquestionably a strenuous one.

For years, the city of Kuala Lumpur has been sprucing itself to rise to the expectation of being an international host. While a Games Village, new stadium, swimming pools and gymnasiums are being built in Bukit Jalil (Jewel of the Games) which involved a staggering investment of RM689 million, other existing venues and facilities are also undergoing upgrading and cosmetic work. Likewise, supporting infrastructure development such as the Light Rail Transit, Kuala Lumpur International Airport, new highways and hotels are fast emerging to brace the 1998 saga.

Instituted legally on July 13, 1992, Sukom Ninety Eight Berhad is the committee set up to organise the Games, both in terms of operational and financial viability. The on-going preparatory work for the Games has been progressing satisfactory thus far. A tenacious management team, has already been set up, focusing on tens of thousands of tasks such as venue operations, Games Village facilities and management, telecommunications as well as publicity and marketing. The latter is set on a solid budget of RM261 million involving cash and in-kind contributions from sponsors, suppliers, merchandising, sale of television rights and ticketing.

The statistics for television viewership is projected at over 500 million worldwide while international tourists surging into Kuala Lumpur in 1998 is expected to exceed 10 million with 50,000 more during the 10 days of the Games itself.

Suffice to say, staging the Games in Malaysia, though a mammoth venture, does offer significant benefits. To the people at large, the Games delivers new state-of-the-art facilities and a generation of new leadership and management in Malaysian sports. To the athletes, the Games exposes them to top-class performances and the latest training methods. To the country, the Games spurs new prestige and relationships. To the sponsors, the Games brings identification of new markets as well as ex-

cellent exposure and publicity of their corporate image, both in the national and international arena.

Sports has always been a generator of community spirit, of national identity and a source of pride and encouragement. More than these, sports has surely gained increasing importance as one of the milestones to gauge the success and progress of a nation. One can say that it is an indicator of identity, image and integrity of a country. An international sporting event as important as the Commonwealth Games, will undoubtedly impact the host country, i.e. its outcome will either break or make the country's image.

Still, necessity is the mother of invention. Demands and expectations will hone the necessary proficiency. And it is by way of heightening proficiency that makes accomplishment possible. For 10 days in September 1998, through the joint efforts of the Malaysian Government, a meticulous committee and the support of the entire nation, Kuala Lumpur is progressing intently and surely towards the prospect of warm hospitality, superior facilities and most of all, a Games that bespeaks of international excellence for our Commonwealth counterparts and a Games that will go down in history as the finest and friendliest Commonwealth Games ever staged. We can say with confidence, "*Malaysia Boleh*".

## ABOUT THE CONTRIBUTORS

**Rafidah Aziz, Dato' Seri** has had a remarkable career in academia and politics. She started her career as a lecturer after obtaining her Master's Degree in Economics from the University of Malaya in 1970. She was elected Head of Wanita UMNO in 1974 and appointed Senator the same year. She has held the Trade and Industry portfolio since 1987, before the Ministry was divided in 1990 and renamed the International Trade and Industry Ministry.

**Lim Keng Yaik, Dato' Seri Dr** has been the Minister of Primary Industries of Malaysia since 1986. A medical doctor by profession, he served in the Taiping Government Hospital before going into private practice. He holds a Bachelor of Medicine and Surgery from the Queens University, Belfast, Ireland, United Kingdom. He is a well-known international figure in advocating Malaysia's sustainable forestry management.

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**S. Samy Vellu, Dato' Seri** is the Minister of Works, Malaysia. His appointment as the Works Minister in 1995 was actually a return to his former portfolio when he was the Minister of Works and Utilities from 1978-89. Prior to that, he was the Deputy Minister of Housing and Local Government (1978-79). He was also the Minister of Energy, Telecommunication and Post from 1989-95.

In 1989, he was conferred the 'Man of the Year Award' by the International Road Federation in Las Vegas, United States for his outstanding achievements as Minister of Works. In the same year, he was also made an Honorary Fellow of the Royal Chartered Institute of Building, United Kingdom.

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Dr Ani did his graduate work at the University of Vermont under a Fulbright grant. He has honorary doctorates from the University of Ghent, Belgium, University Science of Malaysia, Ohio University, Lincoln University, New Zealand, Indiana University and University of Agriculture, Malaysia.

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Swan brings to Binariang more than thirty years of experience and expertise in the global telecommunications industry. He retired from Binariang in December 1996.

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many years of civil engineering experience behind him. He has served as Director in the various Public Works Departments in Malaysia since 1967. In 1992, he was appointed Director of the Project Management Group for the new Kuala Lumpur International Airport at Sepang and subsequently the Managing Director of Kuala Lumpur International Airport Berhad. He graduated with a Bachelor of Science (Hons) Civil Engineering from the University of Strathclyde, United Kingdom and a Master of Science (Geotechnical) from the State University of New York, Buffalo, United States.

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**Mohd Mokhtar Abu Bakar** is the Chief Executive of Kontena Nasional Bhd. He has been with the Company for the last 13 years. He obtained

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Mohd Mokhtar is also a prime mover behind Kontena Nasional's programmes such as the 7 Habits training for all staff, the quest for ISO 9002 certification, motivational holiday camps for employees' children and parenting skills for the employees.

Mohd Mokhtar has 19 years of experience in the operations, marketing and corporate services related to the transport industry. He headed the Company's task force in the privatisation of Klang Port Management (KPM) and the rest of the port. He is also the President of the Persatuan Alumni 7H Malaysia, Vice President of the Container Hauliers Association of Malaysia and Vice President of the Malaysian Scrabble Association.

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Tan Sri Tajudin is the Chairman of the Malaysian Industry and Government Group for High Technology, which was formed to promote competitiveness among Malaysian private enterprises. He is also a founder member of the Commonwealth Consultative Group on Technology Management, the Chairman of the Southeast Asian Telecommunications Community (SEATEL) and a member of the Board of Trustees of Bumiputera Entrepreneurs Foundation. In 1994 he received the "Businessman of the Year" award given by the International Management Development Association, in recognition of his achievements in the world of business. In the same year, he was awarded "Director of the Year" by the Malaysian Institute of Directors, in recognition of his contributions to the economic well-being of Malaysia.

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When MIMOS was corporatised in November 1996, he continued to head the Organisation as President and Chief Executive Officer. He is a Fellow and Council Member of the Academy of Sciences, Malaysia, a Fellow of the Institute of Engineers Malaysia and the Governor of the International Council for Computer Communications, Washington, United States. He is also the Permanent Secretary of the National Information Technology Council and the Chairman of the National Council for Scientific Research and Development (NCSRD).

He graduated from the University of Manchester, Institute of Science and Technology with a Bachelor of Science in Electrical Engineering, Master of Science and PhD in Automatic Control.

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Syed Hamid Albar Syed Jaafar Albar, Dato' is the Minister of Defence, Malaysia. He started his career as a Magistrate and Sessions Judge in 1972. He later ventured into banking to join Bank Bumiputra Malaysia Bhd. He stood for elections in October 1990 and upon winning, was appointed a Minister in the Prime Minister's Department responsible for oil and gas. He was also the Minister of Law before becoming the Minister of Defence in May 1995.

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During his tenure as CEO of Motorola Malaysia, he was actively involved in the business community. He was the President and Chairman Pro-tem of Malaysian American Electronics Industry and Vice President of the Malaysian International Chamber of Commerce and Industry. He also served on the Board of Directors for the Standard Institute of Research Industry in Malaysia (SIRIM) and the Motorola University Asia.

**Hashim Mohd Ali, General (R) Tan Sri** is the Executive Chairman of Sukom Ninety-Eight Bhd. He began his career in the military service at the age of 18. His exemplary service in the army earned him the rank of General in 1985 when he was appointed the Chief of Army. Two years later, he was appointed the Chief of the Defence Force, responsible for the defence of the country and development of the Malaysian Armed Forces.

Following 38 years of distinguished service, he retired in 1992, and is now actively involved in the corporate sector. He is a Board Member of numerous blue-chipped corporations and conglomerates and established banks in Malaysia. In pursuit of scholarly achievement, he also attended the Harvard Business School where he acquired a Diploma in Advanced Business Management.

General (R) Tan Sri Hashim was selected by the Government to head Sukom Ninety-Eight Berhad, the organising committee for the XVI Commonwealth Games to be held in Kuala Lumpur in 1998.

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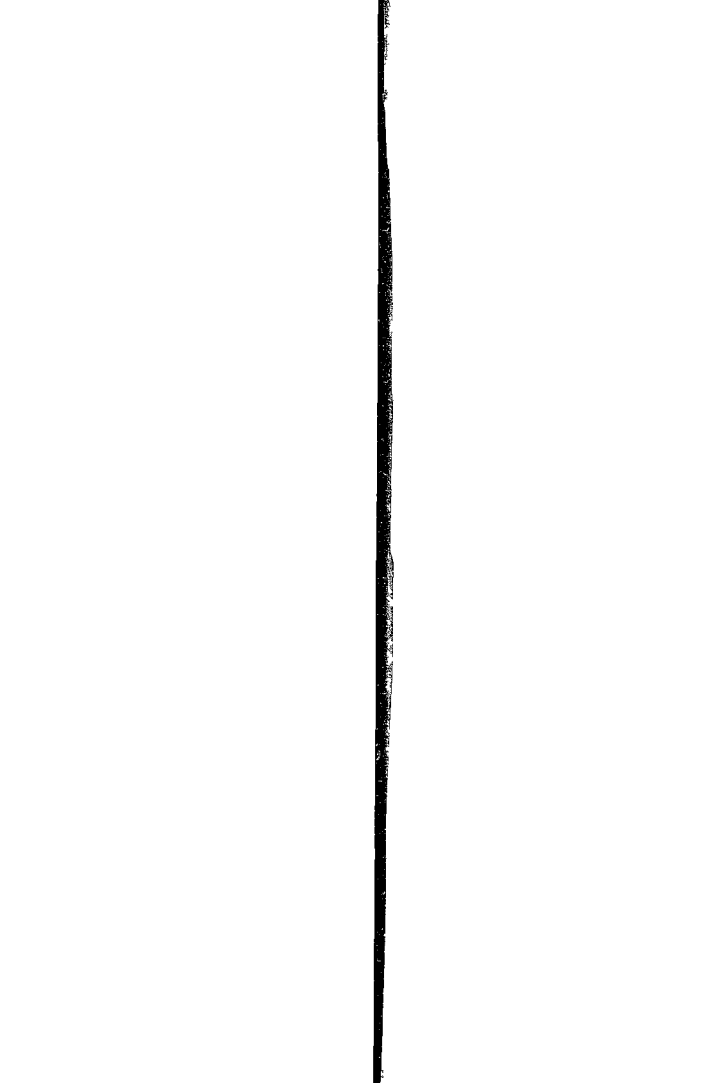












Malaysia's economic transformation has been nothing short of remarkable. Within the span of a generation, Malaysia has become a newly-industrialised country with exports outstripping agricultural produce. Malaysia has become the world's 19th largest trading nation in less than 40 years of independence.

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