

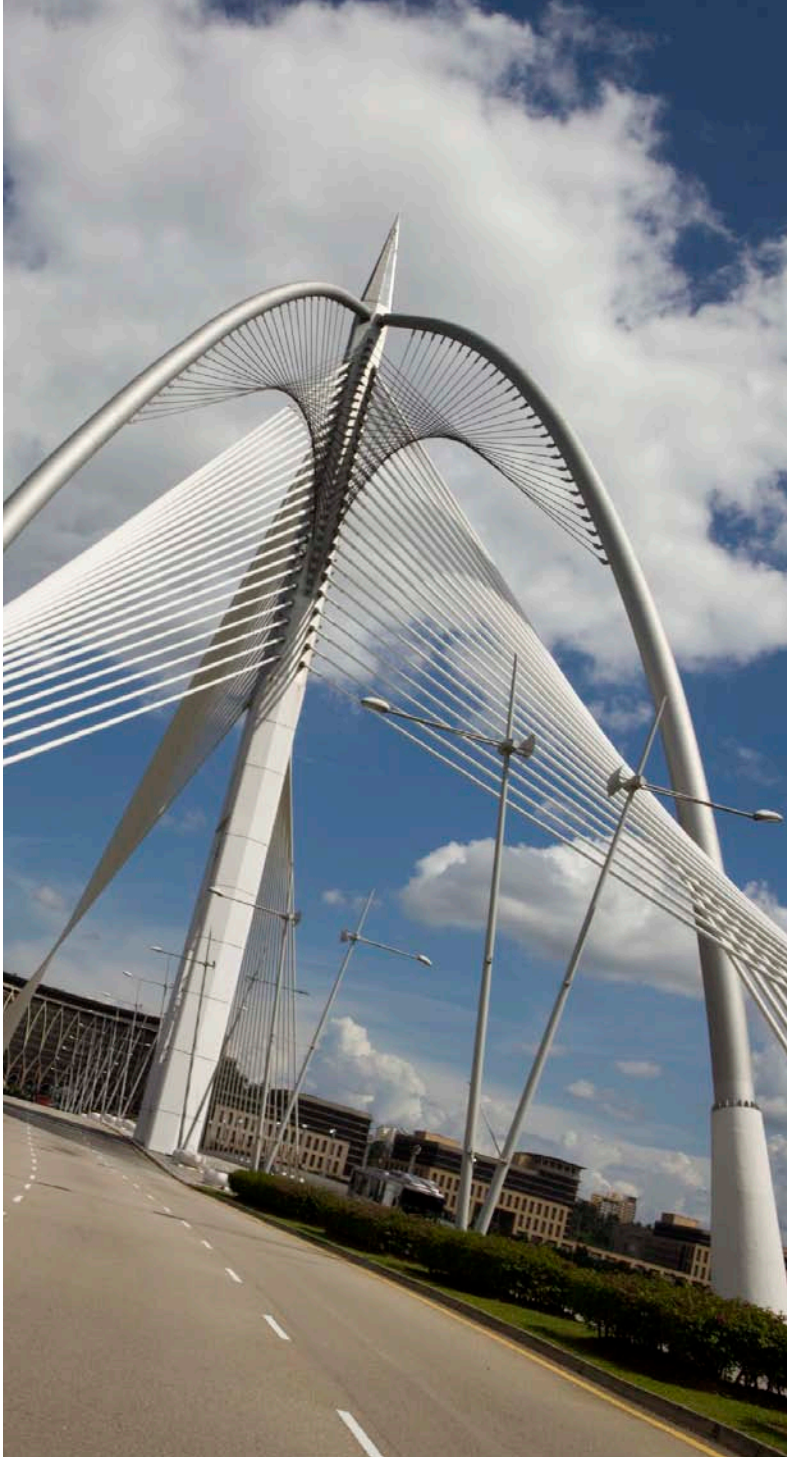


# Chapter 6

## BUILDING AN ENVIRONMENT THAT ENHANCES QUALITY OF LIFE



*Pulau Pinang Bridge*



The Government is committed to ensuring a high quality of life in urban and rural areas in line with Malaysia's aspiration to become a developed nation. This means that both urban and rural areas will be attractive to live in, with quality housing and services and a wide variety of leisure and cultural activities. It means that rural areas retain their distinctive characteristics while benefiting from well provided essential services. It also means that transportation is designed to move people, not vehicles, that everyone has access to quality healthcare and that people feel safe in their communities. Finally, it means that the environment is being conserved for future generations.

By these measures, Malaysia has done well. Housing policies have played a key role in tackling hardcore poverty. Today, most Malaysians live in places that have stable electricity supply, access to clean water and health services. Moving forward, Malaysia is faced with new challenges and opportunities: a rapidly urbanising population with rising expectations, changing demographics and a world confronting the effects of climate change.

To address these challenges and take advantage of these opportunities, it will require significant shifts in policies and practices. Malaysia will not only need to continue to expand coverage of services,

but also raise the quality of these services. In a tight fiscal environment, the provision of these services must be done in an efficient and cost-effective manner to extract greater value for each *ringgit* spent. These shifts are important to ensure that all Malaysians can enjoy a higher quality of life and that Malaysia can compete globally to retain and attract the talent that is fundamental to shaping a developed nation. Towards this end, strategies in the Tenth Malaysia Plan will focus on the following:

- **Building vibrant and attractive living spaces.** Influencing the form and character of living spaces to make them attractive places to live, work and play;
- **Developing a *rakyat*-centric public transport system.** Restructuring the public transport sector and continuing to invest in infrastructure to make public transport the mode of choice;
- **Transforming healthcare to improve quality and provide universal access.** Restructuring the healthcare delivery system to increase the quality and capacity of care and moving from strategies that emphasise treatment, to one that emphasises wellness and disease prevention;
- **Ensuring access to quality and affordable housing.** Meeting the needs of a growing population by matching demand and supply for affordable housing, and promoting an efficient and sustainable housing industry;
- **Providing efficient public utilities and services.** Driving efficiency and productivity gains in the provision of reliable services for water and sewerage, electricity, broadband as well as waste management and public cleansing;
- **Making streets and communities safer.** Reducing crime and improving people's sense of security; and
- **Valuing the nation's environmental endowments.** Ensuring Malaysians today do their part for future Malaysians through prudent management and conservation of existing resources.

## BUILDING VIBRANT AND ATTRACTIVE LIVING SPACES

Malaysia has always pursued a strategy of balanced regional growth resulting in an increased quality of life for communities across the nation. Overall quality of life, as measured by the United Nations Human Development Index (HDI), has increased from 0.80 in 2000 to 0.83 in 2007. The pursuit of a higher quality of life for all citizens continues to be a priority for the Government – making Malaysia a better place to live, work and play.

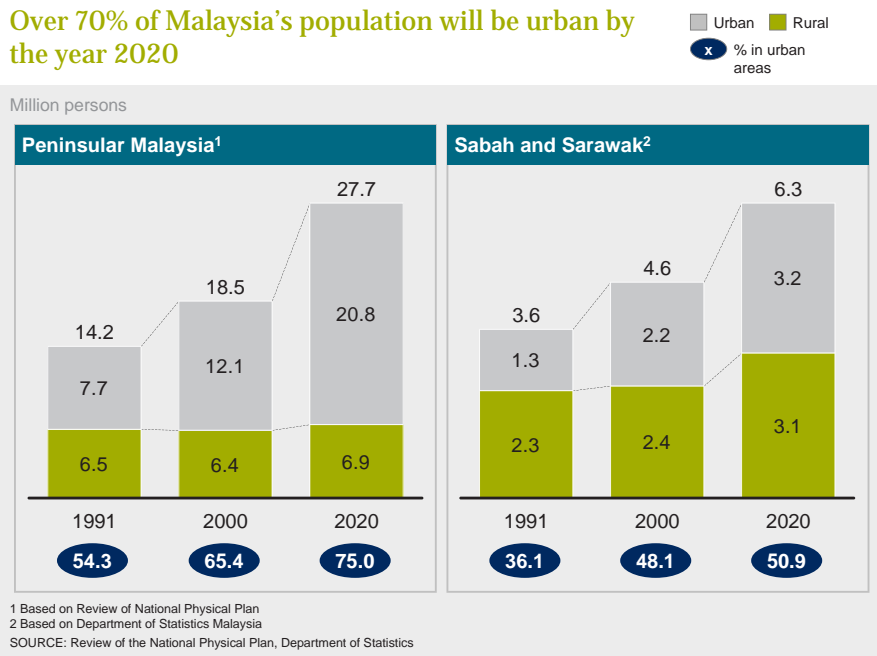
Over the past decade, Malaysia has experienced a trend of rapid urbanisation, with population in urban areas growing at a rate of 2.2% versus

rural population growth rates of 1.6% over the period of 2000 to 2009. Urban populations in Peninsular Malaysia already represent 67% of total population, with urban areas growing at a rate of 2.1% versus a rural growth rate of 1.4% over the same period. In Sabah and Sarawak, urbanisation is increasingly apparent with urban areas growing faster than rural areas by 0.5% to 0.7% respectively from 2000 to 2009. This trend is expected to continue as the nation develops. In Peninsular Malaysia alone, 94% of population growth expected between 2000 and 2020 will be concentrated in urban areas, as shown in *Chart 6-1*.



Chart 6-1

Over 70% of Malaysia's population will be urban by the year 2020



The linkage between development patterns and economic prosperity is a strong one. Economic prosperity enables citizens to pursue a higher quality of life. On the other hand, people and economic activities gravitate towards vibrant places, thus creating clusters of growth, which reap the benefits of agglomeration of scale, productivity and innovation. Recognising this, the Government will pursue a strategy of concentrating growth in urban conurbations.

Concentrating growth in urban areas will not come at the expense of rural development. Across both rural and urban areas, the Government will continue

to provide the fundamental building blocks for a higher quality of life – healthcare, education, security, communications and transportation. This strategy of concentrated growth and inclusive development will be supported by strengthening physical and economic linkages between urban and rural areas so that Malaysians will be healthy, educated, safe, mobile and connected, wherever they choose to live.

Urban and rural areas do, however, face different challenges. Cities need to grow in a sustainable manner as they build the infrastructure and institutions needed to uplift the quality of life. In

rural areas, the challenge lies in upgrading basic services while continuing to provide for declining populations. To address these challenges, two interlinked strategies will be pursued during the Plan period:

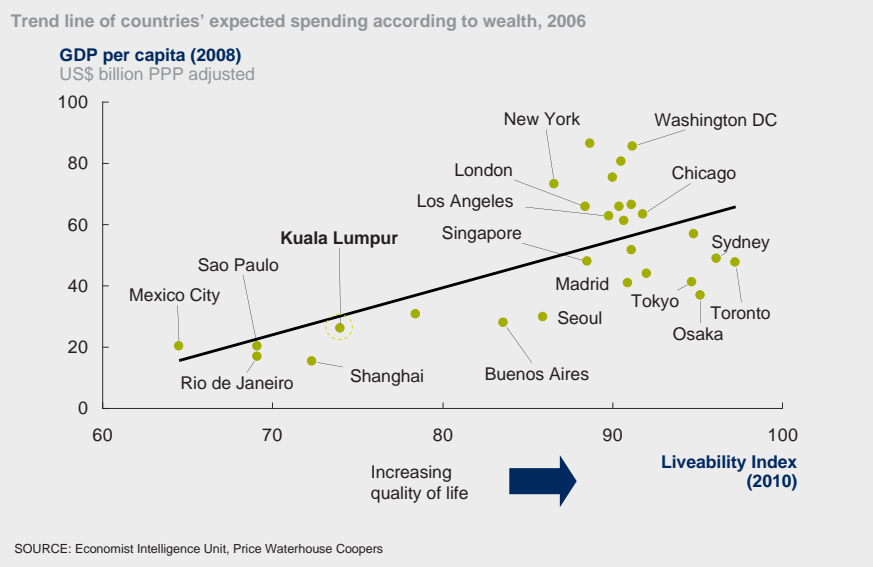
- Building world-class vibrant and liveable cities; and
- Expanding essential services in rural areas.

## Building Vibrant and Liveable Cities

Liveable cities are cities that are vibrant and attractive places to live. In today's global and mobile economy, professionals and high-skilled workers have many options of where to live and work. The attractiveness of cities is strongly related to their liveability and wealthy cities are also typically cities that perform better on measures of liveability, as shown in *Chart 6-2*.

Chart 6-2

### There is a strong linkage between the wealth of cities and the quality of life within cities



Moving forward, Malaysian cities face challenges and rapid changes, some of which are driven by global forces:

- **Physical constraints.** There are two options to accommodate growth, building up or building out. Building out, or sprawl, brings long commutes, congestion and pollution as well as adverse effects on environmentally sensitive land;
- **Higher expectations and demands.** The influx of people into cities bring fresh ideas and new cultures, opinions and values, creating an increasingly diverse society. Cosmopolitan populations with rising income also demand a wide variety of leisure activities and sophisticated cultural options; and
- **Sustainability.** Cities everywhere face a fundamental and expanding imperative to minimise their ecological footprints.

A new approach to building vibrant and liveable cities will be adopted to address these challenges, as shown in *Table 6-1*.

There is no single formula for managing growth across cities. Every city, across every level of hierarchy, requires a unique growth strategy tailored to its inherent distinctive characteristics



and strengths. Recognising this, the second National Physical Plan (NPP) will be finalised by 2010 to set out the strategic direction and priorities of physical development of Peninsular Malaysia. At the same time, the development strategies for Sabah and Sarawak will be outlined in their respective state structural plans.

The NPP and the National Urbanisation Policy (NUP) outline a hierarchy for extended urban areas (or conurbations). Each conurbation typically contains a core city centre with satellite towns on the fringes. Regional growth conurbations include the urban areas of Georgetown, Johor Bahru, Kuantan, Kuching and Kota Kinabalu.



**Table 6-1: A New Approach to Building Vibrant and Liveable Cities**

<b>Elements</b>	<b>Current approach</b>	<b>New emphasis</b>
<b>City design</b>	Making the city physically attractive	Making well-being, quality of life and liveability the core of any urban project
	Real estate development drives city-making	Developers are guided by public interest principles, including aesthetics
	Planning physical projects	Planning communities and neighbourhoods
	Development is functionally separated by type of land use; residential, commercial and industrial	Mixed uses are predominant to encourage living, working and leisure activities within the same compact area
<b>Transport</b>	Transportation networks are designed to move vehicles via roads and highways	Transportation networks are designed to move people, with a focus on public transport as the primary spine, supported by a pedestrian-friendly street network
	Movement is seen to be a transportation network and traffic engineering issue	Mobility, accessibility and seamless connectivity are the desired outcomes
<b>Environment, activities and culture</b>	Environment and natural resources are free goods	Urban projects account for the environmental cost of development
	Emphasis on providing urban infrastructure and services	Beyond infrastructure and services, culture is an asset and drives a city's distinctiveness
	Waste is disposed	Waste is a resource to be recycled and reused, for example via waste-to-energy initiatives
<b>Governance</b>	Planning and provision of infrastructure is predominantly a central/federal role	Greater collaboration and cooperation with local authorities to incorporate frontline input into planning and decision making
	Limited civil participation and consultation	Consultative approach to planning and design, with the voice of citizens and businesses forming an important input

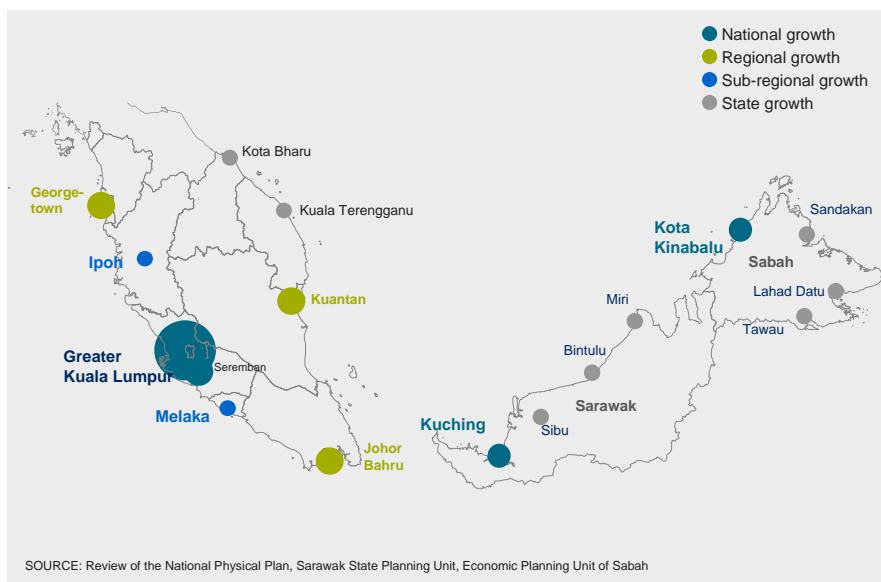
**“... young workers and retir(ees) are actively seeking to live in densely packed, mixed-use communities that don’t require cars; that is cities or revitalised outskirts in which residences, shops, schools, parks and other amenities exist close together.”**

“Back to the City”, Harvard Business Review (May 2010)

**Chart 6-3**

### Growth will be concentrated in urban conurbations

ILLUSTRATIVE  
NOT TO SCALE



This hierarchy of conurbations, as shown in **Chart 6-3**, will facilitate the Government’s prioritisation of plans and channelling of resources to ensure optimal growth.

Kuala Lumpur, the capital and financial heart of the nation, has a rich, diverse and international mix of cultures and activities. Georgetown has an enduring reputation for being a cosmopolitan city, steeped in heritage and tradition, earning its status as a World Heritage City by UNESCO. Down south, Johor Bahru prospers due its strategic location along major shipping lanes, with

the added advantage of proximity to Singapore. Kuantan, Kuching and Kota Kinabalu all serve as cultural and economic centres of their regions and act as important gateways for those regions with the rest of the world. All these cities have the right ingredients to build on: a vibrant mix of cultures, a uniquely Asian heritage and strong infrastructure.

During the Plan period, the focus will be on:

- Making cities compact and efficient; and
- Creating attractive and enjoyable cities.

## Making Cities Compact and Efficient

Under current growth projections, urban areas in Peninsular Malaysia will need to accommodate six million new residents between 2010 and 2020. Land required for development is scarce, and demand will outstrip the supply of land available for development, especially in urban environments, such as in Greater Kuala Lumpur (Greater KL). In order to accommodate growth, compact urban development will be encouraged. For conurbations composed of multiple towns or cities, this means ensuring that each satellite city or town surrounding the core city centre is in itself a vibrant place to live, work and play.

## Managing Growth

To encourage the development of compact cities, the Government will facilitate better use of mechanisms for managing growth such as zoning, urban growth boundaries, growth control regulations and other development incentives. This will allow cities to achieve more intensive developments that are designed to ensure long-term efficient usage and in forms that are safe and sensitive to their surroundings. Since such mechanisms are within the jurisdiction of local and state authorities, the Federal Government will co-operate with and provide support to the relevant local and state agencies in pursuit of this shared objective of building vibrant cities.

In order to unlock the development potential within cities, urban renewal and redevelopment of brownfield sites will be pursued. This will be achieved through appropriate incentives and mechanisms to support the redevelopment of unused, dilapidated or abandoned sites. One such incentive being considered is the implementation of mechanisms to facilitate the sale of collectively-owned developments to encourage redevelopment, or an *en-bloc* sale mechanism. The Government will also actively seek opportunities to partner with the private sector to redevelop high-potential Government-



owned land and properties. The development of Government land will be managed to ensure that the types of development commensurate with the commercial potential and market value of the land.

### ***Mixed-use Developments***

City planning will promote a human-scale development approach. This means designing our cities to reduce the need for travel and to encourage the presence of people-centric activities within the urban landscape by concentrating a wide range of

activities and amenities within walking distances. This will be achieved through encouraging mixed-use developments in neighbourhoods, combining residential, retail and office uses. State and local authorities will be encouraged to move towards having a higher proportion of mixed-use commercial/ residential zoning in their Structural and Local Plans.

To succeed, however, the building of high-density mixed-use developments must be integrated with a well functioning public transport system. Transit-oriented development will be encouraged



to ensure that developers take into account the needs of pedestrians and public transport, allocating sufficiently wide roadways for buses and areas for bus stops, ensuring that public transport is easily accessible by foot from home or from work. Where there are high capacity rail stations, these areas will be identified as transit corridors, where development will be managed to encourage higher densities with a vibrant mix of uses that will unlock the value of development that comes with increased accessibility.


Integration of land use and transportation plans in shifting towards compact and efficient cities will be an important component of Local Plans. An example of such a development is the New Urbanism model as illustrated in *Chart 6-4*.

## Creating Attractive and Pleasant Cities

Creating attractive and pleasant cities require a combination of strategies; providing attractive shared spaces and drawing people to them.

**Chart 6-4**

### Case study: New Urbanism, a shift towards compact urban models

<p><b>Studies show sprawling suburbs have a damaging impact on quality of life ...</b></p> <p><i>"(The) acceleration of sprawl has surfaced enormous social, environmental and economic costs, which until now have been hidden, ignored, or quietly borne by society. The burden of these costs is becoming very clear. Businesses suffer from higher costs, a loss in worker productivity, and underutilized investments in older communities..."</i></p> <p><b>Beyond Sprawl: New Patterns of Growth to Fit the New California</b></p>	<p><b>New Urbanism: Promoting compact, walkable, mixed-use neighbourhoods built around public transport</b></p>  <ul style="list-style-type: none"> <li>▪ <b>Each neighbourhood has a centre and an edge</b> at approximately 400 metres from centre to the edge</li> <li>▪ <b>Places are built around public transport and pedestrian infrastructure</b> where streets are safe, comfortable, interesting places for people to walk and meet</li> <li>▪ <b>Public transport connects</b> neighbourhoods, towns and the broader region</li> </ul> <p>▪ <b>Every town is made up of compact mixed-used neighbourhoods</b> with a range of housing, leisure and employment options</p>
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SOURCE: Beyond Sprawl (BoA), Charter for New Urbanism (CNU), How Cities Work (Marshall)

### ***Open Spaces and Green Corridors***

Local Plans will incorporate open space strategies that move beyond just allocating land for open space activities, to understanding how cities can enhance and attract people to these public spaces. In order to encourage the development of public spaces, the Government will support local authorities in creating a seamless network of interconnected green spaces within the cities, connecting major activity hubs and housing sites, and be equipped with facilities such as amphitheatres, cycling and pedestrian pathways and other amenities. Companies will be encouraged to provide support in the establishment and maintenance of green spaces as part of their corporate social responsibility programmes.

In Greater KL, the 101-hectare Lake Gardens will be developed into a Botanical Garden with a wide variety of unique trees and flowers, nature trails and themed mini-gardens. In order to enable easy access to the garden, pedestrian walkways connecting the Lake Gardens and the city centre will be built along with improved public transport services. Within the garden, activity centres such as open plazas and cafes will be introduced. A range of cultural and contemporary performances will be encouraged to premiere at the amphitheatre facility within the garden.

### ***Waterfront Rejuvenation***

Many of the world's iconic cities share an important characteristic: a vibrant waterfront. The Thames River in London, the Esplanade in Singapore, the Cheong Gye Cheon in Seoul, Republic of Korea, these cities all have well-preserved waterfronts that are vibrant public spaces. In recognition of this, the restoration of rivers and waterfronts in Malaysian cities will be a priority. Cities such as Kuala Lumpur, Melaka, Kota Kinabalu and Kuching have strategic waterfronts, which are already major activity centres today. The Melaka River Rehabilitation and Beautification project is an example of how rejuvenation efforts can benefit a city. It has won awards for its unique public architecture that integrates modern design with the rich cultural heritage of the city. Such efforts are inherently long term in nature, requiring large-scale coordinated efforts in cleaning the rivers, reviving the ecosystem and protecting the rivers, both where they run through cities as well as upstream where they begin.

### ***Arts, Culture and Leisure***





Arts and culture not only play an important role in making cities more liveable, but they are also catalysts for innovation in developed economies that are increasingly knowledge-based. With

higher incomes and wealth, Malaysians, especially the young, will have increasing opportunities to turn their attention to issues of culture, heritage and quality of life. The Government will work towards enhancing the vibrancy and international relevance of its arts and culture scene with the objective of creating an artistic and cultural identity that is uniquely Malaysian and globally relevant. Cities are the natural incubator points for such a transformation; they have the diversity of cultures and perspectives that can spark a vibrant arts scene. Other cities have recognised the importance of this, as shown in *Chart 6-5*.

Transforming the arts requires addressing both artists and audiences. Support for artists will be provided in the form of creative industry grants or loans for the creation of art clusters, namely the Art Enclave or *Perkampungan Seni*. This will feature affordable workspaces for artists and a concentration of commercially-viable art activities and opportunities, such as art auction houses, galleries, performing spaces, restaurants and shops. In order to measure success in terms of audience participation, the Government will begin to track outcomes in arts and culture such as

**Chart 6-5**

### Other Asian cities have recognised the importance of a vibrant arts and culture scene

<p> <b>Abu Dhabi, United Arab Emirates</b></p> <ul style="list-style-type: none"> <li>Under the Saadiyat island project, the Abu Dhabi Government established a long term collaboration with various world-renowned institutions, such as the Louvre and Guggenheim for the use of their brand name and loans from their collections</li> <li>The US\$27 billion also involves building a biennale exhibition space, arts school and an arts college</li> </ul>	<p> <b>Seoul, South Korea</b></p> <ul style="list-style-type: none"> <li>Seoul released "Vision 2015, Cultural City, Seoul" to increase the city's competitiveness by reinventing the city landscape and developing a high quality culture</li> <li>Seoul will invest US\$7.9 billion to build more performing arts theatres, increase the number of art galleries from 25 to 50, and museums from 67 to 150 by 2015</li> </ul>
<p> <b>Beijing, China</b></p> <ul style="list-style-type: none"> <li>In Beijing, the government is investing US\$289 million to renovate historical places of interest, such as the China National Museum</li> <li>In 2006, China announced that it would build 1,000 new museums across the country, such that every significant city would have a modern museum</li> </ul>	<p> <b>Singapore</b></p> <ul style="list-style-type: none"> <li>Under the Renaissance City Plan, the government set out a vision to turn Singapore into a <i>Distinctive Global City for the Arts</i></li> <li>Key cultural institutions such as the Singapore Art Museum and the National Museum showcase works from renowned museums, including the Vatican Museum, the Louvre and the Topkapi Palace Museum in Istanbul</li> </ul>

SOURCE: Seoul Metropolitan Government website, Singapore Renaissance City Plan, Press clippings

the number of theatre and music performances, number of arts companies and societies, audience attendance and value-added of arts and culture to Gross Domestic Product (GDP).

In addition, the Government will encourage the hosting of international arts and cultural events in cities. Large events, such as an arts biennale, art expositions, film or music festivals, attract worldwide participation and international audiences, while other events, such as the Rainforest Music Festival in Sarawak, attract regional and niche audiences. At the same time, iconic cultural institutions such as the *Muzium Negara*, *Balai Seni Lukis Negara* and *Istana Budaya* will be transformed to attract international talent to create, premiere, perform and exhibit in Kuala Lumpur.

Beyond the arts, a wide range of leisure and sporting activities will be encouraged to create a vibrant, exciting environment in which to work in the day and play in the evenings and on weekends. The rejuvenation of places with distinctive identities, such as Little India in Greater KL will capitalise on the strengths of Malaysia's ethnic diversity and unique cultural heritage. The focus will be on activities that appeal to a broad segment of audiences. The Malaysia Truly Asia Centre will be developed as an iconic tourism destination to showcase Malaysian culture, art

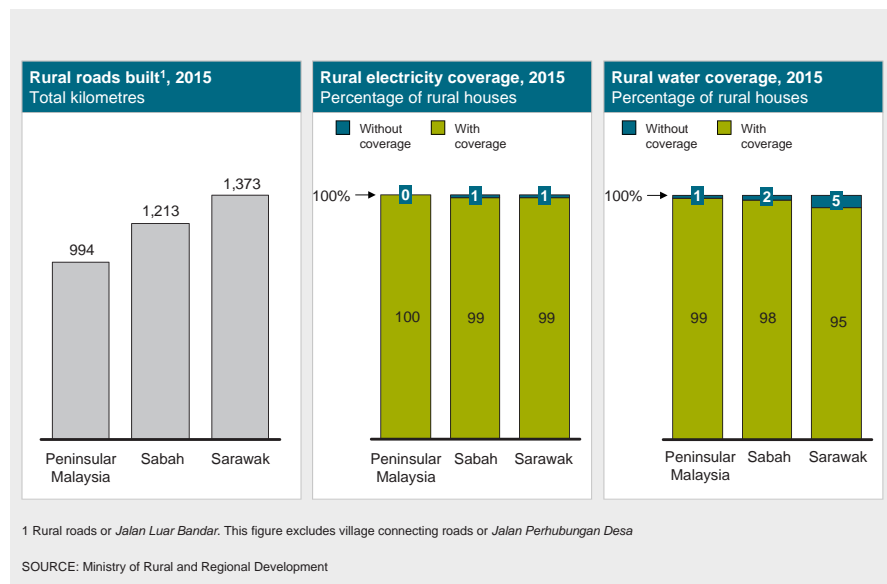
and heritage within a vibrant, interactive and lively environment. Smaller activity centres such as community libraries and neighbourhood activity hubs will also be emphasised.

### ***Expanding Essential Services in Rural Areas***

Cities and rural areas are symbiotic, with rural areas providing inputs into the economic activities of cities. Cities also function as important gateways for rural communities and rural economies can only succeed if the economic and physical infrastructures between rural areas and their city gateways are strong. Rural areas will benefit from urban agglomeration through strong economic integration of rural and urban activities. Well-functioning regional growth poles will provide logistics services to adjacent rural areas enabling the integration of these areas into local or international supply chains. Non-agricultural employment opportunities in rural areas, which support upstream economic activities in urban areas will be promoted in intermediate towns and major local centres, within commuting distances of rural villages, to provide opportunities for increasing rural income levels.

As rural populations continue to decline, some villages are likely to decline to a level where the provision of public facilities and services is no



**Chart 6-6****Focus in rural areas will be on upgrading basic infrastructure**

longer sustainable. Streamlining rural settlements will not only support an expanding urban-based economy but more importantly ensure that a higher quality of public services can be efficiently delivered to the rural areas. It is therefore important to enhance and expedite the implementation of Rural Growth Centres (RGCs), where rural citizens can choose to live in order to benefit from high-quality public services such as health, education, communications, public transport, utilities and other community-based services. Social and commercial services and public facilities will be consolidated in the RGCs allowing rural communities to enjoy a higher quality of life.

A key enabler of social and economic integration between urban and rural areas will be the provision and upgrading of basic physical infrastructure. During the Plan period, targets for improving rural basic infrastructure are as shown in *Chart 6-6* and described as follows:

- **Expanding and upgrading rural road networks.** A total of 3,580 kilometres of paved roads will be constructed by the end of the Plan period, with 72% of road construction concentrated in Sabah and Sarawak, increasing the number of rural households living within 500 metres of a paved road;

- **Expanding coverage of electricity supply.** Coverage of electricity supply in rural areas will be extended through the grid and alternative systems such as mini hydro and solar hybrid. Coverage of electricity supply is expected to reach almost 100% in Peninsular Malaysia and 99% in Sabah and Sarawak by 2015. To achieve this target, an investment of about RM4.9 billion is required;
- **Expanding coverage of treated water supply.** Rural area coverage will be improved to 99% of Peninsular Malaysia, 98% of Sabah and 95% of Sarawak by 2015. This will be implemented through construction of pipelines and additional water treatment plants. Remote and isolated areas will be served through alternative methods such as gravity systems, tube wells, underground water and rain harvesting facilities; and
- **Connecting rural communities to the world via virtual networks.** Rural communities will be virtually connected to the world through the provision of Internet and broadband services. 1Malaysia Internet Centres in rural communities will provide affordable internet access as well as function as community centres.



## DEVELOPING A *RAKYAT-CENTRIC* PUBLIC TRANSPORT SYSTEM

A comprehensive and efficient public transport network is a proven enabler of sustained economic prosperity and is vital to ensuring that places become attractive to live, work and play. This is especially important in cities that function as economic hubs and where public transport is critical to providing mobility for hundreds or thousands of people a day. Without a well-functioning public transport system, congestion, productivity losses and an eroded quality of life can reduce the liveability and competitiveness of both large and medium sized cities.

Recognising this as a priority, the Government undertook a major restructuring effort in the public transport industry, culminating in the formation of a commission for land public transport, *Suruhanjaya Pengangkutan Awam Darat* (SPAD) and the introduction of the Land Public Transport Bill in 2010. Improving urban public transport was chosen as one of six National Key Result Areas (NKRAs), which are national priority areas of focus identified under the Government Transformation Programme (GTP), as shown in *Box 6-1*. An allocation of approximately RM2.8 billion has been made for the NKRA initiative to be completed in the first two years of the Plan period.

### Box 6-1

The goal of the Urban Public Transport NKRA effort is to significantly increase public transport ridership in three urban areas; Greater KL, Pulau Pinang and Johor Bahru. For the Greater KL, initiatives will focus on:

- **Increasing the capacity of the system** to cater for latent and future growth by investing in high-capacity rail and innovative bus rapid transit systems;
- **Stimulating demand** through improvements to the quality of service;
- **Diverting heavy vehicles** from the central business districts;
- **Regulatory restructuring** of the transport industry; and
- **Managing demand** to reduce private vehicle usage.

Improving  
urban  
public  
transport  
one of 6  
National Key  
Result Areas



Efforts under the GTP are already showing signs of early success with the following outcomes:

- **Four Bus Expressway Transit routes in Greater KL** and a high-speed limited stop service were launched since January 2010, significantly reducing travel times by over 50% on selected routes for commuters;
- **Eight sets of four-car trains on the Kelana Jaya Light Rail Transit line** were made operational progressively between the end of 2009 and the first quarter of 2010; a total of 27 more sets will be delivered by the end of 2010. Ridership has improved by 7% year-on-year for the period of January to March of 2010 compared to the same period in 2009; and
- **Completion of IntegrateTransport Terminal (ITT) in Bandar Tasik Selatan and construction of ITT Gombak** by 2012 to alleviate congestion caused by intercity buses congregating in Kuala Lumpur's city centre.

During the Tenth Plan period, the Government will continue its efforts to strengthen its approach to transportation planning, integrating public transport and land use development in all national, regional and local development master plans. The goal of improvements will be to advance the

development of vibrant and liveable cities, while also ensuring that small and medium sized cities are not left behind.

The Government has set a goal of significantly improving the share of public transport journeys across all urban areas. In Greater KL, the target will be to increase the public transport modal share from 12% in 2009 to 30% by 2015. During the Plan period, strategies to position public transport as the mode of choice for all commuters will focus on:

- Driving regulatory and industry reform;
- Increasing investments in transport capacity to keep pace with urban growth;
- Promoting a seamless system across modes and operators; and
- Establishing a robust monitoring and enforcement regime.

### ***Driving Regulatory and Industry Reform***

The public transport industry has crossed a critical juncture. With the establishment of SPAD, there is now a single point of accountability to deliver improvements in public transport, as shown

in **Box 6-2**. SPAD will begin operations in June 2010, and as part of its mandate, during the Plan period, it will embark on the following initiatives:






- Developing and monitoring the implementation of a 20-year National Land Public Transport Master Plan, along with region-specific master plans to identify macro-level

**Box 6-2**

***Suruhanjaya Pengangkutan Awam Darat (SPAD):  
The commission for land public transport***

The commission for land public transport or SPAD was established in June 2010 and will pave the way for important shifts in the industry along the levers of governance, planning, licensing, enforcement and funding. A land public transport fund, created under the Land Public Transport Bill, 2010, will be operated by SPAD for improving land public transport and providing land public transport services for rural development.

**Establishment of SPAD and the introduction of the Land Public Transport Bill 2010 will pave the way for shifts in the industry**

	<b>From ...</b>	<b>... To</b>
 <b>Governance</b>	<ul style="list-style-type: none"> <li>Multiple agencies involved across 13 agencies/ ministries carrying out separate policy and regulatory functions</li> </ul>	<ul style="list-style-type: none"> <li>Central agency within Prime Minister's Department</li> </ul>
 <b>Planning</b>	<ul style="list-style-type: none"> <li>Weak integration of public transport and spatial planning</li> <li>Lack of mechanisms to effectively regulate private sector participation in land development</li> </ul>	<ul style="list-style-type: none"> <li>Central planner for land public transport (with administrative integration of transport and spatial planning)</li> <li>SPAD as part of state's one-stop centre (OSC)</li> <li>SPAD to be consulted for alternatives to new expressways</li> </ul>
 <b>Licensing</b>	<ul style="list-style-type: none"> <li>Licensing of buses based on vehicles</li> <li>Weak consequence management for poor performance against service standards</li> <li>Lack of certainty over tariff review</li> </ul>	<ul style="list-style-type: none"> <li>Move to operator licensing only</li> <li>KPI-based licensing framework</li> <li>Regular review of fares in line with competition framework</li> </ul>
 <b>Enforcement</b>	<ul style="list-style-type: none"> <li>Traffic enforcement is done by separate agencies</li> </ul>	<ul style="list-style-type: none"> <li>Greater enforcement of operator standards in collaboration with other traffic enforcement authorities</li> </ul>
 <b>Funding</b>	<ul style="list-style-type: none"> <li>Funding allocated through regular government budgetary processes</li> </ul>	<ul style="list-style-type: none"> <li>Dedicated fund ring-fenced for public transport improvements</li> </ul>

SOURCE: Economic Planning Unit

policies, strategies and plans for the sector, including major infrastructure investments as well as policy and regulatory changes;

- Establishing a new operating framework for public transport operators starting with the introduction of a fare regime that will enable financial self-sufficiency for private operators while preserving affordability for commuters and ensuring continuous improvements in service standards. This framework will require significant restructuring and streamlining of routes. Operators will be subjected to a stringent performance monitoring regime to ensure that all operators of buses, rail and taxis meet minimum performance standards;
- Introducing innovative initiatives, such as the Bus Rapid Transit (BRT) System and a single cashless ticketing system across various operators; and
- Pending successful implementation in Peninsular Malaysia, the Government will review the potential of expanding SPAD's scope to Sabah and Sarawak.

As the central point of authority for public transport, SPAD will be responsible for

driving the delivery of the initiatives outlined in the Tenth Plan. It is envisaged that with the formation of SPAD, the land public transport structure will be revamped to improve regulation of the industry including planning, licensing, fare regulation and enforcement.

### ***Increasing Investments in Transport Capacity to Keep Pace with Urban Growth***

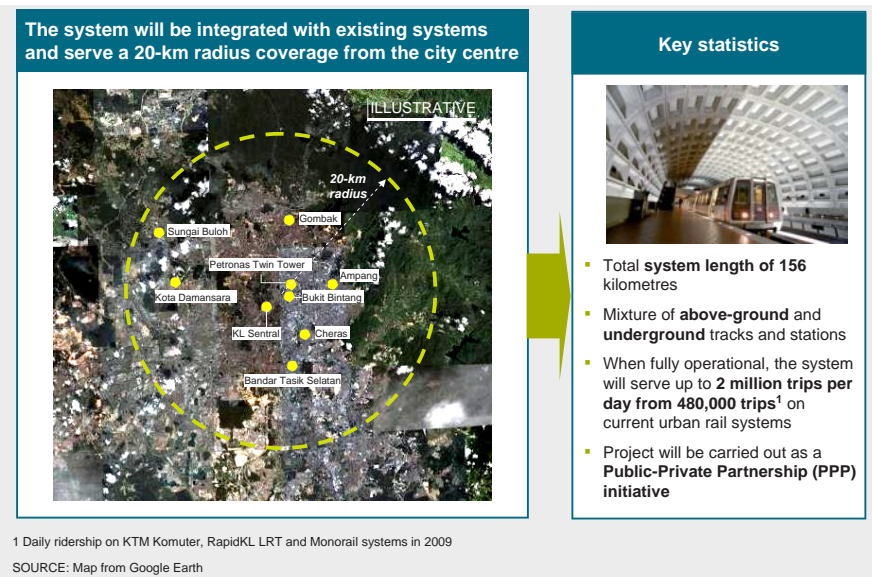
Investments in public transport will focus on enhancing the efficiency of existing systems that already operate at their limits of capacity as well provide capacity to accommodate future growth. Efforts at increasing public transport capacity will be carried out across large urban areas, such as Greater KL as well as medium sized cities across the nation.

#### **Greater Kuala Lumpur Initiatives**

In Greater KL, a major initiative to improve the capacity of the Light Rail Transit (LRT) lines is the 34-km extension of the existing lines. In addition, the full delivery of the 35 sets of new four-car trains will increase the capacity of the Kelana Jaya LRT line from approximately 24,000 to 98,000 passengers per hour and

**Chart 6-7**

### The mass rapid transit system will be a landmark project for Greater KL



allow the reduction in headways from 3.3 minutes to 2.0 minutes during peak hours. To improve connectivity between the KTM Komuter, LRT and Monorail systems, a potential extension of the monorail system will be considered. The capacity of the KTM Komuter system will be augmented with the purchase of 38 new six-car Electric Multiple Units (EMUs) to be delivered by 2012 which will benefit over 500,000 commuters daily. To further expand capacity, a 49-km Greater KL BRT System consisting of three major corridors will be implemented.

Given the accelerated growth trajectory of Greater KL, a high-capacity mass rapid transit system will be implemented to meet future demand of thousands of commuters moving in and out of the city daily. This system will be integrated with existing and planned public transport systems, as shown in *Chart 6-7*, as well as expected trends of urban development.

#### Other Cities and Urban Areas

Outside Greater KL, a BRT system will be considered for implementation to connect new urban growth centres in the Iskandar Region

of Johor. The project would be integrated with demand management initiatives, park-and-ride facilities and bus terminals. In Pulau Pinang, RapidPenang, will continue to expand the frequency and coverage of its bus services.

In addition, the Government will consider the implementation of smaller-scale approaches to increase the capacity of public transport for medium sized cities that would enhance a city's distinctive character, such as trams in cities like Melaka. In such cities, efforts will be made to optimise bus routes to minimise travel time and introduce dedicated bus lanes in city centres with high demand. The Government will also further enhance river transportation as a mode of public transport, particularly in Sarawak. River transportation will be promoted as a tourism product thus creating an opportunity for visitors to explore the cities through water taxis.

### **Intercity systems**

The 197-km extension of the electrified double-track project (DTP) from Gemas to Johor Bahru will increase KTM's track capacity by 5 to 10 times and allow for significant reduction in journey times. With the full completion of the DTP project, from Johor Bahru in the south to Padang Besar in the north during the Plan period, total passenger traffic is expected to increase from 4.3 million passengers

in 2009 to 5.7 million passengers by 2015 and freight traffic from 5.2 million tonnes to 8.5 million tonnes over the same period. In the east coast of Peninsular Malaysia and Sabah, rail services will be enhanced by modernisation of facilities and technologies to increase access to rural areas.

### ***Promoting a Seamless System Across Modes and Operators***

Interconnectivity between transportation modes is critical in creating a seamless journey from people's homes to their destinations. Efforts will be directed towards increasing the percentage of one-way journeys completed within one hour and with fewer than four transfers. The Government, in collaboration with relevant agencies, will improve the pedestrian experience by increasing the number of bus stops closer to homes, upgrading pedestrian walkways so that they are covered, wide, safe and adequately lit as well as upgrading major rail and bus stations.

During the Plan period, connectivity across different modes of public transport will be improved through the establishment of multi-modal transfer hubs for services within cities, from suburban areas into cities as well as for intercity travel. In Greater KL, these efforts will start with



the upgrading of 14 *Hentian Akhir Bandar* (HAB) or city centre bus hubs, two inter-urban transport terminals to facilitate the flow of bus services from satellite cities surrounding the Kuala Lumpur city centre. The ITT in Bandar Tasik Selatan will be completed in 2010, while construction of an additional ITT in Gombak will commence during the Plan period. These ITTs will reduce congestion in the city centre and facilitate the smooth flow of intercity passenger traffic in and out of the city.

An integrated cashless ticketing system will be introduced across all 16 public transport operators in Greater KL, eliminating the need for multiple tickets across various operators and shortening journey times. Passengers will be provided with easily accessible information on stations and journey schedules to improve the ease of using public transport. Bus stops will be upgraded to display scheduling information for all bus operators and a central website established to display public transport-related information across all modes.

### ***Establishing a Robust Monitoring and Enforcement Regime***

With regulatory restructuring, land public transport operators including taxis will be subjected

to stringent performance monitoring and enforcement. The Integrated Transport Information System (ITIS) in Greater KL will be upgraded into the performance hub for land public transport monitoring and enforcement efforts through the usage of closed-circuit televisions (CCTVs) and global positioning system (GPS) trackers on buses. This will allow automating the collection of operating information across 16 bus operators and two major rail operators to enable efficient performance monitoring.

Key performance indicators (KPIs) for land public transport operators, such as on-time performance, condition of equipment and reliability will be established. Clear minimum service standards will be set and linked to a system of reward and penalties to ensure compliance. Implementation of the performance monitoring regime will start in Greater KL, but will be progressively rolled out to other urban centres across Malaysia. The Government will also strengthen enforcement of existing laws restricting the entry of heavy vehicles into the Central Business District (CBD) area during peak hours to reduce congestion through joint enforcement initiatives by SPAD, the Road Transport Department and the traffic police.

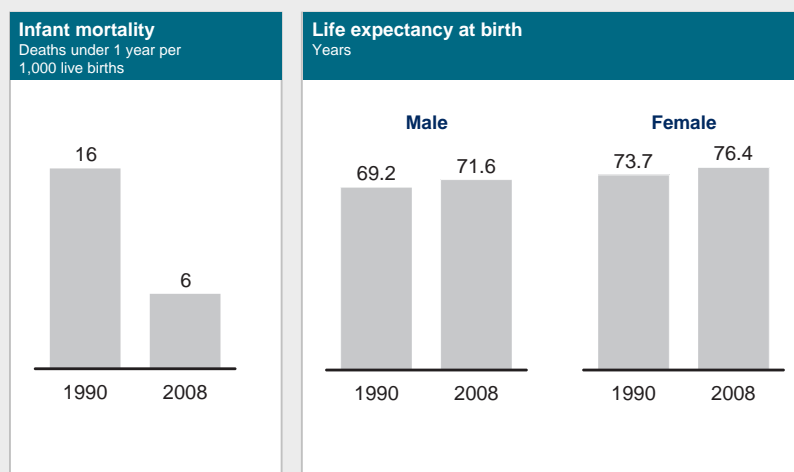
## TRANSFORMING HEALTHCARE TO IMPROVE QUALITY AND PROVIDE UNIVERSAL ACCESS

Ensuring the health and well-being of the *rakyat* is an important element in achieving Malaysia's economic and societal development objectives. Better healthcare leads to a more productive workforce and is core to making Malaysia a better place to live. Malaysia has done well in extending affordable basic healthcare services to all citizens and has achieved impressive outcomes with a reduction in infant mortality rate from 16 to 6 per 1,000 live births over the period of 1990 to 2008. Average life expectancy at birth has increased from 69.2 years to 71.6 years for males, and 73.7 years to 76.4 years for females between 1990 and 2008 respectively, as shown in *Chart 6-8*.

In a 2007 study by the London School of Economics, Malaysia's healthcare system was highlighted as one that has been relatively successful in providing equitable healthcare in terms of targeting public health subsidies towards the poor. World Bank statistics, as in *Chart 6-9*, shows that in Malaysia, total expenditure for health per capita, was US\$307 per person, compared to countries like Singapore at US\$1,148 per person and the United Kingdom at US\$3,867 per person. While Malaysia has been efficient in delivering improved health outcomes, as the nation develops, expenditure on healthcare may need to increase in tandem, to address rising

**Chart 6-8**

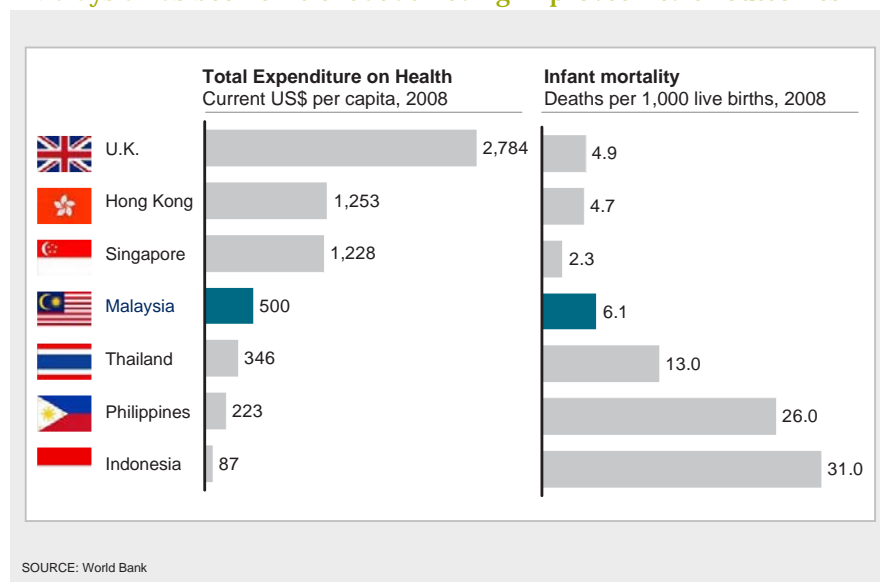
Malaysia has shown progress in improving the health of its citizens



SOURCE: Department of Statistics

**Chart 6-9**

**Benchmarked against countries at a comparable income level, Malaysia has been efficient at achieving improved health outcomes**



expectations and pressures on the healthcare system.

Moving forward, the healthcare system is faced with challenges and opportunities from a rapidly changing operating environment, including:

- **Increasing expectations on quality of healthcare.** Trends show that with increasing wealth, people spend more on healthcare, demanding higher quality and utilising more services;
- **Increasing pressure on the public healthcare system.** Malaysia practices a dual

healthcare system where public healthcare is heavily subsidised while the private healthcare system, is thriving but concentrated mainly in urban areas;

- **Increasing workload in public hospitals, which are already stretched to capacity.** Today, the public sector resources are already stretched to capacity compared to the private sector, that it affects the public healthcare system, as shown in *Chart 6-10*;
- **Changing lifestyles and demography.** Malaysia faces increasing incidences of lifestyle-related diseases, and by 2020 will

have reached an ageing nation status with 10% of the total population above the age of 60. Both these trends have challenging implications for healthcare providers; and

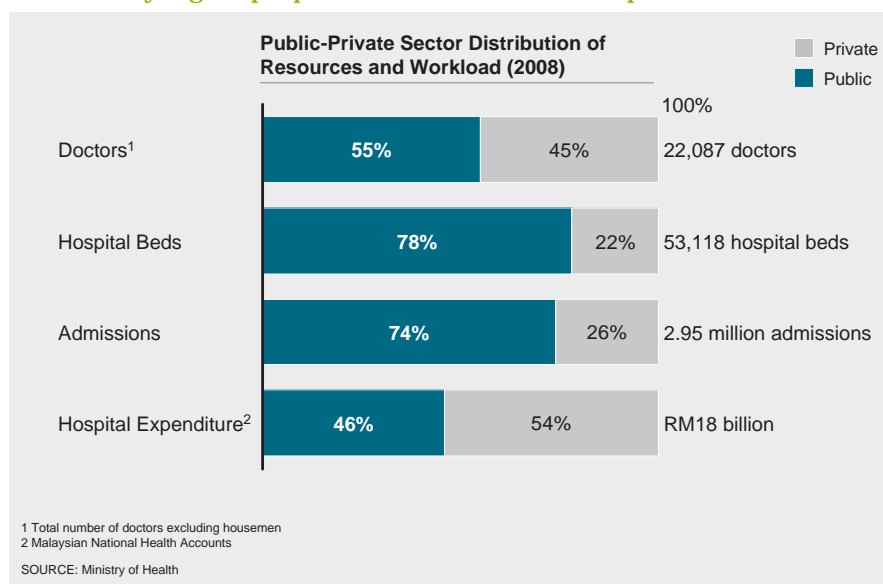
- **Advancements in technology.** The advent of technological advancements creates opportunities for significant improvements in the coverage and quality of healthcare, such as the use of tele-primary care services to reach communities in rural areas.

In light of these challenges and opportunities, the Government will reform the healthcare delivery system, with a focus on four key areas:

- Transforming delivery of the healthcare system;
- Increasing quality, capacity and coverage of the healthcare infrastructure;
- Shifting towards wellness and disease prevention, rather than treatment; and

Chart 6-10

**Public healthcare has a higher share of beds and admissions but only moderately higher proportion of doctors than the private sector**



- Increasing the quality of human resources for health (HRH).

### ***Transforming Delivery of the Healthcare System***

Transformation of the healthcare delivery system calls for the restructuring of the national health system, both public and private, to enhance coverage for all. It will ensure optimal use of scarce resources and create a system that is responsive, provides choices of quality care and is anchored on the principles of equity. The approach will require greater collaboration between the public and private healthcare systems to allow effective delivery, greater efficiency and affordable costs. Among the major initiatives under the Plan are:

- **Streamlining regulatory and service provision roles.** A clearer demarcation of regulatory and service delivery functions where the Ministry of Health will focus mainly on governance, stewardship of the healthcare sector and enforcement of legislation. This includes enforcing measures to enhance quality of care in both public and private sectors and ensuring patient safety;

- **Reviewing legislations and regulations.**

A review of existing legislation and the introduction of new regulations to emphasise enforcement of accreditation, credentialing and privileging; and

- **Reviewing financing options.** A review of financing options that allow management of rising costs, while ensuring that healthcare remains accessible and affordable to the people. This includes the introduction of cost sharing options that will allow Malaysians a wider choice in the purchase of health services.

### ***Increasing Quality, Capacity and Coverage of Healthcare Infrastructure***

The Government will continue to upgrade and expand its health facilities across both urban and rural areas. Provision of secondary and tertiary care services will be strengthened and consolidated, while primary care services will be further extended to underserved areas. Key efforts during the Plan period include:

- **Expanding primary care services.** A total of 197 new clinics at a cost of approximately RM637 million, will be completed during the first

half of the Plan period. This will comprise of 156 clinics in the rural areas and 41 community health clinics. A total of 50 additional 1Malaysia clinics will be set up with expanded scope of services in urban poor and other underserved areas;

- **Strengthening secondary and tertiary care services.** In the first two years of the Plan period, four new and four replacement hospitals that cost the government around RM600 million, will be completed. These include specialised medical institutions such as the National Cancer Institute and the Cheras Rehabilitation Centre;
- **Streamlining service delivery.** Mapping of existing healthcare providers against underserved areas will be undertaken in order to identify gaps or opportunities to streamline service delivery. This will be complemented with the development of a personnel database and their training needs to facilitate planning for a network of facilities that will be the basis of a comprehensive healthcare system; and
- **Improving provision of healthcare services.** Provision of mobile clinics, flying doctor services and village health promoters will be expanded to cater to less accessible groups

in remote areas. Delivery of pre-hospital and emergency care will be enhanced to ensure effective early response. Ambulatory care services will also be expanded and enhanced to reduce the cost and duration of hospitalisation.

### ***Shifting Towards Wellness and Disease Prevention***

As incomes rise and behaviour changes, certain health risks increase. Sedentary or stressful lifestyles, unhealthy food intake, alcohol and tobacco consumption, lead to higher incidences of chronic conditions such as diabetes, hypertension and cardiovascular diseases. These conditions have significant implications on healthcare costs and drive increasing demand for relatively expensive treatment and long-term rehabilitative care. From 1996 to 2006, Malaysia saw a dramatic increase in the prevalence of behaviour-linked diseases, including a 43% increase in hypertension, 88% increase in diabetes and 250% increase in obesity, as shown in **Chart 6-11**.

An important initiative in reducing demand for healthcare is by promoting healthy lifestyles. People and communities must play bigger roles in maintaining their health individually and collectively while the Government will create an environment that promotes

wellness and healthy living. Aggressive efforts to increase awareness for the practice of healthy living by individuals and communities will be undertaken, including:

- **Expanding the Healthy Lifestyle Campaign.**

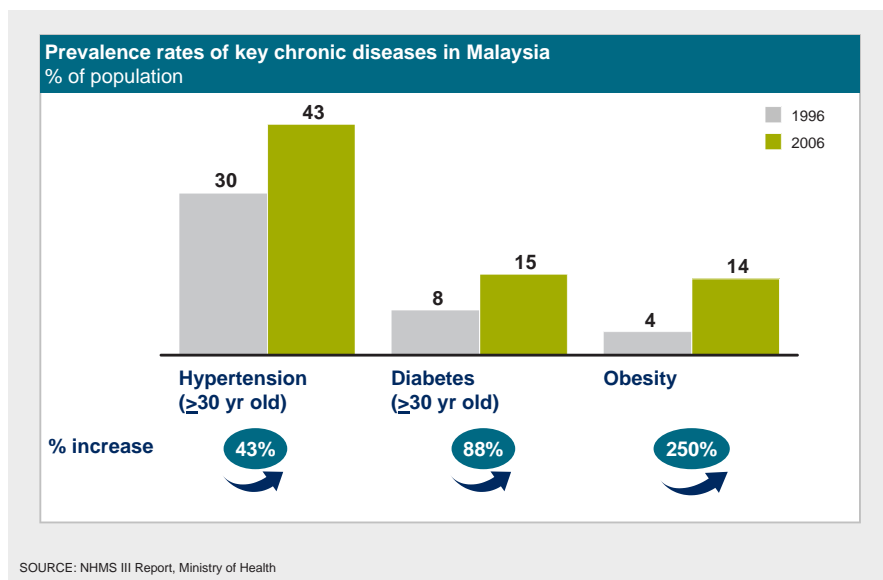
The campaign, which emphasises healthy eating, physical activity, anti-smoking and mental health, will specifically target school children, adolescents, women and the elderly to ensure better health outcomes; and

- **Encouraging healthy and active lifestyles.**

Sports and recreational activities will be promoted to enable people to adopt a healthy and active lifestyle. Existing sports and recreational amenities will be upgraded and the private sector will be encouraged to build new facilities in accessible locations. To instill the active lifestyle culture amongst children, participation in at least one sports activity will be made compulsory for students in schools beginning in 2011.

**Chart 6-11**

**Changes in lifestyle are linked to increasing prevalence of chronic diseases**



## Increasing the Quality of Human Resources for Health

Investments in human resources for health (HRH) remain a central component of the healthcare system. The doctor-population ratio is expected to improve from 1:1,380 in 2005 to 1:597 in 2015, while the nurse-population ratio is also expected to increase from 1:592 to 1:200 during the same period, as shown in *Chart 6-12*. In order to cope with the increased demand for training, the Government will increasingly utilise specialists

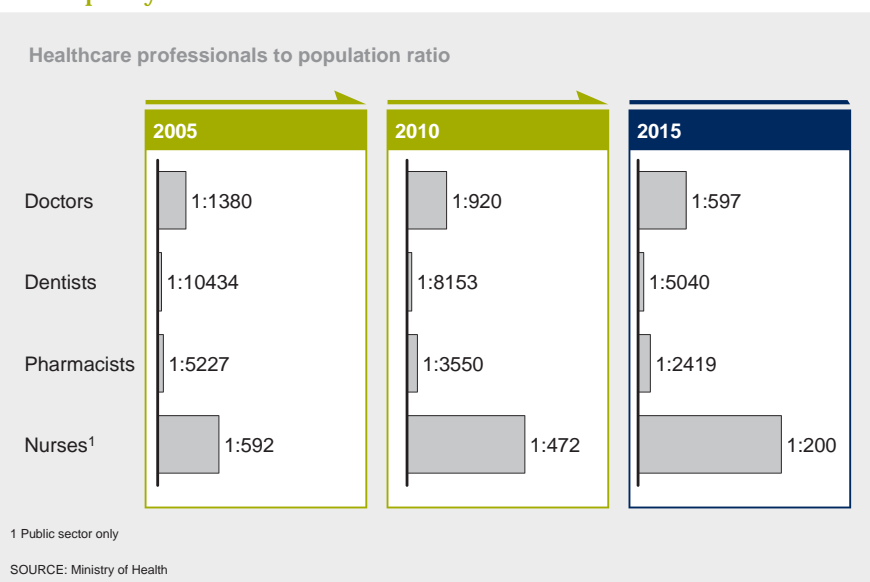
from the private sector for training, as 60% of total specialists available in the country are in the private sector. In addition, the Government will continue to outsource and collaborate with private training institutions for the training of allied health personnel.

Other efforts to meet the rising demand for quality healthcare will focus on the following efforts:

- Increasing the specialist training allocation for doctors and other healthcare professionals;

**Chart 6-12**

**During the Tenth Plan period, there will be significant increase in the capacity of human resources for health**





- Improving and expanding post-basic training for nurses and allied healthcare personnel;
- Addressing personnel retention through provision of better remuneration, promotional opportunities and steps to provide greater job satisfaction; and
- Improving the quality of private healthcare professionals through credentialing, privileging and structured training.



## ENSURING ACCESS TO QUALITY AND AFFORDABLE HOUSING

One of Malaysia's longstanding development objectives is the provision of affordable housing for Malaysians in both rural and urban areas, with a focus on lower-income groups. Malaysia has made impressive strides in this effort with the provision of affordable housing playing a key role in supporting successful efforts of poverty eradication. From 1990 to 2009, about 808,000 units of low-cost affordable housing were provided to support Malaysians in need with approximately 128,000 of these built during the Ninth Plan period, as shown in *Chart 6-13*.

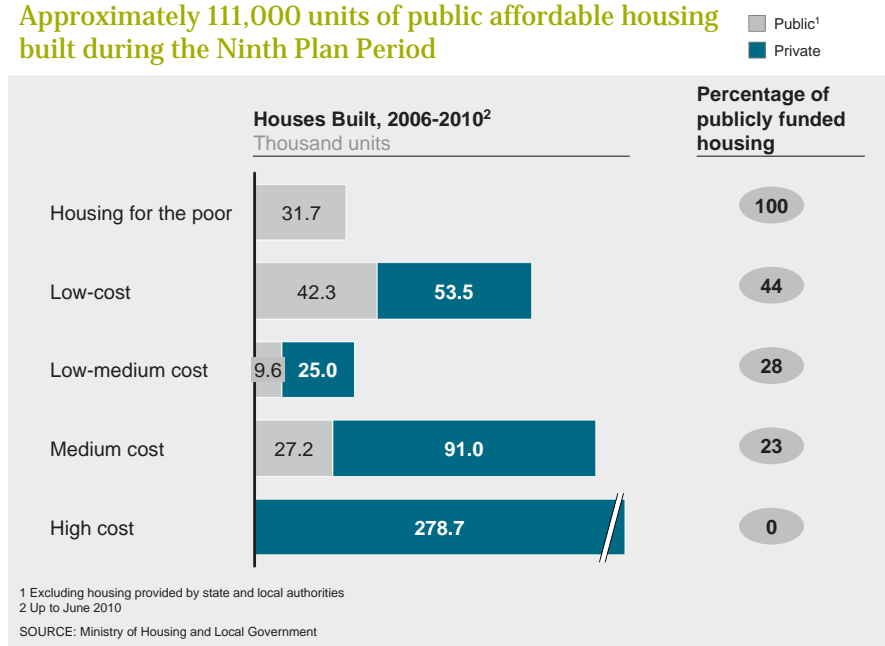
Today, the housing issue for Malaysia is no longer about insufficient housing stock, but rather about ensuring that there are enough houses for various segments of society. It is also about having houses in a safe, healthy and comfortable built environment befitting the socio-economic status of the country.

The key challenges the sector faces are:

- **Matching supply of and demand for affordable housing.** In 2009, a total of 13,529

**Chart 6-13**

**Approximately 111,000 units of public affordable housing built during the Ninth Plan Period**



individuals and families applied for public housing, while a survey of states showed that there were 97,260 squatter families who were yet to be relocated to permanent housing. Currently there are 11,800 available units, with an estimated 161,000 units more to be built during the Plan period. The challenge is to match demand for housing with supply, based on location and affordability;

- **Increasing quality of affordable new and existing housing.** Weak quality control during construction and poor maintenance have contributed to a decline in the quality of affordable housing; and
- **Meeting the call for environmentally sustainable design.** In line with Malaysia's overall agenda of promoting sustainable and environmentally friendly development, housing design will need to incorporate Green Building design elements and technology.

To meet these challenges, the Government will focus on three strategies:

- Streamlining the affordable housing delivery system;
- Strengthening efforts to deliver high quality and environmentally sustainable housing; and

- Cultivating a healthy and sustainable housing industry.

### ***Streamlining the Affordable Housing Delivery System***

During the Plan period, a total of 78,000 units of new affordable public housing will be constructed by the Federal Government across the nation. Low-cost public housing units will be provided to qualified individuals and families with household income levels of less than RM2,500 per month. This is in line with the Government's agenda to increase the monthly income level of the bottom 40% households. The Government typically subsidises approximately 30% to 75% of total construction costs for public housing units. A 700 square foot urban low-cost housing unit is sold for RM42,000 to qualified families and individuals under schemes provided by the National Housing Department (NHD).

To increase the efficiency of housing provision, the Government will rationalise and streamline the role of federal agencies involved in public housing. Today, public housing is the responsibility of several ministries and federal agencies, such as the NHD, the Ministry of Rural and Regional Development, the Kuala Lumpur City Hall, the

Implementation Coordination Unit and *Syarikat Perumahan Negara Berhad*. Moving forward, the Government will rationalise housing provision with only one federal agency responsible for the provision of federally funded housing, with the private sector being expected to play a greater role in these efforts.

To address the issue of poor housing maintenance, the Government will establish a Housing Maintenance Fund with an initial funding of RM500 million to assist the residents of both public and private low-cost housing units. The fund will be used for major repair and maintenance works such as the replacement of lifts and water tanks. This fund will be based on a matching grant where half of the contribution comes from residents through their joint management body or management corporation. This is in addition to the fund known as *Tabung Perumahan 1Malaysia*, established in February 2010 that provides support for the maintenance and major repairs of low-cost private housing in Kuala Lumpur with contributions from the Government and a number of large private corporations.

### **Strengthening Efforts to Deliver High Quality and Environmentally Sustainable Housing**

During the Plan period, existing laws, including the Uniform Building By-Laws 1984, will be reviewed to incorporate minimum specifications of housing quality, particularly on ensuring quality in the provision of affordable housing developments. The Government, through the Construction Industry Development Board, will encourage housing providers to be accredited, particularly for the usage of skilled and qualified labour and improved construction processes.

Environmentally friendly townships and neighbourhoods will be encouraged through the introduction of Green Guidelines and a Green Rating System. Putrajaya and Cyberjaya will be the flagship Green Townships. The Government will review tax incentives, such as tax breaks for buildings and designs that are environmentally friendly, incorporating green design elements like solar panels for heating, rain water harvesting facilities and water conservation features. There will also be focus on creating public community spaces within housing projects that are well-landscaped and equipped with basic

amenities, such as parks and playgrounds, to reinforce interaction and integration among local communities.

## ***Cultivating a Healthy and Sustainable Housing Industry***

The National Housing Policy sets out the strategies for the Government to promote a healthy industry and protect the public's interests. Among the major efforts that will be made include:

- **Encouraging urban rejuvenation through an en-bloc sale mechanism.** The Government will implement a mechanism to ease the sale of collectively-owned developments. This will be done by amending laws governing the sales of property and land to allow collective sale of properties, including land, when majority consent is obtained, or an *en-bloc* sale mechanism. The appropriate level of majority consent will be determined from at least 80% to 90% of owners agreeing to a sale. This will create market incentives for private redevelopment of aging properties in prime locations;
- **Strengthening monitoring and enforcement.** Monitoring and enforcement regulation and capabilities will be strengthened to protect the

interests of house buyers, especially on quality of housing construction;

- **Promoting the adoption of the Build-Then-Sell (BTS) approach.** Housing developers will be encouraged to adopt the BTS approach through the provision of additional incentives such as shortening the approval processes for land and building plans and exemption of deposit payments for licensing housing developments; and
- **Rehabilitation of abandoned housing projects.** The Government will continue to provide assistance towards the rehabilitation of abandoned housing projects. As of April 30th 2010, there were 107 abandoned projects with 38,600 units involving 25,300 buyers.



## PROVIDING EFFICIENT PUBLIC UTILITIES AND SERVICES

The provision of essential public utilities in terms of both quality of service and coverage will be strengthened. The focus of improvements will be to establish robust and efficient public utilities and services that are sustainable from both an operating and environmental perspective. During the Plan period, emphasis will be directed towards:

- Managing water endowment and supply;
- Ensuring the reliability of electricity supply;
- Significantly increasing broadband penetration; and
- Restructuring solid waste management.

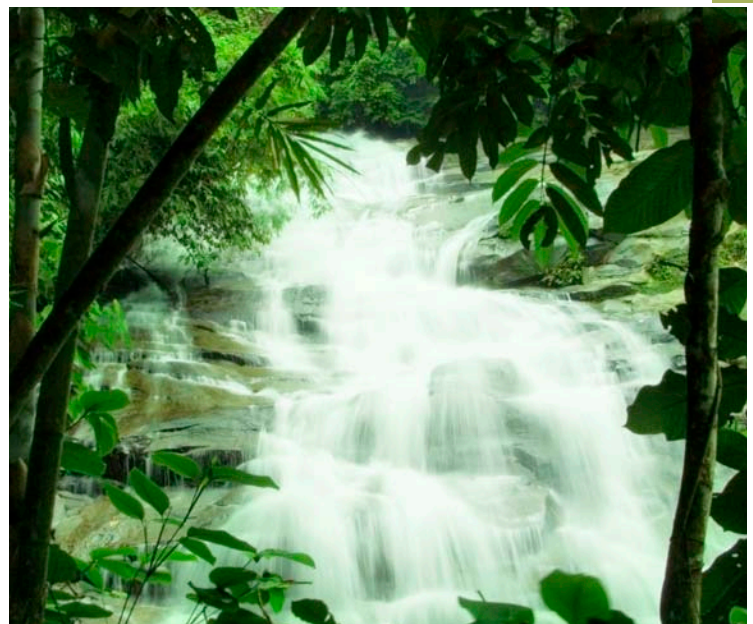
### *Managing Water Endowment and Supply*

Malaysia is blessed with an abundance of water, with water resources of 21,500 cubic meters per capita per year. However, with a growing economy, Malaysia will need to become more prudent and efficient in its management of water resources and supply. The highest demand for water comes from the agricultural sector. In Peninsular Malaysia, projected demand for irrigation water in 2010 comprises 54% of total demand for water or 33,100 million cubic metres. Demand for water,

excluding the agriculture sector, is expected to grow from 8,550 million litres per day in 2009 to 10,520 million litres per day by 2015.

Malaysia will reassess the management of its resources across the entire water cycle – from where water is drawn, to how water is treated and supplied to citizens and how wastewater is returned to the environment. During the Plan period, Malaysia's strategy for ensuring sustainable water supply will have three areas of focus:

- Developing a long-term strategy for water resource management to achieve water security;
- Continuing efforts to restructure the water services industry; and
- Protecting rivers from pollution.



## Developing a Long-Term Strategy for Water Resource Management To Achieve Water Security

Given the expected rapid pace of economic development, sustainability of water resources is becoming an increasingly important issue. Some states have already experienced shortages. The challenges in water resource management lies in addressing the mismatch between regions that have abundant access to water resources and those where economic and population growth, and hence demand, is high.

During the Plan period, the National Water Resources Policy (NWRP) will chart the future course for the sector. In considering Malaysia's long term supply-demand profile, the policy will outline measures to ensure efficient and effective management of this increasingly scarce resource, including streamlining policies and legislations to allow for more efficient and equitable distribution of water resources. The NWRP marks an important milestone, because it will establish a process for ensuring the security of water supply in an era of rapid economic development, growing cities and population growth, all of which have important implications on how Malaysia manages its water resources in the coming years.



Other measures to be implemented during the Plan period include expanding the implementation of the Integrated Water Resources Management and Integrated River Basin Management approaches in planning, managing, protecting and rehabilitating water resources. The Government will provide RM5 billion for flood mitigation programmes. This includes the application of the Integrated Flood Management approach to manage the risks of flood damage through forecasting and warning facilities as well as the development of disaster preparedness and community awareness programmes and flood hazard maps. In addition, research and development efforts will be intensified in area of conservation of water resources to support efforts to develop a sustainable water sector for the national economy.

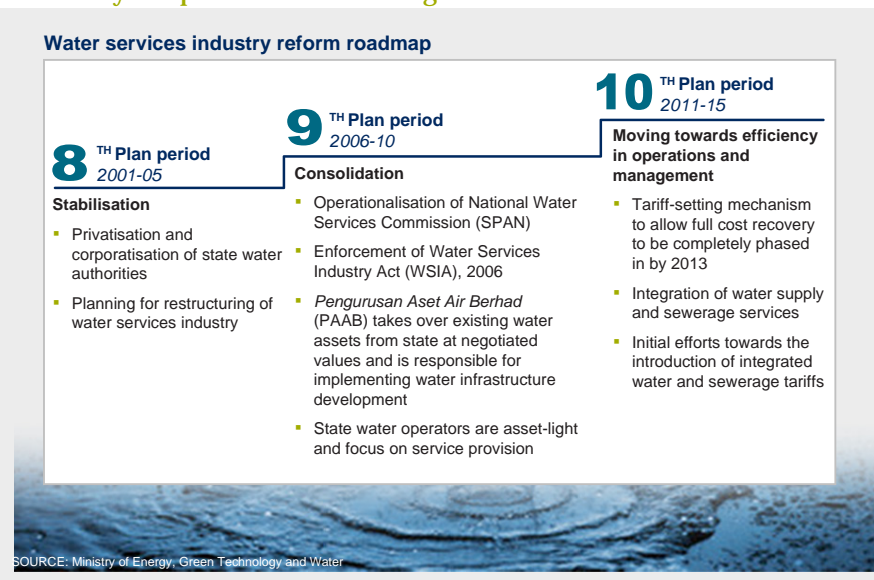
## Continuing Efforts to Restructure the Water Services Industry

Restructuring of the water service industry, covering water supply and sewerage services began during the Eighth Plan period with the objective of creating an efficient and sustainable water services industry. During the Plan period, restructuring efforts will enter into its final phase, as shown in *Chart 6-14*, with a focus on the following areas:

- Completing the migration of state water operators.** Currently, water operators in Johor, Melaka and Negeri Sembilan have completed the migration to the new licensing regime. Full migration of the remaining states will be completed during the Plan period. Upon migration, water operators will have to comply with the provisions of the Water Services Industry Act, 2006 and will be regulated by the National Water Services Commission or *Suruhanjaya Perkhidmatan Air Negara* (SPAN);

**Chart 6-14**

### Restructuring of the water services industry towards improving efficiency in operations and management





- **Moving towards full cost recovery.** Tariffs in 2009 covered only 78% of operating expenditure. To address this problem, the Government will phase in a tariff-setting mechanism that allows full recovery of costs to encourage sustained investments in upgrading and rehabilitating water treatment plants and distribution systems. The phasing of the tariff increases will be segregated into tariff bands based on consumption levels to ensure that the vulnerable segments of society are protected;
- **Driving efficiency in operations and capital expansion.** Water operators will be required to provide detailed 30-year business plans and 3-year operational plans. These plans will be the basis for a roadmap towards full cost recovery and will allow *Pengurusan Aset Air Berhad* (PAAB) to plan long term capital expenditure funding. SPAN will regulate and monitor the performance of water operators based on the plans, linking tariff increases to efficiency gains in operations and capital expenditure;
- **Improving water services infrastructure.** The national water supply coverage will increase from 93% of population in 2009 to 97% in 2015. Sewerage services for households served by the grid and households served by septic tanks, will be extended from 28.8 million to 37.7 million population equivalent during the same period. The non-revenue water (NRW) programme, involving replacement of pipes and old meters, will be expanded with an allocation RM1.1 billion to improve the quality of water and reduce losses in water supply. Out of this amount, approximately RM369 million will be allocated in the first two years of the Plan; and
- **Integrating water and sewerage services.** Restructuring of sewerage services will be implemented by parcelling out the operations of centralised sewerage services to the respective state water operating companies. When completed, the industry will move towards implementing an integrated tariff for both water and sewerage services. This will link sewerage charges to water consumption, moving away from flat rate tariffs that do not adequately capture the cost of service provision given the inherent link between water consumption and sewerage production profiles.

### Protecting Rivers from Pollution

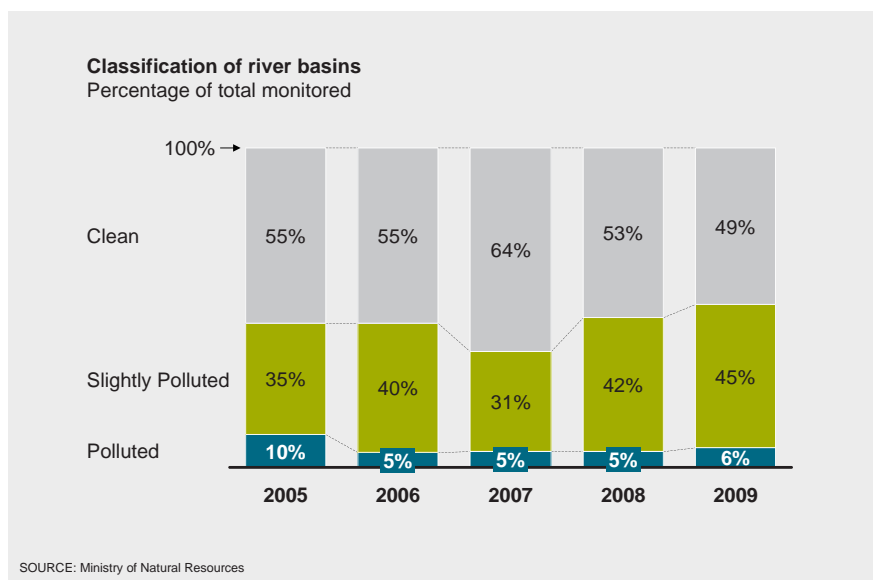
More than 90% of Malaysia’s water supply comes from rivers and streams. Thus, efforts to tackle river pollution have always been, and will continue to be given due emphasis. In 2009, 70 out of 143 river basins monitored were classified as clean, compared to 80 in 2005, as shown in *Chart 6-15*. The number of polluted river basins increased from 51 to 64 over the same period due largely to two factors: an increase in the number of sources of pollution and a decrease in the amount of rainfall.

Major sources of pollution include improper discharge from sewerage treatment plants, agro-based factories, livestock farming, land clearing activities and domestic sewage. During the Plan period, measures to improve pollution control targeting these sources will be implemented through:

- Strengthening the enforcement on industrial effluents and sewage discharge in line with the revisions to the regulations under the Environmental Quality Act 1974;

Chart 6-15

#### Addressing pollution of river basins to be a focus during the Plan period



- Assessing the Total Maximum Daily Load and carrying capacity of rivers to determine allowable discharge loads, for both point and non-point sources of pollution;
- Revising the current Water Quality Index to incorporate additional parameters, such as biological parameters, for more accurate river water classification;
- Developing the National Marine Water Quality Index to replace the current Marine Water Quality Criteria and Standard, which was developed in 2008; and
- Expanding outreach and awareness programmes targeting various segments of society, such as the Langkawi Award, Rakan Alam Sekitar, Malaysia Environment Week, Promotion of Cleaner Production to Industries and Environmental Debate amongst higher institutions.

### ***Ensuring the Reliability of Electricity Supply***

Malaysia currently benefits from a strong and stable electricity supply system. Efforts to ensure continued security of electricity supply will focus on a number of areas. These include creating a

sustainable electricity supply industry in light of volatile global energy prices and declining gas production particularly in Peninsular Malaysia. In addition, the productivity and efficiency of utility providers will also be enhanced. During the Plan period, the New Energy Policy will drive major shifts in the electricity sector, including:

- Increasing and diversifying generation capacity;
- Strengthening transmission and distribution networks;
- Restructuring the electricity supply industry; and
- Improving customer service delivery.



## Increasing and Diversifying Generation Capacity

The development of alternative sources of energy, particularly hydro as well as importation of coal and liquefied natural gas (LNG) by 2015 will improve security of supply. To further reduce carbon emissions, super-critical coal technology will be explored for new generation investments. Nuclear energy as a longer term option for electricity generation will be considered to ensure reliable and cost effective supply in Peninsular Malaysia. Given the scale and scope of this effort, a detailed feasibility study will be carried out together with the necessary training of human capital and awareness campaigns to increase the public's understanding and acceptance of nuclear energy.

Specific initiatives to increase generation capacity include:

- **In Peninsular Malaysia.** Two hydroelectric plants will be commissioned during the Plan period in Ulu Jelai and Hulu Terengganu with a combined capacity of 622 MW;
- **In Sabah.** Three new power plants will be commissioned with a combined capacity of 700 MW. These include two gas-based power plants in the west coast, and one coal-based power

plant in the east coast using clean coal technology; and

- **In Sarawak.** The 2,400 MW Bakun Hydroelectric Project will be commissioned in stages.

## Strengthening Transmission and Distribution Networks

Transmission and distribution systems will be strengthened and expanded. New transmission projects that will be implemented include overhead lines from Bentong South to Kampung Pandan via Ampang East in Peninsular Malaysia, from the Bakun Hydroelectric Project to Similajau in Sarawak and other transmission projects in Sabah. By 2015, the System Average Interruption Duration Index (SAIDI), a measure of supply reliability, is expected to improve from 68 to 50 minutes per customer per year in Peninsular Malaysia. The potential of implementing a Smart Grid system will also be reviewed to minimise losses, reduce costs and increase reliability.

## Restructuring the Electricity Supply Industry

In line with the New Energy Policy and the overall strategy to rationalise subsidies, gas prices for the power and non-power sectors will be revised every

six months to reflect market prices. Consumer energy bills will explicitly itemise subsidy values and eventually de-link subsidy from energy use. Different forms of assistance will be provided to low income households for which the social safety net is required. Greater market discipline will be instilled through measures such as creating separate accounting for generation, transmission and distribution activities, introducing performance-based regulation and renegotiation of power purchase agreements.

### **Improving Customer Services**

Delivery of services by utilities to new and existing customers will be accelerated through the use of new technologies and performance-based regulations. These will include faster response time in providing new electrical connections and restoring supply interruptions.

### ***Significantly Increasing Broadband Penetration***

Broadband is a key economic enabler and has the potential to revolutionise the way Malaysians live, work and play, while delivering real economic benefits via increased productivity. To capture this opportunity the Government has set a target of raising household broadband penetration to 75% by the end of 2015. This will be achieved via two main initiatives High-Speed Broadband (HSBB) and BBGP. The HSBB initiative will cover about 1.3 million premises by 2012 in the high population, high economic impact 'Zone 1' areas (state capitals, large urban and industrial zones). HSBB will offer speeds of up to 100 Mbps through Fibre-to-the-Home (FTTH) technology. The BBGP initiative will cover 'Zones 2 and 3' (suburban and rural areas) offering speeds of between 2-10 Mbps.

### ***Restructuring Solid Waste Management***

Solid waste disposal and collection is an important public health issue that touches the everyday lives of all Malaysians. Similarly, the upkeep of basic infrastructure such as drains and public toilets, to communal facilities, such as markets and beaches, is critical for overall liveability.



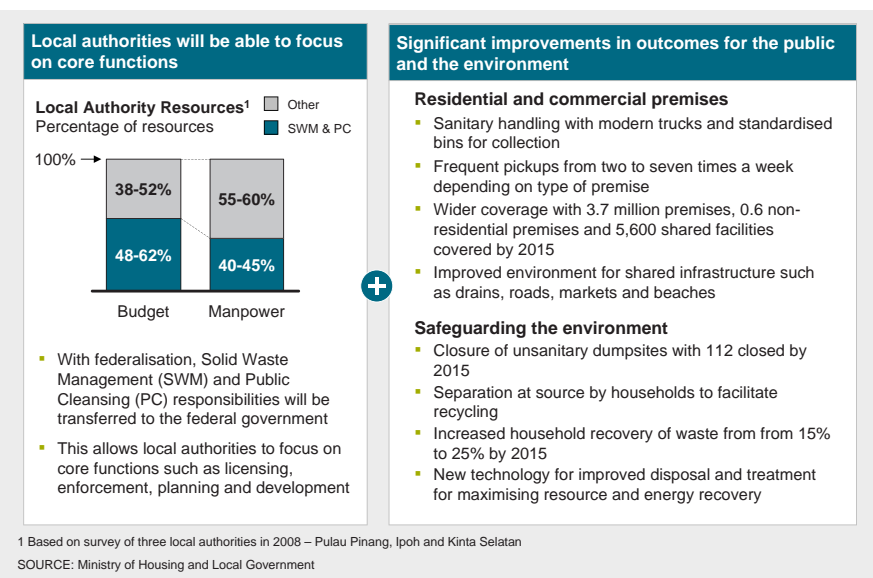
During the Plan period, the Government will complete restructuring efforts in this sector with the federalisation of solid waste management and public cleansing and full enforcement of the Solid Waste and Public Cleansing Management Act 2007. Under these efforts the responsibility of solid waste management and public cleansing will be shifted from local authorities to the jurisdiction of the Federal Government. The key outcomes

of these efforts are shown in *Chart 6-16* and include:

- Providing support to local authorities;
- Delivering comprehensive and sanitary services; and
- Ensuring that waste is managed in a sustainable manner.

**Chart 6-16**

### Federalisation of solid waste management and public cleansing functions to drive improved outcomes for the public and environment



## Providing Support to Local Authorities

Under the current structure, the local authorities are responsible for solid waste management and public cleansing. Local authorities typically commit 40% to 45% of manpower to this function. With the completion of the federalisation effort, local authorities will be relieved of this workload, allowing them to focus their efforts on core functions such as licensing, enforcement, planning and development.

## Delivering Comprehensive and Sanitary Services


The Government will fully privatise the collection of household solid waste to three concessionaires. Other private operators will be licensed to operate solid waste management and public cleansing services. These operators will be subjected to a stringent performance management regime linked to KPIs such as the coverage of service, compliance to schedule and frequency of collection, number of complaints and soiling of roads from leachate. Payments to concessionaires will be linked to achievement of these KPIs. Contract negotiations with the concessionaires are expected to be completed by end 2010. Measures to drive efficiencies in operations will include optimising transportation costs by utilising the best available



route to the disposal sites, the most suitable type of vehicle and the optimum number of crew.

Across the nation, households, businesses and shared premises will experience improved quality of service, as the level of service will be monitored against specific targets across all areas. Collection frequency will increase, for example to twice a week for households and seven times a week for wet markets. The introduction of sanitary handling methods with modern handling trucks and standard 120-litre bins for every household will also reduce the problem of leachates and improve overall hygiene conditions.

Under this effort over 5,600 shared premises including wet markets, parks, food courts and other such facilities will be provided frequent and



reliable cleaning services. This is expected to provide a conducive and attractive environment for people to congregate as they carry out their daily activities.

### **Ensuring Waste is Managed in a Sustainable Manner**

The Government will close and rehabilitate the existing 112 unsanitary landfills across the nation and upgrade some of them to sanitary landfills. In addition, transfer stations, integrated material recovery facilities, sanitary landfills and other disposal and treatment facilities will be built. Separate collection will be done for bulky waste, garden waste and recyclables from the rest of the household solid waste to facilitate recycling and recovery of waste.

Options to make it compulsory for homeowners to separate waste at source to facilitate recycling will be reviewed. The Government will require private sector commitment, in particular manufacturers, to improve solid waste management, especially through the Reduce, Reuse and Recycle (3R) programmes. As part of this effort, a deposit refund scheme and a take back system will be implemented. This systems allows consumers to receive refunds upon return of used recyclable products and requires manufacturers and supplier to take back specified products after use.





## MAKING STREETS AND COMMUNITIES SAFER

Crime, and the fear of crime, can have a significant impact on the quality of life. Overall, index crime has increased slightly in recent years, as shown in **Chart 6-17**. Malaysians and businesses have identified tackling crime as one of their main concerns. In 2007, 17% of respondents from manufacturing companies said that crime, theft and disorder are severe obstacles for investment, up from 11% in 2002. For service companies, the number of respondents citing these factors as severe rose from 8% to 17% in the same period.

Recognising that crime is a critical concern of the people and to the economy, the Government selected Reducing Crime as one of the six NKRAAs, as shown in **Box 6-3**. Given limited police resources, a new approach that engages every arm of the criminal justice system will be emphasised, from Government bodies, at federal and state levels, to the private sector and citizens through programmes that encourage volunteerism. For this purpose, a total of RM2.04 billion will be allocated in the Plan period.

**Chart 6-17**

### Overall index crime in recent years



**Box 6-3**

The Crime NKRA is anchored upon reducing crime through actions focused on delivering three outcomes:

- Reducing overall reported index crimes, with a focus on street crime;
- Improving public perception of safety, especially through public participation and volunteerism; and
- Improving performance across the criminal justice system to build public confidence and strengthen professional pride across the system.

## Reducing crime one of 6 National Key Result Areas



Five crime related national key performance indicators were announced as part of the GTP:

- Reducing overall index crimes by at least 5% in 2010;
- Reducing street crime by at least 20% by December 2010;
- Improving the sense of security;
- Bringing 2,000 more violent crime cases to trial; and
- Increasing satisfaction with the police service.

Since the launch of the GTP, significant progress has been made:

- Street crime fell by 39.6% in the first quarter of 2010 compared to the first quarter of 2009; and
- Overall index crimes have fallen by 15.1% for the first quarter of 2010, compared to the first quarter of 2009. This equates to a reduction in reported crimes of 7,979 cases.

The Government is committed to reducing overall index crimes by an annual average of at least 5% from January 2010 to December 2015. Achieving this target will mean a reduction in overall crime of more than a quarter by the end of the Plan period.

## **Strengthening Efforts to Fight Crime**

The visibility of the police will be increased, with a focus on hot spots through a new volunteerism initiative. To date an additional 3,150 volunteer police have been deployed from the People's Volunteer Corp or *Ikatan Relawan Rakyat Malaysia* (RELA) and Malaysian Civil Defence Department or *Jabatan Pertahanan Awam Malaysia* (JPAM) and the medium-term goal is to expand this to at least 5,000 volunteers by 2015. The well-being of the police will also be improved through upgrading police stations and living quarters as well as by improving their career prospects to motivate them to perform better and the Government will set aside RM2.4 billion towards this end.

Drug abuse is a major driver of crime in Malaysia. The Royal Malaysian Police or *Polis DiRaja Malaysia* (PDRM) estimates that 50% of those arrested for snatch theft are drug addicts. New measures to address drug abuse will include improving the effectiveness of drug treatment programmes. These are expected to have an immediate impact on crime rates, and in the long term could significantly reduce the level of reoffending in Malaysia, especially for property crime.

## **Forging a New Relationship between the Police, the Public and the Private Sector**

Volunteerism is being encouraged through a range of initiatives such as the *Skim Rondaan Sukarela*, a voluntary community activity under the Rukun Tetangga in which local residents patrol their own neighbourhoods. The initiative will be supported with an allocation of RM120 million. *Rakan Cop*, a scheme where people register for membership by short text message (SMS) and then help by reporting crimes or suspicious behaviour to the police via SMS, will also be expanded to encourage greater enrolment and educate people on the type of information that is useful for the police.

High profile policing that demonstrates the commitment of the PDRM to serve the community and reduce crime will be intensified. Senior officers in full uniform have already begun to patrol with beat officers for at least three hours per week. The patrols help to demonstrate the commitment of the police to the public and to role model what senior officers expect of front-line officers.

## Creating a Safer and More Secure Environment

The Government is rolling out 496 Closed Circuit Television (CCTV) cameras in hot spot areas across Malaysia. These will be linked to PDRM's control centres so that the police can respond rapidly to incidents. The possibility of connecting the network of several thousand existing CCTV cameras, many of which are in the transport system, to PDRM control centres will also be explored. Comprehensive surveillance will help deter criminals from committing crimes and help police respond to incidents and identify and apprehend criminals.

Engagement with the private sector will also be intensified. This includes measures such as extending the purview of private security guards to guard the safety beyond the building they are protecting to the surrounding area.

The Safe Cities Programme will be given added emphasis. The programme brings together the PDRM, local authorities, National Anti-Drugs Agency, the Welfare Department and other relevant bodies to tackle local problems with localised initiatives. Among the actions that will be taken include improving street lighting, enhancing the quality of pavements and introducing barriers between the pavement and the road.

Each local programme group will decide on the actions to take based on their local priorities and the funding they have available. Their actions will enhance the environment for citizens and visitors and is also expected to reduce crime and improve the sense of security. A sum of RM510 million will be allocated for this programme. The Safe City initiative is shown in *Chart 6-18*.



Chart 6-18

### Safe City initiatives to promote crime prevention



### Providing Transparency on Performance and Perception of Performance

Police performance will be made more transparent through the new *Balai* or Police Station League Table launched in March 2010, which will show each *Balai's* performance in reducing crime. This will be used to encourage improvements of the 767 *Balai* across Malaysia through identifying the best practices of the highest performing *Balai*

and ensuring they are shared with the rest of the country. The highest performing station will then be rewarded.

Surveys to measure satisfaction with the police service as well as to measure the sense of safety of Malaysians will also be conducted periodically. The results will be published to show how satisfied the people are with police performance on tackling crime, making a police report and on overall treatment of victims of crime.

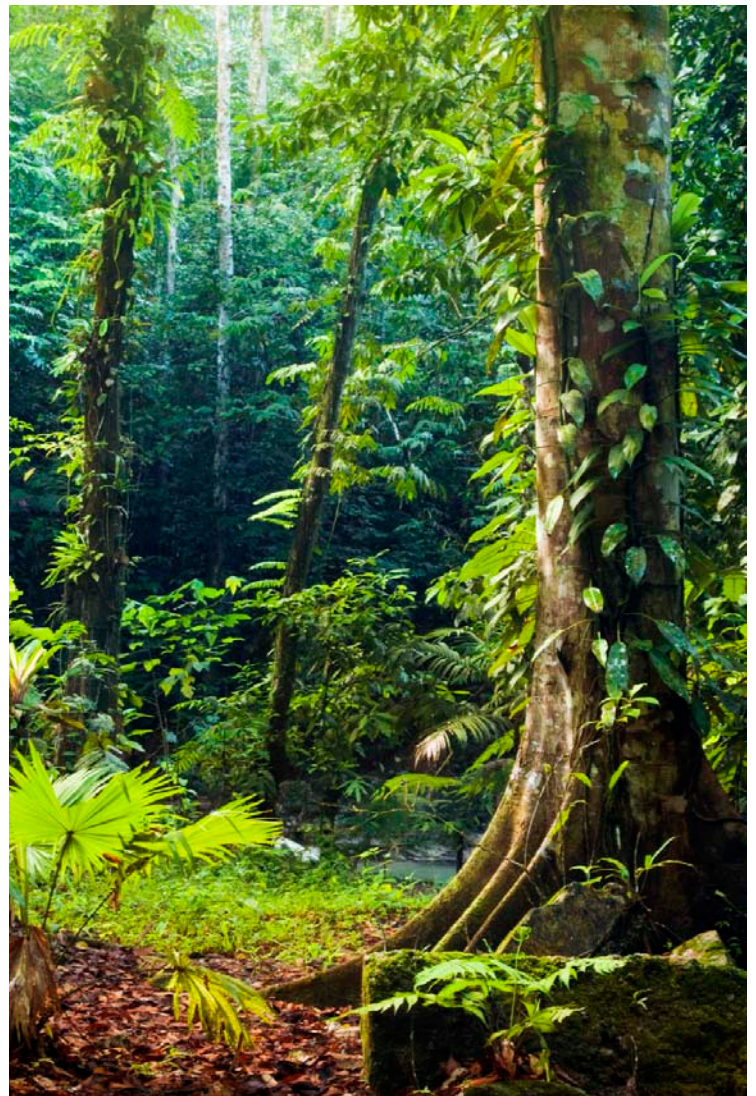
## VALUING THE NATION'S ENVIRONMENTAL ENDOWMENTS

From our coastal areas and rivers, our islands and highlands, our forests and the air that we breathe, healthy ecosystems are a key determinant of our physical and economic well-being. Currently, Malaysia ranks 54 out of 163 countries under the Environmental Performance Index that measures and ranks the environmental performance of countries, as developed by Yale and Columbia University.

Moving forward, Malaysia's agenda will be one of protecting the environmental quality of life, caring for the planet, while harnessing economic value from the process. In achieving this, among others, the Government will be guided by sustainable production practices to decouple economic growth from environmental degradation. It will be guided by the view that environmental sustainability is not only about saving the planet, but also about developing business models to compete sustainably in the global economy and in building values in ways that help address some of the world's most profound social, economic and environmental challenges.

To achieve this, the Government has introduced several progressive policies to set the national agenda on environmental protection and conservation as shown in *Table 6-2*. The focus during the Plan period will be to operationalise these plans and policies.

As a first step, the Government has introduced the AFFIRM framework, which outlines the government's approach towards creating a comprehensive ecosystem for environmental sustainability, as outlined in *Box 6-4*.



“I bring to you the voice of Malaysians who are of no doubt that **climate change**, and the **cataclysmic consequences** arising from it are indeed real.”

“Despite the many problems and difficulties we see on the long road ahead to address climate change, **Malaysia is willing to contribute** to the global efforts...”

The Right Honourable Dato' Sri Mohd. Najib Tun Abdul Razak,  
COP15, United Nations Framework Convention on Climate Change (17 December 2009)

**Table 6-2 Progressive National Policies on Environmental Protection and Conservation**

National Policy on the Environment (2002)	National Green Technology Policy (2009)	National Climate Change Policy (2009)
<ul style="list-style-type: none"> <li>● Ensure economic, social and cultural progress through environmentally sustainable development</li> <li>● Strategies focus on effective management of natural resources and the environment, prevention and control of pollution, strengthening institutional capacity, education and awareness efforts and formulation of action and implementation plans</li> </ul>	<ul style="list-style-type: none"> <li>● Ensure sustainable development</li> <li>● Develop roadmaps to guide application of green technologies in various sectors, including power generation, transport and construction</li> <li>● Establishment of a Green Technology Financing Scheme (GTFS) with a RM1.5 billion fund to encourage investments in green technology, construction and innovation</li> </ul>	<ul style="list-style-type: none"> <li>● Streamline and coordinate across existing legislation and policies</li> <li>● Establish inter-ministerial and cross-sectoral committee to drive and facilitate implementation of adaptation and mitigation measures</li> <li>● Identify options and strategies to achieve a low-carbon economy</li> </ul>

**Box 6-4**

### AFFIRM Framework

As a cross-cutting framework, the Prime Minister introduced the AFFIRM framework of Awareness, Faculty, Finance, Infrastructure, Research and Marketing to develop a complete ecosystem for environmental sustainability.

- **Awareness:** Increasing the level of awareness of all Malaysians that environmental sustainability is a shared responsibility. All levels of society need to play their part in protecting the environment, not only for the management of tangibles such as solid and liquid household and industrial wastes, but also intangibles such as electricity. To achieve this, the Government will pursue co-operative efforts with the private sector and civil society to bring this message to all Malaysians;
- **Faculty:** Increasing local capacity and capabilities in areas of relevant knowledge through introduction of green topics in the curriculums of schools and institutions of higher learning. The Government will also introduce a system for formulation of grading and certification mechanisms for competent personnel in green technology;
- **Finance:** Financial incentives will be critical in driving businesses to explore, adopt and innovate on green technology. A green technology soft loan scheme of RM1.5 billion has been launched to provide soft loans to companies that supply and utilise green technology, in which the Government bears 2% of the total interest rate and a guarantee of 60% on the financing amount and banking institutions back the remaining 40%. The Government will also implement tax incentives such as tax breaks for buildings and designs that work harmoniously with nature;
- **Infrastructure:** The Government will initiate green townships in Putrajaya and Cyberjaya with guidelines and rating scales based on carbon footprint. The roll-out of these guidelines will be implemented for other green townships across the country;
- **Research:** The Government will enhance research, development and commercialisation efforts in green technology through local research centres and industries. The Government will encourage partnerships with foreign institutions such as universities or multi-national companies; and
- **Marketing:** Ministry of Energy, Green Technology and Water together with Standard and Industrial Research Institute of Malaysia (SIRIM), will develop a national eco-labelling scheme and standards for our products and services that matches international standards. This will in turn support the Government's green procurement initiative as well as assist local manufacturers to export their products. Increased labelling of environmentally-friendly goods and services such as Energy Efficiency Star Rating, Low Carbon Footprint Products and Green Building Index will increase Malaysia's competitiveness.



During the Plan period, efforts will continue to focus on two main areas:

- Developing a roadmap for climate resilient growth; and
- Enhancing conservation of the nation's ecological assets.

### ***Developing a Climate Resilient Growth Strategy***

Climate change is a global issue with significant implications for Malaysia. Carbon dioxide (CO<sub>2</sub>) from fuel combustion and deforestation activities contributes to global warming and has caused a shift in the climate system. During the Plan period, Malaysia will adopt a dual strategy in addressing climate change impacts: firstly, adaptation strategies to protect economic growth and development factors from the impact of climate change; and secondly, mitigation strategies to reduce emission of greenhouse gases (GHGs).

### **Climate Adaptation: Protecting the Nation from the Risks of Climate Change**

Rising temperatures are associated with volatile weather changes, shifts in rainfall patterns and climate zones and a rise in sea levels. Due to

its climate and location, Malaysia is among the many economies that are likely to feel the force of climate events sooner, rather than later – in the form of coastal and inland flooding, rise in vector borne diseases, or drops in agricultural yields due to continuous occurrence of droughts. These events not only have the potential to destroy lives and communities, but also pose a significant economic risk.

The Government will review the value at risk for communities to develop a clear understanding of the cost-benefit trade-offs involved in averting or reducing the impact of such climate-related hazards. During the Plan period, the following measures will be taken:

- Developing a robust risk framework to assess and quantify the climate risk faced by the economy and prioritise measures to address those risks;
- Implementing policy decision frameworks to ensure that future infrastructure investments are climate resilient; and
- Enhancing capacity in the field of climate prediction and modelling to develop stronger Malaysia-specific and sector-specific knowledge.

## Climate Mitigation: Reducing Malaysia's Carbon Footprint

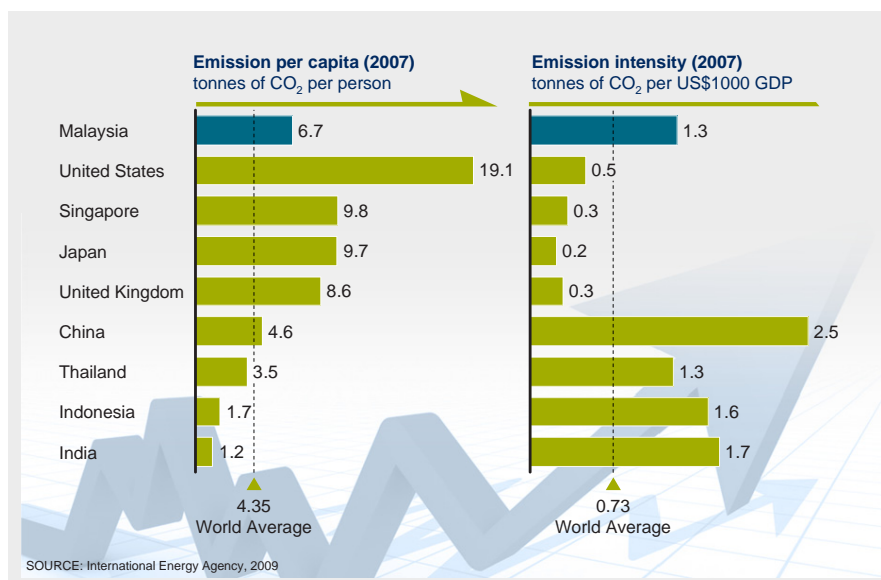
Recognising that Malaysia is part of a large global community, it is important to note that Malaysia contributes only 0.7% to global CO<sub>2</sub> emissions based on the UNDP Human Development Report 2007/2008. However, on an emissions intensity levels basis, calculated as a ratio of GHGs emissions to the country's GDP, Malaysia's emission intensity levels are above the global

average in the energy sector as shown in *Chart 6-19*. Major efforts will be introduced to reduce emissions intensity, and as Malaysia moves towards a high income economy, emissions intensity is expected to decline.

The Government has embarked on several programmes aimed at reducing emission of GHGs. During the Plan period, these efforts will continue to focus on five areas:

**Chart 6-19**

**For the energy sector in 2007, Malaysian's emission intensity was higher than the global average**





- Creating stronger incentives for investments in renewable energy (RE);
- Promoting energy efficiency to encourage productive use of energy;
- Improving solid waste management;
- Conserving forests; and
- Reducing emissions to improve air quality.

### ***Creating Stronger Incentives for Investments in Renewable Energy***

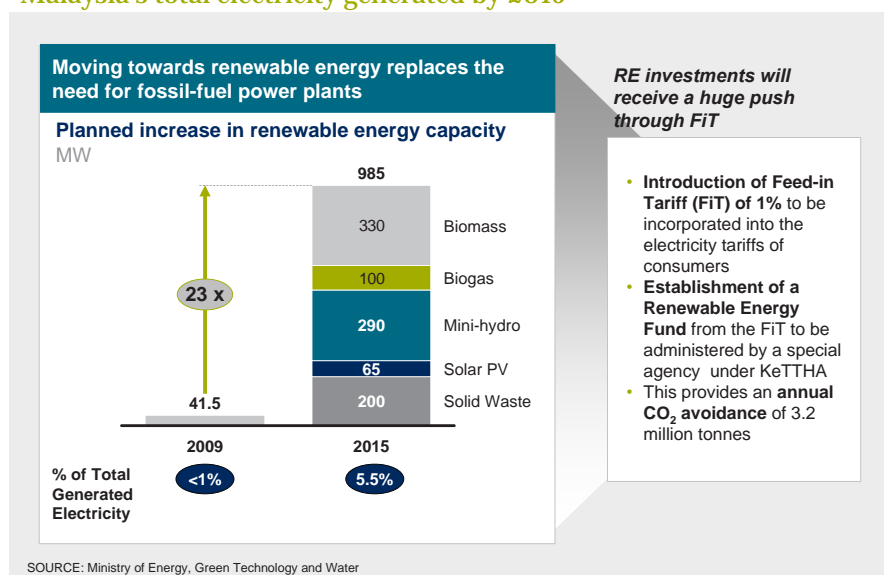
Malaysia is blessed with multiple RE resources, such as biomass, biogas, mini-hydro and solar, that will be leveraged to ensure a more sustainable energy supply. However, despite rigorous initiatives, the renewable target set out under the Ninth Plan period was not achieved. Under

the Tenth Plan, several new initiatives anchored upon the Renewable Energy Policy and Action Plan will be undertaken to achieve a renewable energy target of 985 MW by 2015, contributing 5.5% to Malaysia's total electricity generation mix, as shown in *Chart 6-20*. Amongst the measures taken will be:

- **Introduction of a Feed-in Tariff (FiT)** of 1% that will be incorporated into the electricity tariffs of consumers to support the development of RE. This mechanism allows electricity produced from RE to be sold to utilities at a fixed premium price and for a specific duration; and
- **Establishment of a Renewable Energy Fund from the FiT** to be administered by a special agency, the Sustainable Energy Development Authority, under the Ministry of Energy, Green Technology and Water (KeTTHA) to support development of RE.

Chart 6-20

Renewable energy will increase from <1% in 2009 to 5.5% of Malaysia's total electricity generated by 2015



### Promoting Energy Efficiency to Encourage Productive Use of Energy

Energy efficiency measures will be intensified to harness energy savings potential and reduce Malaysia's carbon emissions and dependence on fossil fuels. Intrinsic barriers to energy efficiency that pose challenges in capturing this opportunity will also be addressed. The National Energy Efficiency Master Plan, 2010 will be a holistic implementation roadmap to drive efficiency measures across sectors with a target to achieve cumulative energy savings of 4,000 kilo tonnes

of oil equivalent (ktoe) by 2015. Initiatives to drive energy efficiency efforts are shown in *Table 6-3*.

### Improving Solid Waste Management

The Government will continue efforts to enhance the efficiency and effectiveness of solid waste management, which will also lead to the reduction of GHGs emission. Among measures that will be undertaken include building material recovery facilities and thermal treatment plants as well as recycling of non-organic waste. The segregation of organic material from waste can be turned into compost or used for other purposes. This in

**Table 6-3 Initiatives to Drive Energy Efficiency Efforts**

Sector	Highlight Initiatives
<b>Residential</b>	<ul style="list-style-type: none"> <li>● Phasing out of incandescent light bulbs by 2014 to reduce carbon dioxide emissions by an estimated 732,000 tonnes and reducing energy usage by 1,074 gigawatts a year</li> <li>● Increasing energy performance labelling from four (air conditioner, refrigerator, television and fan) to ten electrical appliances (six additional appliances - rice cooker, electric kettle, washing machine, microwave, clothes dryer and dishwasher). Labelling appliances enables consumers to make informed decisions as they purchase energy efficient products</li> </ul>
<b>Township</b>	<ul style="list-style-type: none"> <li>● Introduction of guidelines for green townships and rating scales based on carbon footprint baseline and promoting such townships starting with Putrajaya and Cyberjaya</li> </ul>
<b>Industrial</b>	<ul style="list-style-type: none"> <li>● Increasing the use of energy efficient machineries and equipment such as high efficiency motors, pumps and variable speed drive controls</li> <li>● Introduction of Minimum Energy Performance Standards for selected appliances to restrict the manufacture, import and sale of inefficient appliances to consumers</li> </ul>
<b>Building</b>	<ul style="list-style-type: none"> <li>● Revision of the Uniform Building By-Laws to incorporate the Malaysian Standard: Code of Practice on Energy Efficiency and Renewable Energy for Non-Residential Buildings (MS1525). This allows for integration of renewable energy systems and energy saving features in buildings</li> <li>● Wider adoption of the Green Building Index (GBI) to benchmark energy consumption in new and existing buildings</li> <li>● Increasing the use of thermal insulation for roofs in air conditioned buildings to save energy</li> </ul>

turn will reduce the volume of waste disposed at landfills, thus reducing the emission of methane. A holistic management of solid waste through sanitary landfills will help recover the methane produced from the waste and use it to generate energy. The Government will further enhance public awareness on the importance of reducing, reusing and recycling of waste.

### ***Conserving Forests***

Deforestation is considered as the second most important human-induced source of GHGs and is responsible for approximately 20% of total global emissions. At present, more than 55% of land area in Malaysia is covered with forests. Malaysia has long practiced sustainable forest management in utilising its resources, and at the same time, ensures these forests continue to function as carbon sinks. During the Tenth Plan period, further initiatives will be undertaken to encourage States to gazette forests, especially the water catchment areas, as protected areas. In addition, the Government with the participation of the private sector, non-government organisations (NGOs) and the public at large will continue its efforts in planting more trees to green the country.

### **Reducing Emissions to Improve Air Quality**

The implementation of the Clean Air Action Plan will be intensified. Efforts will be directed towards five focus areas:

- **Reducing emissions from motor vehicles.** Stricter enforcement on emission standards will be implemented and emission standards will be further improved in line with global standards;
- **Preventing haze pollution from land and forest fires.** In partnership with neighbouring countries, the Government will continue to address transboundary haze pollution while strengthening sustainable peatland management efforts in Malaysia to prevent peatland fires;
- **Reducing emissions from industries.** Regulations governing industrial emissions will be reviewed with new emission standards for specific industries. Industries will be encouraged to self-regulate with the use of pollution control and monitoring systems and environmental audits;
- **Building institutional capacity and capabilities.** Focusing on building capacity in

monitoring and enforcement within the government and building competencies in air quality management within the private sector; and

- **Strengthening public awareness and participation.** Promoting education and awareness programmes in collaboration with universities, research institutes, NGOs, as well as the private sector as part of their corporate social responsibility programmes.

### ***Enhancing Conservation of the Nation's Ecological Assets***

The conservation and sustainable utilisation of the nation's ecological assets, both physical and biological, will be further enhanced especially in an environment of accelerated economic growth. During the Plan period, measures will include:

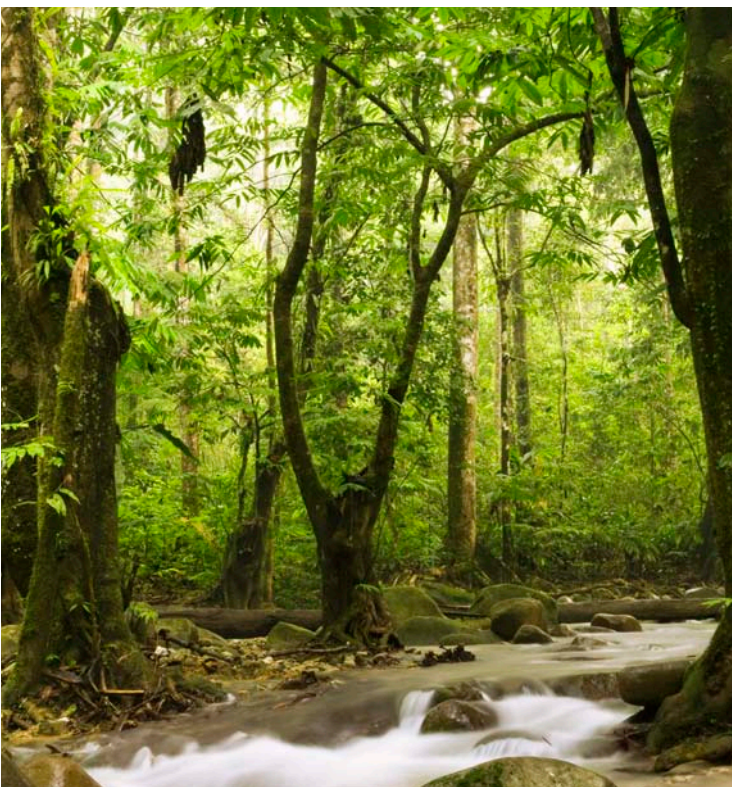
- Enhancing forest and wildlife conservation efforts; and
- Ensuring sustainable and safe utilisation of resources.

### ***Enhancing Forest and Wildlife Conservation Efforts***

Recognised as a mega-biodiversity country in the world, Malaysia is blessed with rich biodiversity in forests and marine areas. To protect these assets, the Government adopted the Common Vision on Biodiversity, which promotes a three-pronged implementation approach and outreach strategy that consists of: strengthening the Protected Areas System; managing landscapes and seascapes for biodiversity; and mainstreaming of biodiversity.

During the Plan period, efforts to protect biodiversity and habitats will be strengthened with the implementation of the Central Forest Spine of 4.32 million hectares in Peninsular Malaysia and the Heart of Borneo of 6.0 million hectares in Sabah and Sarawak. The establishment of ecological linkages within these areas will reconnect fragmented forest complexes to allow for the movement of wildlife and biological processes and reduce conflicts between humans and wildlife. These areas will also serve as biodiversity reservoirs and watershed areas, with potential to be developed for eco-tourism. These areas will be classified as Environmentally Sensitive Areas, where limited or no development will be permitted.

Malaysia will intensify its efforts in wildlife management and in the protection of endangered species. The Government will enforce regulations governing the trade of endangered fauna and flora in line with Malaysia's obligation to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The orang utan, Malayan Tiger, tapir and gaur, among others, serve as flagship species for Malaysia and will become focal points for conservation efforts in partnership with the private sector. The National Tiger Conservation Action Plan will be implemented to increase the tiger population and provide effective protection for tigers and their prey including through efforts to conserve contiguous forest ecosystems.



In the area of coastal and marine protection, the integration of the Coastal Zone Physical Plan into the NPP will allow improved management and protection of the shoreline, including efforts to intensify mangrove planting. The Marine Park Management Plan for Peninsular Malaysia and existing legislation will be reviewed to further enhance the management of marine biodiversity. In addition, the National Action Plan on the Coral Triangle Initiative will be implemented to ensure the conservation and sustainable use of marine resources, and the capacity of marine resource management will be enhanced to track changes in marine habitats and resources.

The availability of comprehensive data is required to support conservation efforts. Currently, various agencies and departments manage individual biodiversity databases. During the Plan period, efforts will be implemented to link or integrate existing biodiversity inventory and databases, with a view to develop a comprehensive one-stop database in the future.

### ***Ensuring Equitable and Sustainable Utilisation of Resources***

Local communities play an important role in conservation and utilisation of environmental resources as they possess a depth and breadth



of knowledge and capabilities in matters relating to nature handed down over many generations. Initiatives involving local communities include:

- **Co-opting local communities in conservation efforts.** Local communities will play a big role in sustainable use in resources. As an additional source of income, communities can also play a big role in conservation activities such as acting as tour guides and forest guides. A successful example of how local communities have played a role in eco-tourism activities is the Tagal system for conserving fish stock in rivers, which has been practiced for many generations amongst the Dusun community in Sabah; and
- **Introducing the Access and Benefit Sharing framework.** Indigenous people and local communities in Malaysia possess traditional knowledge with potential value for development into medicinal, pharmaceutical, nutraceutical and bio-technological products. The Government will establish a legal framework on access and benefit sharing to ensure that the benefits derived are distributed fairly and equitably. This framework will be supported by an institutional arrangement to enhance awareness and disseminate information.

In pursuing biotechnology as a source of wealth creation for the country, the issue of biosafety related to the safe transfer, handling and use of living modified organisms (LMOs) will become increasingly important. Effective enforcement of the Biosafety Act 2007 will ensure that potentially adverse impacts on biodiversity and human health from biotechnology that uses LMOs is minimised and properly managed.



## CONCLUSION

At the heart of any national development strategy lies the imperative to raise the quality of life of its citizens. For Malaysia, this means continuing to invest in physical infrastructure as well as driving productivity and efficiency gains across the board. A new and rapidly evolving environment requires a new approach. The nation has recognised this, and will embark on a systematic restructuring of and investment in the provision of essential services, including:

- Restructuring of the public transport licensing and operating framework to be led by the commission for land public transport or SPAD, and supported by major investments in public transport such as the introduction of the mass rapid transit system in Greater KL;
- Major shifts in housing policies with a new emphasis on the entire life-cycle of housing provision from construction to maintenance, with the introduction of a Housing Maintenance Fund;
- Transforming the healthcare sector to reduce the gap between private and public healthcare systems with a focus on the delivery of healthcare services;
- Continuing efforts to move the water services industry towards efficiency in operations and creating a financially sustainable platform for continued investments in the sector;
- Completing the federalisation of solid waste management and public cleansing services to facilitate the modernisation of waste collection, handling and disposal as well as the upkeep of shared public spaces; and
- Intensifying efforts to fight and prevent crime by addressing the entire criminal justice system with increased police presence and improved enforcement efforts.

The Tenth Plan period also marks a major shift in spatial growth strategies. The Government will move towards an approach of concentrated





growth, adopting strategies to build density, develop clusters and specialise in high value sectors to exploit increasing returns to scale in cities. To position them as catalysts of growth, the attractiveness and vibrancy of cities will take centre stage, with a renewed emphasis on creating attractive public spaces and cultivating arts, culture and leisure activities to support an increasingly cosmopolitan population. Denser growth in cities will be managed and supported by world-class infrastructure. Every city in Malaysia is unique with distinctive characteristics and strengths and each city will have strategies tailored to its unique heritage, composition and potential opportunity for growth.

Every generation of Malaysians has the responsibility of keeping the environment safe for

the next. In a world confronted with the impacts of climate change and increasing environmental pressures, the Government is presented with the challenge of managing its environmental endowments prudently while unleashing the economic potential of these resources in a sustainable manner. This means establishing policies and mechanisms for the proper valuation of environmental resources in terms of assessing opportunity costs and environmental impacts of both public and private investments.

The policies, strategies and programmes to be implemented in the Tenth Plan will not only contribute towards the proper valuing of Malaysia's environmental endowment, but will also ensure that the quality of life of all Malaysians is sustainable.

