



**MALAYSIA
IMPLEMENTATION OF THE
NEW URBAN AGENDA**

NATIONAL REPORT 2022

MALAYSIA NATIONAL REPORT 2022 IMPLEMENTATION OF THE NEW URBAN AGENDA

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MALAYSIA NATIONAL REPORT 2022 THE IMPLEMENTATION OF THE NEW URBAN AGENDA

The New Urban Agenda is a shared vision for a sustainable urban future. With 77% of Malaysians living in cities and urban areas, the call for a sustainable, productive, inclusive and resilient city will accelerate the 2030 Sustainable Development agenda and meet the aspiration for a Livable Malaysia.





Message

In the 64 years since independence, the Government has implemented long-term policies that has laid the foundation for Malaysia to achieve a high-income and advanced nation today. The Twelfth Plan (12 MP), with the goal of “Malaysian Family – Prosperous, Inclusive, Sustainable”, will secure better standard of living for all Malaysians. And upholding the principle of “Leaving No One Behind” it will further transform Malaysia into a fully developed nation to benefit all citizens and people living in Malaysia.

We are also committed to achieve zero poverty, overcome hunger and inequalities in Malaysia and the recent revision of the National Poverty Line Income (PLI) from RM980 to RM2,208, have now identified more than 400,000 households or 5.6% of Malaysians falling within this category. The government is thus focused on providing added value programmes to increase the income of the heads of households of the poor and hardcore poor, providing financing for affordable homes and ensuring access to education, food and job opportunities.

The government remains committed to ensure the well-being of the people, especially amid the Covid-19 pandemic, the healthcare system is to be strengthened and a national healthcare policy will be drafted to ensure preparedness in managing contagious diseases and health crises in the future. This is important as a strong nation builds upon a healthy nation.

Malaysia is also making progress towards sustainability and managing climate change by adopting a resource efficient and climate resilient development model. Its national development priorities will continue to be aligned and integrated to the SDGs. The SDG Roadmap Phase 2 (2021-2025) will be formulated to advance the SDGs by implementing the New Agenda as an accelerator to achieve the urban dimensions of agenda 2030.

The National Urban Agenda Report 2022 readdress all these matters in detail culminating with all relevant government bodies to come together and share their achievements pragmatically. It is with great pleasure that I acknowledge the contributions of all the ministries and departments to have made this report an utmost success.

Dato' Sri Ismail Sabri Yaakob

Prime Minister of Malaysia

Putrajaya

April 2022





Message

As life returns to some normalcy in our country, we must continue to tread carefully through this post pandemic phase. Nonetheless, as the KPKT Minister, I am focussed on restoring the people's confidence level through many new programmes and initiatives that will elevate and ease the burden of all levels of society.

The 4th National Physical Plan 4 (NPP4) is the most significant document on Land Use Planning in the country currently. The document plays a significant role to ensure Malaysia is able to align itself as a prosperous nation, resilient economically, environmentally and socially to bring balance and prosperity to the Malaysian Family as outlined both in the New Urban Agenda (NUA) and the Sustainable Development Goals (SDGs). Malaysia's Liveability Index has also been introduced by the Ministry to ensure a well structured town plan that follows all the criteria off the NPP4. Liveability has now become an essential instrument to attract Global investments by not compromising our environment.

The National Affordable Housing Council (NAHC) was formed to consolidate government agencies in tackling the issues and challenges on public and affordable housing schemes faced nationwide. Reaching out to the B40 (lower income) communities, as well as providing regulatory framework and implementation through programmes like the - One Family One Home - and the Home Ownership Programme (HOPE) lays out our commitments to improve home ownership issues, especially on the financing aspects.

KPKT is also working towards the establishment of the National Circular Economic Council, (NCEC) to align stakeholders and industry players onto a holistic agenda. The government has started a waste-to-energy initiative to reduce the country's dependence on landfills to attract more foreign investors and boost confidence in Malaysian commerce, especially in the field of solid waste management and cyclical economy. This is timely and important as Malaysian cities need to address local challenges and set their own pathways and targets guided by the SDG Goals and aligned to our national policies on sustainability.

Dato' Sri Reezal Merican Naina Merican

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LIST OF ABBREVIATIONS

12MP	Twelfth Malaysia Plan	GPP-I	Communication Infrastructure Design Guidelines
AD	Anaerobic Digester	GTALCC	Green Technology Application for the Development of Low Carbon Cities
AI	Artificial Intelligence	HLPF	UN High Level Political Forum
C&D	Construction & Demolition	ICI	Industrial, Commercial & Institution
CCTV	Closed-Circuit Television	ICU	Coordination Unit
CMP	Conservation Management Plan	IKMa	Institut Koperasi Malaysia
CSES	Comprehensive Spatial Ecosystem	IoT	Internet of Things
CSP	Cloud Service Provider	IPPs	Independent Power Producers
CSR	Corporate Social Responsibility	Irap	International road assessment program
CSTP	Centralised Sewerage Treatment Plant	IT	Information Technology
CVI	Coastal Vulnerability Index	IWK	Indah Water Konsortium
DBKL	Kuala Lumpur City Hall	JAWHAR	Department of Waqf, Zakat and Haj
DETS	Domestic Emissions Trading Scheme	JENDELA	National Digital Network
DOSM	Department of Statistics Malaysia	JPSPN	National Solid Waste Management Department
DRMM	National Affordable Housing Policy	KEMAS	Community Development Department
DRN	National Housing Policy	KeTTHA	Energy, Green Technology and Water Ministry
DRS	Deposit Refund System	Khazanah	Khazanah Nasional Berhad
DSM	Department of Standard Malaysia	KPKT	The Ministry of Housing and Local Government
DUGB	Determination of Urban Growth Boundary	KSCMP	Kuching Smart City Masterplan
EEV	Energy-efficient Vehicles	LCCF	Low Carbon Cities Framework
EPP	Entry Point Projects	LCRPGR	Land Consumption Rate to Population Growth Rate
EPR	Extended Producer Responsibility	LFPR	labour force participation rate
ESA	Environmental Sensitive Area	LP	Local Plan
ESG	Environmental, Social, and Governance	LRT	Light Rail Transit
F&N	Fraser & Neave Holding Berhad	LULUCF	Land Use Change and Forestry
FiT	Feed-in-Tariff	MBMB	Historical Melaka City Council
FOC	Fear of Crime	MBSA	Shah Alam City Council
GDP	Gross Domestic Product	MBSJ	Subang Jaya City Council
GHG	Greenhouse Gas	MCMC	Malaysia Communication and Multimedia Commission
GMBO	Get Malaysia Business Online		
GNI	Gross National Income		
GPI	Global Peace Index		
GPP	Urban Boundary Planning Guidelines		

MCO	Movement Control Order	NLP	National Landscape Policy
MEDAC	Ministry of Entrepreneur Development and Cooperatives	NPP	National Physical Plan
MESI	Malaysia electricity supply industry	NPP4	Fourth National Physical Plan
MESTECC	Ministry of Energy, Science, Technology and Climate Change	NPPC	National Physical Planning Council
MGTC	Malaysian Green Technology and Climate Change Centre	NRR	National Recycling Rate
MIROS	Malaysian Institute of Road Safety Research	NSCP	National Smart City Platform
MITI	Ministry of International Trade and Industry	NSP	Network Service Provider
MNC	Multinational Corporation	NUA	New Urban Agenda
MOE	Ministry of Education Malaysia	NUP	National Urbanisation Policy
MP	Management Plan	NUP2	National Urbanisation Policy 2
MPI	Multidimensional Poverty Index	OSC	One-Stop Center
MPM	World Bank's Multidimensional Poverty Measure	PAYT	Pay-As-You-Throw
MPPP	Penang Municipal Council	PBT	Local Authority
MRT	Mass Rapid Transit	PLANMalaysia	Federal Department of Town and Country Planning
MSAP	Mutual Strategic Action Plan	PLI	Poverty Line Income
MSCF	Malaysia Smart City Framework	PMD	Prime Minister's Department's
MSDGC	Malaysia SDG Cities	PPA1M	1Malaysia Civil Servants Housing
MSMEs	Ministry of Micro, Small & Medium Enterprises	PPAM	Perumahan Penjawat Awam Malaysia
MUF2020	Malaysia Urban Forum 2020	PPR	Program Perumahan Rakyat
MUO	Malaysia Urban Observatory	PR1MA	Perumahan Rakyat 1Malaysia
MWM	National Waste Minimization	RE	Renewable Energy
MySTIE	Malaysian Science, Technology, Innovation and Economic	RoL	River of Life
NC	National Communication	RFZPPN-2	Second Coastal Zone Physical Plan
NEB	National Electricity Board	RMM	Rumah Mampu Milik
NEP	New Economic Policy	RMR	Rumah Mesra Rakyat
NFP	Network Facilities Providers	RUMAWIP	Rumah Wilayah Persekutuan
NGOs	Non-Governmental Organization	SAP	Special Area Plan
NGTP	National Green Technology Policy	SAP	Station Area Planning
NLCCM	National Low Carbon Cities Masterplan	SAS	Separation at Source
		SCP	Safe City Program
		SCP	Sustainable Consumption and Production
		SDG	Sustainable Development Goals

SEDA	Sustainable Energy Development Authority
SKM	Suruhanjaya Koperasi Malaysia
SP	Structure Plan
SPNB	Integrated People's Housing Program
SWCorp	Solid Waste Management and Public Cleansing Management Corporation
SWMA	Solid Waste and Public Cleansing Management Act
SWMAE	Selangor Waters Management Enactment
TNB	Tenaga Nasional Berhad
UCB	Urban Containment Boundary
UGB	Urban Growth Boundary
UN	United Nations
UNDP	United Nations Development Programme
UNFCCC	UNFCCC - UN
VNR	Malaysia's Voluntary National Reviews
WEGIS	Waste Executive Geographical Information System





1.0
GLOBAL
SCENARIO

1.0

GLOBAL SCENARIO

Today, 56% of the world's population i.e. 4.3 billion inhabitants live in cities. This trend is expected to continue and by 2050, the urban population will double its current size, where nearly 7 out of 10 people in the world will live in cities.¹

With more than 80% of global GDP generated in cities, urbanization can contribute to sustainable growth if managed well and by embedding resiliency and allowing innovation of new ideas to emerge. However, the speed and scale of urbanization brings challenges, including meeting the accelerated demand for affordable housing, well-connected transport systems, quality urban services and infrastructure, as well as jobs, particularly for the nearly 1 billion urban poor who live in informal settlements to have access to economic resources.

Sustainable city planning is important, as once a city is built, its physical form and land use patterns will be locked-in for generations, leading to all forms of possible impacts. The expansion of urban land consumption in some cities, outpaces population growth by as much as 50%, which is expected to add 1.2 million km² of new urban built up area to the world in the next three decades. Such urban density puts pressure on land and natural resources, consuming energy and producing waste and greenhouse gas emissions. We also have almost half a billion urban residents living near coastal areas, that increases their vulnerability to storm surges and sea level rising. And with 90% of urban expansion in developing countries today are near hazard-prone areas, this increasingly intensifies the role of cities and towns in tackling climate change, as their exposure to disaster risk increases with urban growth.²

Cities are also at the frontline of combating epidemics and today cities across the globe are challenged with the COVID-19 pandemic, as the health crisis has heightened both the social and economic crisis impacting how cities function. The measures taken to control the pandemic have massive financial implications on cities and their preparedness for such a crisis has been very challenging – especially the state of public health and service delivery systems that affects the urban governance structure.

In normal times, cities strive to compete and excel at the global level, including livability, competitiveness, and sustainability, but in a time of crisis, a city must function efficiently for its citizens. Thus building cities that are inclusive, healthy, resilient, and sustainable, requires policy integration and coordination. National, sub-national and local governments have an important role to play to take action now, to shape the future of their cities and towns and to create opportunities for all.

¹ World Development Indicators - World Bank, 2021

² United Nations, Department of Economic and Social Affairs, Population Division (2019). *World Population Prospects: The 2019 Revision, DVD Edition*

The New Urban Agenda

A shared vision for a better and more sustainable future

On 20 October 2016, at the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) in Quito, Ecuador, representatives of national and local governments, United Nations and other international institutions, urban practitioners and stakeholders, came together and accepted the New Urban Agenda. It was then endorsed at the United Nations General Assembly meeting on 23 December 2016.³

The New Urban Agenda represents a shared vision for a better and more sustainable future also acknowledges the importance of urbanization as a powerful sustainable development tool for a well-planned and well-managed growth of cities and nations.

The New Urban Agenda is the successor to the Habitat Agenda of the 1996 Istanbul Declaration, where it establishes that cities should be transformed to be more habitable, inclusive, healthy, sustainable, safe, orderly, compact and resilient to natural phenomena. At the same time, it urges changes to the way they are planned, developed, governed and administered by acting through design, legislation, local economic policies and urban planning policies.⁴

The New Urban Agenda acts as a mode of vehicle to accelerate the achievements of the Sustainable Development Goals, which was adopted in 2015 by 193 nations. Indeed, the 2030 Agenda has substantial urban dimensions, with 11 out of the 17 SDGs having targets with urban components, requiring the involvement of local urban stakeholders to ensure the most effective SDGs localization.⁵

The New Urban Agenda addresses a city's sustainability, enhances its livability and calling for urgent actions to tackle inequality. With the aim to leave no one behind, the agenda responds to the needs of this urban century, recognizing the growth energized by cities and at the same time acknowledging the need to address spatial, social, cultural and economic gaps and inequalities. Thus, national and local governments are encouraged to monitor, report and review the implementation of the New Urban Agenda to realise the SDGs.

This Report

This Malaysia National Report responds to the call for Member States to report on progress made on the implementation of the New Urban Agenda. The report will serve as a basis for qualitative and quantitative analysis on Malaysia's progress, contributed by national, state, regional and local government, as well as supported by organizations and significant groups and relevant stakeholders. A working committee was established led by the Ministry of Housing and Local Government Malaysia and comprising of various Ministries and agencies that shares the agenda for a sustainable urbanization. It will also set as a basis for future collaboration in future progress reporting on the New Urban Agenda.

³ HABITAT III; *The United Nations Conference on Housing and Sustainable Urban Development, 17-20 OCTOBER 2016*

⁴ *Istanbul Declaration on Human Settlements; The Habitat Agenda, 1996*

⁵ *Transforming our World: The 2030 Agenda for Sustainable Development, 2015*



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2.0
URBANISATION:
MALAYSIA'S GROWTH
TODAY

2.0

URBANISATION: MALAYSIA'S GROWTH TODAY

2.1 Urban Population

Over the last 50 years, the urban landscape of Malaysia has been markedly transformed where it has achieved a high level of urbanization. From a humble beginning of 26.8% in 1970, Malaysia quickly became an urban nation, when in 1991 its urban population reached 50.7%. Since then, rapid development has led to high rate of urbanization and today 25.7 million Malaysians which amounts to 77.6% of the national population lives / in cities and urban areas. The states of Penang and Selangor have achieved more than 90% urbanisation, while the Federal Territory of Kuala Lumpur and Putrajaya are today fully urbanised. Population density has also risen with 99 persons per square kilometer in 2020 compared to 86 persons in 2010. And among the most densely populated areas are Kuala Lumpur (7,188 persons per square kilometer), Putrajaya (2354) and Penang (1691).⁶

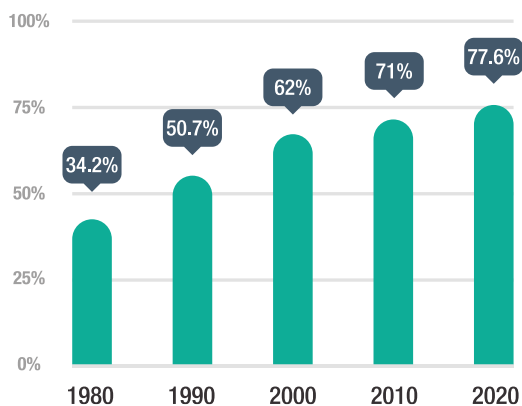
This high rate of urbanization is a result of our industrialization policies which resulted with heavy immigration to urban centers, coupled with emergences of new townships largely due to the policy of balanced growth through dispersal of economic activities that offered employment and education opportunities.

Malaysian cities are also key economic drivers and have expanded to regions that include cities surrounding them to become dynamic economic centers. Kuala Lumpur together with cities and towns in Greater Kuala Lumpur-Klang Valley region contributed to more than 40% of the national GDP in 2020, and Johor Bharu together with its Iskandar Malaysia region contributed to 70% of the State of Johor's GDP in 2020. 103 MNCs (multi-national companies) invested in Greater KL-Klang Valley and 14,000 high-skilled jobs have been created. This has led to a new pattern of in-migration where urban-to-urban migration has become more significant over the last years where 73% of the population movement has been urban to urban in 2020 compared to 66.9% in 2018.⁷

Malaysia Today

Population – 32.7M
 Urban Population – 24.3M
 Urbanization Rate – 75.1%
 Nos of Household – 8.2M
 Most dense area – Kuala Lumpur
 Highest Growth Rate – Putrajaya (4.7%)

Figure 2.1: Level of Urbanisation, Malaysia, 1980, 1991, 2000, 2010 and 2020



6 Population & Demographic Statistics Division; Department of Statistics Malaysia, <https://www.dosm.gov.my>

7 Ibid

2.2 Urban Transformation

To support growth, our cities and urban area has also physically transformed. In the early 1990s, when Kuala Lumpur was facing development pressure and traffic congestion, it was decided that the government administration moved from Kuala Lumpur to Putrajaya. The federal administrative capital city of Putrajaya has been the largest movement of both a city function as well as its urban population, where many from Kuala Lumpur and the Klang Valley have moved into the administrative capital city since 1999 and today the city has almost 120,000 people living and working in Putrajaya.⁸

This movement has also provided more emphasis for connectivity in our urban regions. In Kuala Lumpur and its Greater Kuala Lumpur, highly-developed intermodal infrastructure that includes road networks, an integrated railway network and other modes of public transport have been a continuous effort to enhance people mobility and city connectivity to its 8 million urban conglomeration population. This has also led to urban transformation of other surrounding cities, with improvements made to provide better housing, infrastructure and urban facilities to create a conducive living environment that is safe, comfortable and livable.

City skylines has also changed where more compact development have emerged in Malaysian cities to support the increasing urban densities.

Public and affordable homes are one of the nation's important policy in providing for better living conditions and transforming squatter settlements that was once a major urban problem for our cities. Most of these squatter settlements in been cleared and its residents relocated into public housing, owing to the relatively successful zero squatters' policy of 2014. In Kuala Lumpur alone, the City Hall has managed to reduce the number of people living in squatter areas from 134,345 in 1996 to 15,580 in 2020. RM1.73 billion was spent to construct public housing — 101,031 units within 99 areas in Kuala Lumpur in 2020. This effort is found in most cities in Malaysia as urban dwellers today seek for quality living space and homes.⁹

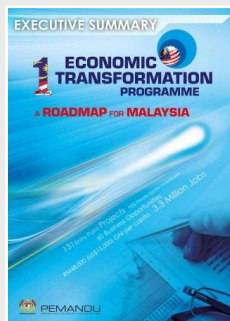
Urbanization definitely place a lot of pressure to the government; to find means to manage its resources such as land, water and energy, efficiently. Urban transformation is a continuous effort as the government juggles with rapidly escalating land prices, inflating house prices to providing all forms of facilities and amenities. However, the country's commitment to urban wellbeing is manifested through its focus on sustainable urbanization in its economic and physical blueprints that will continue to transform cities and urban areas in Malaysia.

8 *Kuala Lumpur and Putrajaya: Negotiating urban space in Malaysia. Asian Studies Association of Australia in association with University of Hawaii Press. 2008*

9 *Living next to poor housing: A Regression Analysis of House Prices in Greater Kuala Lumpur. Gregory Ho Wai Son & Lim Han Hsuen. 2022 Khazanah Research Institute*



In 2010, Malaysia embarked on an Economic Transformation Plan and 12 National Key Economic Areas were identified to transform the national economy. One of the key area was an Urban Economy plan – The Greater Kuala Lumpur-Klang Valley Economic Transformation Plan. The plan put in place nine (9) entry point projects (EPPs) that would enable the region to drive its Gross National Income targets by 2020 as well address the challenges of competitiveness, livability and quality built environment. The plan has been executed by various Ministries and agencies and to-date much of this plan has been realized leading to the region contributing to more than 40% of the national GDP in 2020.



9 Entry Point Projects for Greater KL/KV

- EPP#1** MNC Attraction with a vision to attract 100 MNCs to establish regional HQ in Greater KL
- EPP#2** Talent Attraction with a minimum 1.7 million new jobs created by 2020
- EPP#3** High Speed Rail from Greater KL to Singapore potentially reducing travel time by 2 – 2.5 hours compared to fastest alternative making daily travel between KL and Singapore possible
- EPP#4** Mass Rapid Transit to increase significant in rail capacity
- EPP#5** River of Life in transforming Klang River into a vibrant and livable waterfront with high economic value
- EPP#6** Greener Kuala Lumpur in increasing green density, interconnecting parks and increasing park usage, promote green redevelopment.
- EPP#7** Iconic Places
- EPP#8** Pedestrian Walkway towards a comprehensive pedestrian network
- EPP#9** Solid Waste Management (JPSPN) with construction of new plants, increase and improve services network/pipelines

Progress and Achievement of Greater KL/KV EPP (2020)



103 Multinational Companies Invested in Greater KL since its inception



RM15.813 Billion approved/committed investments



14,111 Regional High-skilled jobs created



Kuala Lumpur ranked 1st in Southeast Asia for **Cost of Doing Business**, 2nd in Southeast Asia for **Ease of Doing Business** and 3rd in Southeast Asia for **Most Business Friendly**

Role of Cities

As an upper-middle income country with a majority of its population living in cities, Malaysia is situated among the countries that prove urbanization is key to achieving high-income status. While Malaysia's cities feature strong growth, low poverty rates, and wide coverage of basic services and amenities, challenges still remain. Its larger cities are characterized by urban sprawl, particularly in Kuala Lumpur, where population density is low for an Asian metropolis. This inefficient urban form results in high transport costs and negative environmental impacts.

This is matched by low economic density, indicating Malaysia's cities can do better in maximizing the economic benefits from urban agglomeration. A second challenge hampering Malaysia's cities is the highly centralized approach to urban management and service delivery, a system that impedes the local level, and obstructs service delivery and effective implementation of urban and spatial plans. Third is a growing recognition of the importance of promoting social inclusion to ensure that the benefits of urbanization are widely shared. Thus, Malaysia's cities set of roles are:

- a. **Foster Urban Economic Growth:** Encouraging more flexible and efficient utilization of land, and coordinating this with the development of connective infrastructure could increase economic density in many Malaysian cities. To improve efficiency, incentives can be provided to cluster services and knowledge-based sectors in large cities, while systematically relocating land-intensive manufacturing industries to smaller cities and towns. Initiatives to repurpose old industrial districts could include catalytic projects to make the city's spatial structure more efficient, livable and sustainable.
- b. **Ensure urban environmental sustainability:** Furthering the use of public transport would reduce pollution, sprawl and congestion. Integrating climate change and risk-reduction considerations into urban planning and management would increase urban resilience in Malaysia's cities.
- c. **Strengthen institutions for city:** To increase the effectiveness and efficiency of urban service delivery in Malaysia, management and decision-making roles could be shifted to local level, particularly for areas such as: intra-urban highways and federal intra-urban roads; public transportation; drainage and flood mitigation; and solid waste management. Investing in building capacity at the local level, and revising the system of fiscal transfers to local authorities to be more transparent, predictable and formula-based would help strengthen local service delivery.
- d. **Foster social inclusion:** Strengthening programs for at-risk urban youth would help to prevent school dropouts and encourage entry into the labor market. Social inclusion can be facilitated through better spatial integration of housing and transport, while safe neighborhood programs can foster a sense of belonging which may have powerful impacts on Malaysian youth.
- e. **Promote innovation through information:** Accessing data in Malaysia has historically been difficult. Providing more open access to data can create new business opportunities, help solve civic problems, and allow Malaysia to benefit from data-enabled urban management. More could be done to use the data to facilitate collaborative decision-making among government agencies and between government and citizens, ultimately enhancing the role of cities. Many of the changes identified involve shifting from existing norms and require sustained efforts and political will to implement. The benefits for Malaysia would far outweigh the costs as it offers opportunities to harness the benefits of urbanization and achieve a system of competitive, sustainable and inclusive cities.
- f. **Happiness and Well-being of Urban Population** : 12MP also call for happiness as a means of measuring well-being, and good health, quality of urban services as well as family relationships are important factors that indicates if society are happy living in our cities today. Thus cities has to ensure that community well-being is an important function that reflects its livability and sustainability.

Linkage Between Cities and Sub-urban Areas

Impacts of urbanization upon regional imbalances has set upon new priorities to narrow the socio-economic development gap between regions and states, and between urban and rural, to spur economic activities and uplift the well-being of the communities. The 12MP calls for several strategies to strengthen rural-urban linkages and these include enhancing urban agglomeration and its eco-system. Where the urban conurbations, promoted development zones and catalyst centres, will be leveraged to create opportunities for sub-urban and rural areas in achieving higher productivity and providing better infrastructure, accessibility, connectivity and enhancing talent development.¹⁰

¹⁰ Priority Area B, 12th Malaysia Plan, 2021-2025

The above strategic action is crucial as differing patterns of urbanization will require different structural transformation. As seen in Peninsular Malaysia, where a more even rank relationship among cities are found against a primate-dominant relationship in Sabah and Sarawak.

An issue of population decline has influenced most of the rural areas in Malaysia. It is shown that the population has been gradually declined from years to years. Agriculture productivity loss, lacking job opportunities in rural areas, rural-urban migration and lacking government incentives on rural products are the main related issues affecting population decline. Main determinants have been driving forces behind this pattern is rural-urban migration. Migration from rural areas to urban areas is the only way to find suitable jobs and better salary whereby it contributes to the population decline in rural areas. Besides that, rural households faced challenges which are household incomes disparities between urban areas and rural areas.

It is shown that the total average monthly household income for urban and rural areas, although total revenue for the two regions is seen to increase from year to year, the household income gap is very significant. Even though the gap of urban and rural income has been reduced from year to year due to several current policies implemented by the government to improve the wellbeing of peoples, the effects of the development of urban areas has spread out unintentionally to the rural areas physically and economically. Deeper insight on differences in economic performance of rural areas should be intended to elaborate involving variations of determinants that incorporate between and within the rural areas in the relevance of Malaysia context.

Differences of economic performance in rural areas caused by different factors were driven in the relevant agencies to develop solutions to overcome the decline of rural areas. One of these solutions is rural revitalization.

Successful rural revitalization requires a holistic approach, which includes components such as the local economy, physical environment, political environment and the social environment. In respect to that, rural revitalization is linked to the economic planning and strategic spatial planning whereby it could play a key role in the revitalization process.

2.3 Future Growth Trends and Key Challenges

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.

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 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 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. Malaysia had set its target to become an advanced economy nation by 2020. This will be sustained through a resilient, low-carbon, resource-efficient, and socially inclusive manner. Future challenges require that Malaysian urban planning system be able to adapt to changing needs and at the same time secure efficiency, effectiveness and simplicity in conception and operation. Towards this end there should be a constant review of the policies and practices in town and country planning including those provided by the law.

Planning and development approaches shall also shift from the conventional and costly 'grow first, clean-up later' path to a greener trajectory - Green Growth - which will ensure that socio-economic development is pursued more sustainably, beginning at the planning stage, and continuing throughout the implementation and evaluation stages. To pursue green growth, the enabling environment will be strengthened particularly in terms of policy and regulatory framework, human capital, green technology investment, and financial instruments. To encourage compact form and high intensity development, mechanisms for managing growth such as zoning, growth boundaries, growth control regulations and other development incentives shall be of better use. This will produce cities that are efficient in the long run.

Federal Government shall also co-operate with and provide more comprehensive support to the relevant state and local agencies in pursuit of this shared objective of building vibrant and sustainable cities. Green growth requires fundamental transformation, in regulations and guidelines applicable to businesses, in guiding consumers to make household purchasing decisions and in managing the nation's energy and natural resources. For this change to take place smoothly, strategies on strengthening the governance to drive transformation, enhancing public awareness to create shared responsibility and establishing sustainable financing mechanism are essential.

While Malaysia is blessed with large forested areas, some have suffered environmental degradation in the recent past, highlighting the need to further intensify conservation and rehabilitation.

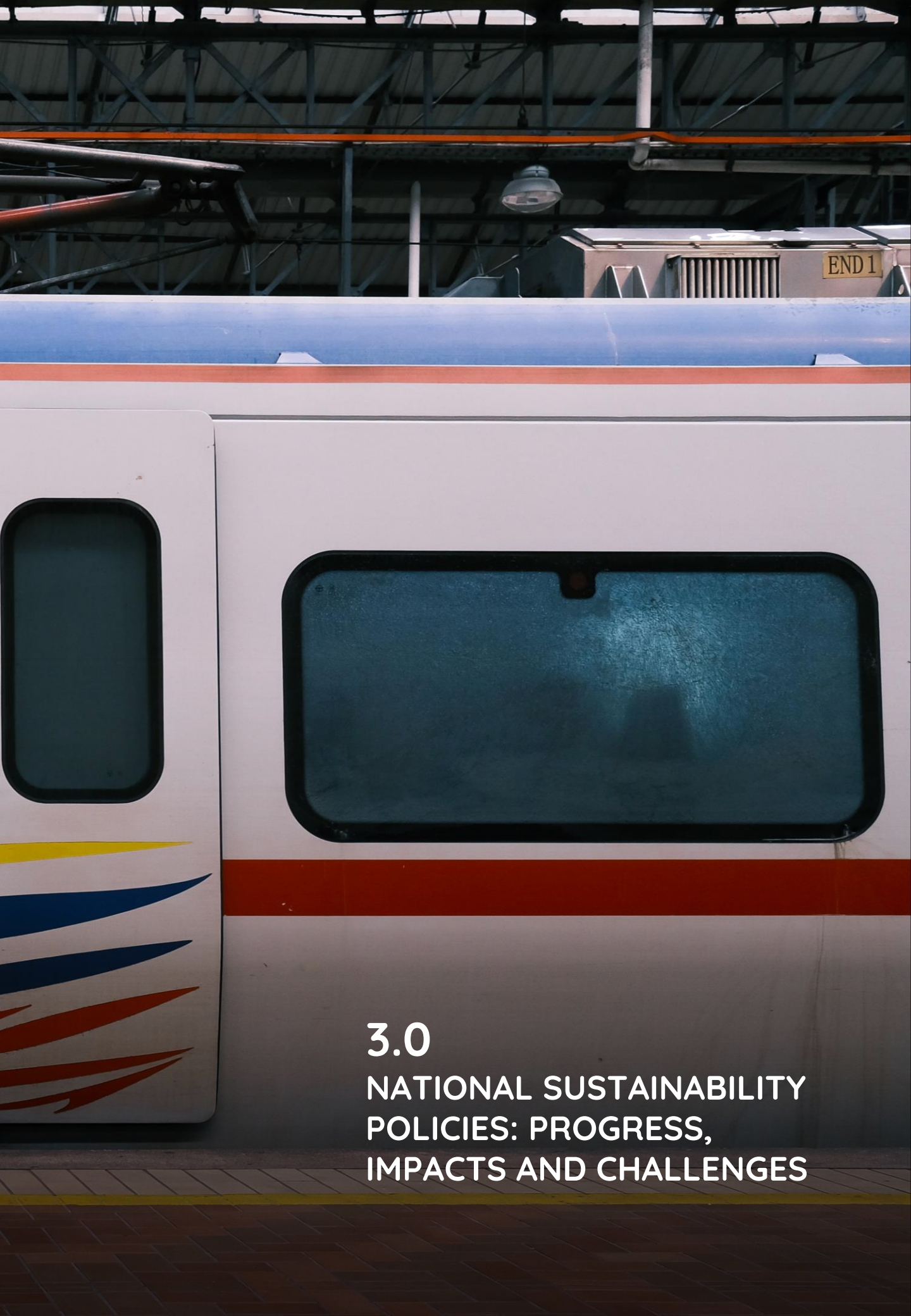
Ensuring natural resources security by conserving terrestrial and marine areas as well as endangered plant and wildlife species, managing natural resources and enhancing alternative livelihood for indigenous and local communities remain the biggest challenges for conservation efforts.

Local governments have a lot of active roles to put in place while embracing new challenges and resolving existing issues. Excellent service delivery is catalyst to public satisfaction. Hence, Ministry of Housing and Local Government has drafted a Local Government Transformational Plan aimed to improve service delivery as well as quality urban living by having local governments to subscribe to principles and action plans. This plan consists of six focuses namely empowering the human capital, service delivery, boosting financials, people's happiness, people's involvement and effective communication internally as well as externally. Such aspiration entails overwhelming and whole-hearted support by all related parties whose roles are described in the plan including state governments.¹¹

For instance, Malaysian local governments are largely dependents on both Federal Government and State Governments in financial funding. Annual federal grant is awarded to assist in developing their place. Simultaneously, many small-scaled local projects are funded by both governments as many of the local governments are struggling to meet their expected service. In light of the move, the Federal Government is looking into amending the current Local Government Act 1976. It is expected to be completed in 2022 with several sections are now being reviewed to make them more responsive and relevant with the current needs. Local governments are also encouraged to revisit their local council by-laws as some may have obsolete functions given the rapid growth and dynamic economic landscape regionally. Malaysia is blessed with so much diversities across many socio-economic dimensions. As such, it is necessary for us to have a balanced and sustainable growth path, a necessary condition to ensure development is equitably shared across ethnic groups, income classes and regions, if a harmonious and peaceful nation is to be realised. Sustainability and inclusivity have always been the hallmark of Malaysia's development. Since gaining Independence in 1957, Malaysia has consistently taken into account the economic, social and environmental aspects in our development plans. And Malaysia has experienced good growth and development since then.

¹¹ *Local Government Transformation Plan, Ministry of Housing and Local Government*





3.0 NATIONAL SUSTAINABILITY POLICIES: PROGRESS, IMPACTS AND CHALLENGES

3.0

NATIONAL SUSTAINABILITY POLICIES: PROGRESS, IMPACTS AND CHALLENGES

3.1 Malaysia's Commitment To Sustainability – An Overview

In the 64 years since independence, the Government has implemented several long-term policies, all ascertaining the role of national development planning in supporting Malaysia's aspiration to become a high income and developed country, through sustainable and inclusive development strategies.

Given the complexities and challenges to remain being competitive in the global environment as well as meeting rising citizen expectations, these policies continue to incorporate elements of poverty eradication, environmental stewardship, and just wealth distribution strategies in their implementation.

The New Economic Policy (1971-1990), significantly reduced poverty and restructured society. Vision 2020, which encompasses the National Development Policy (1991-2000), the National Vision Policy (2001-2010) and the National Transformation Policy (2010-2020), laid the foundation for Malaysia to be a high-income and developed nation. Subsequently, the Shared Prosperity Vision 2030 was launched in October 2019.

The Malaysia Plan, currently in its 12th edition, was drafted bearing in mind current changes in the global and domestic economic landscape as well as the need to address current issues for the brighter future of Malaysia. This chapter provides an overview of development policies in Malaysia, and how each of them guide and drive the sustainability agenda.

Twelfth Malaysia Plan, 2021-2025

Economic empowerment, environmental sustainability and social re-engineering.

The Twelfth Malaysia Plan (12MP), to be implemented from 2021 to 2025, aims to reduce income disparities, as well as the gaps in development between more developed areas such as the Klang Valley and less developed ones such as Peninsular Malaysia's east coast and the Bornean states of Sabah and Sarawak.¹²

In this plan, the government would continue to fulfil its commitment towards reducing our greenhouse gas emissions intensity of GDP by 45% come 2030

(see Chapter 3.2 for details). This would be based on the emission intensity of GDP in 2005, in line with the Paris Agreement in 2015.¹³

Malaysia's carbon neutrality by 2050 pledge appears to be the most ambitious in Southeast Asia. Indonesia has pledged to achieve net zero emissions by 2060, while Thailand said that it is targeting to achieve carbon neutrality by 2065 to 2070.

Thus, we have much more to improve our competitiveness and investment climate in order to achieve the aforementioned GDP growth targets. In line with the ambition towards carbon neutrality by 2050, we shall be more critical in making sure that sub-sector policies must match up with the aim to reduce carbon emissions while accelerating green growth.

A National Energy Policy to provide a long-term strategic direction to support the aspirations of a carbon neutral nation will be introduced. Under this plan, cleaner electricity generation will be implemented through the operation of several gas power plants in Peninsular Malaysia to replace coal-fired power plants. We also pledge that we would no longer build new coal-fired power plants.¹⁴

We target to increase our renewable energy generation from solar, biomass and biogas to 31 per cent of the total installed capacity in the country by 2025. A law related to energy efficiency and conservation would also be introduced to regulate energy consumption by high-intensity consumers in the industrial and commercial sectors.¹⁵

A Domestic Emissions Trading Scheme (DETS) is being developed by the Environment and Water Ministry, to be implemented in phases, and a single business platform would be developed. This will allow State government authorities and the private sector to execute carbon credit transactions at the domestic level. On top of this, other economic instruments such as carbon pricing and carbon tax mechanisms would be implemented by the end of 2022.¹⁶

12 *Unit Perancang Ekonomi: Pelan Strategik Unit Perancang Ekonomi 2021-2025*

13 *Paris Agreement, United Nations Climate Change. 2015*

14 *Malaysia's Intended Nationally Determined Contribution (INDC) Revised Final. 2015*

15 *Ibid*

16 *Ministry of Environment and Water. National Guidance on Voluntary Carbon Market Mechanisms.*

The Malaysian government would also give priority to the development of the energy-efficient vehicles (EEV) production industry to support environmentally friendly mobility initiatives. The Ministry of International Trade and Industry is identifying new strategies to promote the industry to investors, and few strategies already identified included introducing a consumer-focused incentive package to attract investments into the EV ecosystem.¹⁷

This measure is expected to encourage investments in the production of EVs or their components and infrastructure support, including EV charging stations, as well as to drive consumer demand for EV vehicles, directly supporting environmentally friendly mobility initiatives.

One of the key themes of the 12MP is on Advancing Sustainability. It focuses on efforts to advance green growth through the whole-of-nation approach by leveraging green technology as well as sustainable consumption and production practices, whilst ensuring environmental protection, addressing climate change and conserving natural resources for future generations.

The transition to circular economy enables a systemic shift to generate more sustainable and responsible businesses and investments, create new economic opportunities and expand the green market. To ensure continuous access and affordable energy costs, the energy sector will be managed efficiently through the formulation of a comprehensive policy.¹⁸

These measures will result in prudent energy management to support economic growth and improve the wellbeing of the people. The document has also emphasised on urban development, of which focus has been given to developing sustainable cities under the chapter “Improving Regional Balance and Inclusion”.¹⁹

The four strategies identified to promote better inclusion and enhance the wellbeing of urban dwellers are:

1. Promoting effective urban planning and governance
2. Fostering sustainable urban economy
3. Prioritising green and resilient urban development
4. Building sustainable urban society



National Development Planning in Malaysia: The Malaysia Plans

Learning from the past to chart the future

Over the past 20 years, Malaysia has undergone the economic transition towards an urban and industrial economic base, away from agriculture and primary production. As a consequence, the socio-economic change has brought about many new pressures to bear on the environment, and similarly, on the institutions and mechanisms established to manage the environment.

For Malaysia, national development planning has been central in guiding economic policymaking for more than 60 years. Malaysia's development outcomes over the course of six decades have occurred against the backdrop of this five-yearly development blueprints called the Malaysia Plans, currently in its 12th edition, illustrating its importance as a policy instrument to promote growth and shared prosperity.

The concept of protecting the environment, as part of the development planning process, was first given prominence in the 3MP (1976-1980) where it was emphasised that the objectives of development and environmental conservation should be kept in balance, so that the benefits of development were not negated by the costs of environmental damage.

However, it was not until the 6MP (1991-1995) that serious efforts to balance environmental with economic goals in the national development planning process were undertaken. The 6MP adopted specific environmental and sustainable development goals. The approach was taken further by the 7MP (1996-2000), which promulgated the policy objective of integrating environmental considerations within the economic and development planning process.

Significantly, the 7MP linked these considerations to the continued sustainability of the economic growth of the country. Economic growth remains paramount as a development objective, but it is also recognised as an important means towards sustainable development.

17 Hirose, Nao. *Envilience Asia: Malaysia issues standard for energy efficient vehicle certificate*. June 23, 2021

18 Ministry of International Trade and Industry Malaysia (MITI), *Press Statement NAP 2014*.

19 Unit Perancang Ekonomi, *Jabatan Perdana Menteri, Mid-Term Review of the Eleventh Malaysia Plan; Chapter 12 Pursuing Balanced Regional Development*. 2020

Vision 2020

The vision for a developed nation by 2020

“Malaysia by 2020 should not be developed only in the economic sense — It must be a nation that is fully developed along all the dimensions: economically, politically, socially, spiritually, psychologically and culturally. We must be fully developed in terms of national unity and social cohesion, in terms of our economy, in terms of social justice, political stability, system of government, quality of life, social and spiritual values, national pride and confidence.”

Tun Dr Mahathir Mohamad

Fourth and seventh Prime Minister of Malaysia

Vision 2020 was introduced nearly three decades ago as a roadmap for Malaysia to transform into becoming an advanced nation. It was introduced during the tabling of the 6MP in 1991.²⁰

Aspiring to become a high-income nation, Malaysia's per capita income of US\$11,230 in 2019 was just shy of the US\$12,535 threshold (as at July 1, 2020) that is needed to be deemed a high-income nation. This shows that, while Vision 2020 was seen as overly ambitious when it was first introduced, we are not far from realizing the vision, in terms of economic growth.²¹

However, it is clear that Vision 2020 was never just about having high per capita income, and has set a strong direction through the outlined nine strategic challenges that Malaysia must overcome. They were:

Challenge 1: Establishing a united Malaysian nation made up of one Bangsa Malaysia (Malaysian Race).

Challenge 2: Creating a psychologically liberated, secure and developed Malaysian society.

Challenge 3: Fostering and developing a mature democratic society.

Challenge 4: Establishing a fully moral and ethical society.

Challenge 5: Establishing a matured liberal and tolerant society.

Challenge 6: Establishing a scientific and progressive society.

Challenge 7: Establishing a fully caring society.

Challenge 8: Ensuring an economically just society, in which there is a fair and equitable distribution of the wealth of the nation.

Challenge 9: Establishing a prosperous society with an economy that is fully competitive, dynamic, robust and resilient.

Revisiting these nine challenges, Vision 2020 has not totally been realized. And in addressing new needs and challenges, alongside Vision 2020, a Shared Prosperity Vision 2030 has been developed to deliver the promise of a modern, industrialised, developed and united Malaysian nation — an aspiration that remains more relevant than ever in many respects.

Shared Prosperity Vision 2030

From a low-skill labour-intensive economy to a knowledge-based economy.

The introduction of the New Economic Policy (NEP) in 1970 has somewhat successfully reduced the relative income between the T20 and B40 group from 9.67 times in 1970 to 5.64 times in 2016. However, it was pointed out that the absolute income gap between the T20 and B40 households have risen from US\$ 770 in 1970 to US\$ 3,167 in 2016. It means either the T20 household income level has grown faster or the B40 household income level has grown slower, or it may be both.

Khazanah Research Institute

Malaysia launched the Shared Prosperity Vision 2030 with the overarching philosophy of development for all with a specific thrust that intended to address wealth and income disparities and in turn achieve the objectives of becoming a united, prosperous and peaceful nation.

It is our commitment to make Malaysia a nation that achieves sustainable growth along with fair and equitable distribution, across income groups, ethnicities, regions and supply chains. The commitment is aimed at strengthening political stability, enhancing our nation's prosperity and ensuring that citizens are united whilst celebrating ethnic and cultural diversity as the foundation of the nation state.

The plan outlined seven broad strategies and some suggestions on how it can be implemented. It also outlined eight ways in which the government can play an enabling role in achieving those strategies.

²⁰ *Malaysian: The Way Forward (Vision2020) by Dato Seri Dr. Mahathir Bin Mohamad*

²¹ *Cindy Yeap. Vision 2020: Mission unrealised. The Edge Malaysia Weekly, on December 28, 2020 - January 10, 2021*

Figure 3.1: Eight Shared Prosperity Vision Enablers

Capacities, resources and catalysts contributing to success of the Shared Prosperity Vision 2030



Source: Economic Planning Unit, Prime Minister's Office, Shared Prosperity Vision 2030. 2020



The New Malaysia envisioned in the 2030 Shared Prosperity Vision will be defined by a new set of policy tools that ensure economic growth, social harmony, economic inclusivity, environmental preservation and good governance. Government policies will address both B40 and M40 needs, particularly through more active engagements and consultations with these groups, with the ultimate aim of having macroeconomic growth that permeates and is realised on the ground.

Significantly, all these blue-prints or roadmaps in developing Malaysia are underpinned with one common factor – sustainable growth and development. They are our commitment to sustainability, and we will continue to align our policies and strategies on this pathway.

The government also remains committed to ensure adequate financing for programmes and projects related to the Sustainable Development Goals (SDGs) by strengthening and widening sustainability related financing, which includes addressing the impact of climate change on financial stability and economy, as well as addressing social-related issues like poverty.

The principles of integrity and good governance are applied across six sectors including political governance, public sector administration, public procurement, legal and judicial, law enforcement and corporate governance. In line with the SDGs, the 2030 Shared Prosperity Vision aims to bridge the income and wealth gaps between economic classes, ethnic groups and geographical territories, and will ensure inclusive development and fulfil the objective of not leaving anyone behind.

“Malaysia has successfully transformed its economy, raised living standards, and moved from a low-income to an upper-middle-income economy within a generation. The gross national income (GNI) per capita, expanded about 29-fold, from US\$ 347 in 1970 to US\$ 10,118 in 2020. Among the significant achievements are in eradicating poverty and narrowing inequalities as well as providing better quality of life for the people. The incidence of absolute poverty reduced from 7.6 per cent in 2016 to 5.6 per cent in 2019. Hardcore poverty has almost been eradicated, though pockets among selected groups, and multidimensional deprivations remain.”

Malaysia's Voluntary National Review (VNR) 2021

Box 3.1 : Malaysia Voluntary National Review 2021



In looking to achieve its SDG targets, Malaysia has undertaken integrated stakeholder engagement as a continuous process in looking to foster collaboration and trust. Malaysia's VNR also noted that South-South cooperation on the goals has been boosted by its participation in ASEAN.²³

Malaysia's Voluntary National Reviews (VNR) grouped the Sustainable Development Goals (SDGs) under eleven thematic areas for the purpose of highlighting development achievements.

These included:

- Absolute Poverty and Hunger (SDGs 1 & 2),
- Diseases and Mortality Rates (SDG 3),
- Education (SDGs 4 & 5),
- Basic Amenities (SDGs 6 & 7)
- Infrastructure (SDGs 9 & 11)
- Justice and Strong Institutions (SDG 16), Sustainable
- Consumption & Production and Climate Change (SDGs 12 & 13),
- Economy and Employment (SDGs 5 & 8),
- Income Inequalities (SDG 10),
- Environmental Endowment (SDGs 14 & 15)
- Global Roles (SDG 17)

23 Unit Perancang Ekonomi, Jabatan Perdana Menteri, Malaysia Voluntary National Review. 2021

3.2 Malaysia's Commitments in Addressing Climate Change

Ratification of the UN Framework Convention on Climate Change, 1994

Playing our role to ensure UNFCCC targets be met.

Malaysia ratified the UN Framework Convention on Climate Change (UNFCCC) on July 13, 1994 and the Kyoto Protocol on September 4, 2002. As part of the obligations assumed as a party of the UNFCCC, the Government of Malaysia submitted its First National Communication (NC) in 2000 and the NC2 was submitted in January of 2011. Malaysia is now in the midst of preparing its NC3.

"Malaysia aims to reduce its greenhouse gas (GHG) emissions intensity of GDP by 45%, by the year 2030. Based on our climate change action plan, we are working towards 35% GHG reduction (on unconditional basis) and another 10 % is conditioned upon receipt of climate finance, technology transfer and capacity building from other developed countries."

Malaysia's First Biennial Update Report submitted to the United Nations Framework Convention on Climate Change in December 2015

To give a baseline in monitoring our progress towards this commitment, Malaysia's total GHG emissions represent about 0.6% of global emissions in 2011. The emission intensity per GDP was 0.41 tCO₂e/ US\$ 245 for that year. This represents a reduction of about 23% from the 2005 values. The total GHG emissions including removals by Land Use, Land Use Change and Forestry (LULUCF) sinks is about 0.05% of global emissions.²⁴

However, we are well aware that the commitment in reducing our emissions intensity by 45% by 2030 is a very ambitious commitment given that fossil fuel is a key driver of our economy. Realizing challenges that awaits us, Malaysia's low carbon development pathways have started early – making available number of policies and strategic plans that have slowly redirected the country toward a less carbon-intensive future.

These have included the National Biofuel Industry Act, 2007; establishment of a Sustainable Energy Development Authority (SEDA) to promote the use of renewable energy in power generation; promotion of public transportation while limiting private vehicle ownership (National Land Public Transport Master Plan);

and encouraging adoption of "green" technology through the Green Technology Policy (2009). A comprehensive analysis on mitigation prospects, potential and strategies across various sectors through the Roadmap of Emissions Intensity Reduction in Malaysia was introduced in 2014.

The National Policy on Climate Change

The policy that instigated the foundation for a Climate Change Act

The National Policy on Climate Change was introduced in 2009 to mainstream climate change, provide policies, and strengthen institutions to reduce climate change impacts. There are five (5) principles for the policy :

- P1 : Development on a Sustainable Path
- P2 : Conservation of Environment and Natural Resources
- P3 : Coordinated Implementation
- P4 : Effective Participation
- P5 : Common but Differentiated Responsibilities and Respective Capabilities

"Instead of watching sea levels rise, youth should rise up, lead the movement, and stir the waves of change for a better tomorrow. Humans are the root of the problem, but we can also be the solution for change"

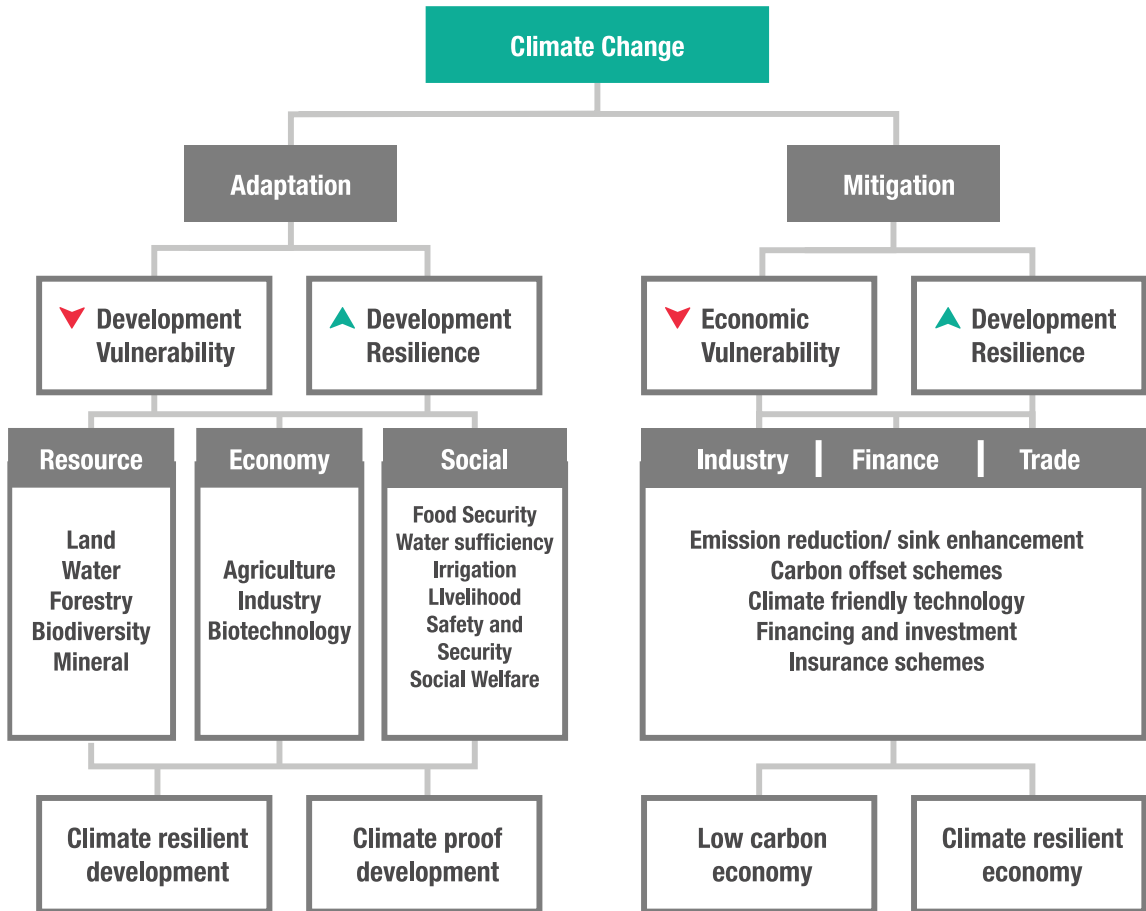
Toh Zhee Qi, 22, member of the Malaysian Youth Delegation Change for Climate by UNDP and UNICEF, 2020

In September 2021, the Government announced under the 12MP that legislation on climate change would be formulated to increase coordination and enhance the effectiveness of climate change actions. Most recently, the Ministry of Environment and Water announced that the ministry and other agencies are presently drafting the National Climate Change Legal Framework, which will set the foundation for a Climate Change Act that is expected to come into force in 2024.²⁵

²⁴ *Climate Change Laws of the World database, Grantham Research Institute on Climate Change and the Environment.*

²⁵ *Legislation to address global warming in Malaysia in the works: The Star Thursday, 22 Apr 2021; Sim Leoi Leoi*

Figure 3.2: Framework of the National Climate Change Policy



Source: National Green Technology Policy, 2009



National Green Technology Policy

Green technology as a driver to accelerate the national economy and promote sustainable development.

“The National Green Technology Policy recognised green technology as a driver to accelerate the national economy and promote sustainable development. It emphasises on four focus areas of green initiatives: energy, building, transportation and waste management - incorporating various measures including mobilizing financing and technical assistance in many areas and integration of measures into policies, plans, programmes and projects”

The National Green Technology Policy, 2009

The National Green Technology Policy, launched in 2009, seeks to promote low carbon technology and ensure sustainable development while conserving the natural environment and resources. The Policy focuses on four broad sectors (building, energy, waste and transportation) with five strategic thrusts:

1. To establish a green technology council for high-level coordination amongst key stakeholders;
2. To provide a conducive environment for green technology development;
3. To intensify human capital development by providing training and education programmes, and by introducing financial packages and incentives to students embarking on green technology related subjects;
4. To intensify green technology research and innovation towards commercialisation;
5. To promote for public awareness on green technology.

Subsequently, the National Green Technology and Climate Change Council, chaired by the Prime Minister, was established in early 2010 to foster greater ties and coordination between these two complementary areas.

During the 10MP (2011-2015), various mitigation measures were carried out in several areas such as energy, transportation, waste and forestry. As of 2013, implementation of mitigation measures in these areas resulted in reduction of GHGs emission intensity of its GDP by 33%.²⁷

The green technology agenda in Malaysia consists of a range of initiatives and policies which aim to increase the use of environment-friendly approaches in every sector to reduce the reliance on fossil fuels and environmental impact.

Among measures undertaken include enforcement of the Renewable Energy Act, 2011, implementation of the FiT mechanism, gazetting of EURO 4M fuel standards, introduction of the biodiesel B7 programme, conversion of empty palm oil fruit bunches to energy and gazetting of Permanent Reserved Forests.

In terms of adapting to climate change impact, several measures were undertaken with respect to water resources and the agriculture sector. Flood mitigation and coastal erosion prevention programmes were implemented to reduce the impact of floods and sea level rise.

Flood hazard maps were also developed to facilitate disaster prevention and development planning in major high-risk areas. In the agriculture sector, a new aerobic paddy variant known as MR1A1, which is resistant to heat and water scarcity, was launched. In addition, new policy frameworks, guidelines and standards as well as communication mechanisms were introduced to support efforts in addressing climate change.²⁸

A Roadmap of Emissions Intensity Reduction in Malaysia

A comprehensive analysis on mitigation prospects, potentials and strategies across various sectors.

In 2014, Malaysia developed A Roadmap of Emissions Intensity Reduction in Malaysia. The study indicated that Malaysia has opportunities across various sectors to meet the reduction target of 45% emissions intensity reduction of GDP. However, while these opportunities exist, considerable efforts would be required to realise these emissions reductions in light of the challenges and barriers.

Among these barriers are technological costs, institutional framework and capacity and LULUCF legacy issues. The country continues to allocate financial resources for the implementation of climate change mitigation programmes through both public and private sector initiatives.

The climate-related policies are implemented along with national priorities such as poverty eradication, improving quality of life and development. Meanwhile, The 12MP focused on sustainable growth and introduced mitigation strategies to reduce emissions of GHG. Three significant financial tools were introduced to promote sustainability measures.

²⁷ Susskind L, Chun J, Goldberg S, Gordon JA, Smith G and Zaerpoor Y; *Breaking Out of Carbon Lock-In: Malaysia's Path to Decarbonization*. *Front. Built Environ*. 2020

²⁸ Siti Nur Anisah Aani, Abdul Shukor Juraimi, Muhammad Saiful Ahmad Hamdani and Mashitah Jusoh. *Weed identification And Aerobic Rice Performance (Oryza sativa L.) Of Different Soil Textures in Peninsular Malaysia*; *International Journal of Scientific & Engineering Research* Volume 11, Issue 7, July-2020

These consist of (1) the introduction of a feed-in-tariff (FiT) mechanism in conjunction with the Renewable Energy Policy and Action Plan (2010) to help finance renewable energy investment; (2) providing fiscal incentives and funding for green technology investments; and (3) promoting projects eligible for carbon credits.

We will continue to pursue our green growth goal under the 12MP for the purpose of sustainability and resilience. These include strengthening and enabling environment for green growth, adoption of sustainable consumption and production, conserving natural resources and strengthening resilience against climate change and natural disasters. These actions will further reduce Malaysia's carbon footprint.

The agriculture sector showed a reduction in emissions due to the changes in assumptions and guidelines. In NC2, the Energy sector contributed 66%, LULUCF sector 13% and Waste sector 12%. The NC2 also resulted in guidelines for adaptation and mitigation which are a first step towards a concrete strategy. The National Policy on Climate Change was approved by the Cabinet in 2009 with the aim to provide the framework to mobilise and guide all key stakeholders in addressing the challenges of climate change in an effective and holistic manner.

The objectives of the policy include mainstreaming climate change response through wise resource use and enhanced environmental conservation, integrating these responses into new and existing national plans and programmes, and strengthening institutional capacity, with the collective goals of strengthening economic competitiveness, improving quality of life, strengthening development resilience in the face of the potential impacts of climate change, and reducing its negative impacts.



Table 3.1: Potential mitigation options in key sectors

Sector	Sector Potential Mitigation Options
Energy	<ol style="list-style-type: none"> 1. Implementation of RE for power generation 2. Implementation of EE in the industrial, commercial and residential sector 3. Implementation of RE in industrial, commercial and residential sector 4. Transportation – hybrid and electric vehicles, integrated transportation system, bio fuels, low carbon petrol and diesel
LULUCF	<ol style="list-style-type: none"> 1. Maintain existing forest cover 2. Reduce emission from forest and land use related activities 3. Where appropriate, increase existing forest cover
Waste	<ol style="list-style-type: none"> 1. Encourage methane capture facilities at new sanitary landfills 2. Encourage palm oil millers to capture biogas for power generation 3. Encourage composting of organic waste, especially food waste and 3R (Reduce, Reuse and Recycle)
Agriculture	<ol style="list-style-type: none"> 1. Rice management with water saving production: intermittent flooding aerobic rice 2. Livestock waste management through aerobic manure composting biogas capture 3. Partial replacement of synthetic nitrogenous fertilizer
Industrial processes	<ol style="list-style-type: none"> 1. Employ new processes and materials to reduce clinker use in cement production

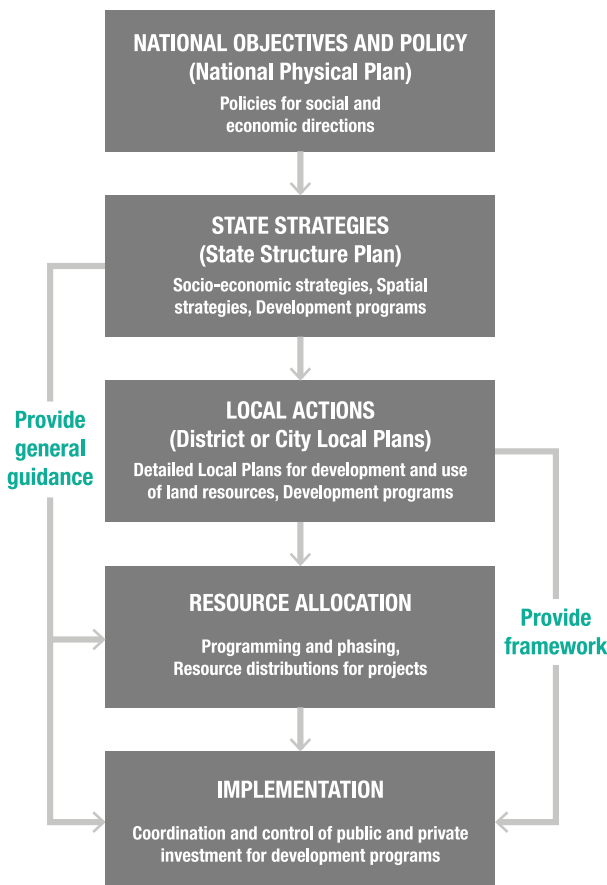
Source: A Roadmap of Emissions Intensity Reduction in Malaysia; Kementerian Sumber Asli dan Alam Sekitar Malaysia. 2014

3.3 Policies Supporting Sustainable City Planning and Development in Malaysia

Act 172: Interventions in Malaysia's city planning embarked with the application of the Town and Country Planning Act 172 (1976), which is the primary tool to monitor the overall urbanisation process within Peninsular Malaysia. Section III of Act 172 stipulated the function of development plans as planning instruments that must be prepared by the local authority. It is a vital reference for any planning and management aspects for the city, in terms of strategies, policies and physical development.

The local plan must conform to the policies and proposals of the structure plan and are concerned with more detailed implementation. The local authority functions as the party responsible for ensuring development processes are conducted in adherence to the plan. The diagram below provides a summary of the hierarchy of development plans in the Malaysian planning system:

Figure 3.3: Framework of the National Climate Change Policy



Source: National Green Technology Policy, 2009

National Physical Plan

A plan that sets the framework for planning and spatial development strategies and planning actions across all levels.

The National Physical Plan (NPP) is the highest planning document in the national physical development plan framework. It contains physical plans that translates the strategic and sectoral policies of the nation in the context of spatial and physical dimensions. Currently in its fourth edition, the functions of the NPP are:

1. To translate the sectoral policies involving socio-economic development, conservation, climate change and resource management into spatial form
2. To establish a spatial framework for planning at regional, state and local levels which serve as the main reference for any planning
3. To provide physical planning plans for the implementation of sustainable development strategies
4. To guide the actions of sectoral implementing agencies in supporting the national spatial framework
5. To identify programmes and key actions to further improve the spatial planning of the nation

"The NPP-4 ensures that Malaysia can become a prosperous nation and resilient in terms of economy, environment and social balance for the wellbeing of the Malaysian Family as a whole"

Prime Minister Datuk Seri Ismail Sabri Yaakob, 2021

NPP-4 emphasises national security planning, digital infrastructure enhancement, smart development, carbon-neutral nation, national food security assurance and inclusive and liveable community development.

NPP-4 also translated the country's commitment at the global level, such as the New Urban Agenda (NUA) and Sustainable Development Goals (SDGs) and served as a development coordination instrument between the federal and state governments.

The NPP is reviewed every five years to ensure the suitability of the NPP in line with rapid changes in physical, economic, social and natural environment.³¹

³¹ National Physical Plan; Department of Town and Country Planning. 2011

National Urbanisation Policy

Setting the basic framework for all development plans and urban governance.

The National Urbanisation Policy (NUP) aims to ensure that urban centres would be able to play optimal role as the engine of the nation's economic growth providing a high quality of life through a systematic and planned urbanisation process.

It outlines the core, policies, measures and action plans to coordinate and manage the implementation of urban development plans and governance of city municipalities, with emphasis on the balance between the social, economic and physical development in the city.

The Second National Coastal Zone Physical Plan

Outlining direction of the use, conservation and management of coastal resources.

The Second Coastal Zone Physical Plan (RFZPPN-2) is a strategic land use plan that outlines the direction of the use, conservation and management of coastal resources in Peninsular Malaysia and the Federal Territory of Labuan.

It was formulated by taking into account aspects of geohazard threats such as coastal erosion and climate change factors that will affect the socio-economy and environment. In addition, the Coastal Vulnerability Index or Coastal Vulnerability Index (CVI) is also an important instrument taken into account in RFZPPN-2.³²

Low Carbon Cities Framework and Assessment System

Lowering the levels of carbon emission in cities towards achieving sustainable urban developments.

The Low Carbon Cities Framework and Assessment System (LCCF) serves as a guide that propel stakeholders for cities, townships and neighbourhoods to re-assess their priorities in the planning and development of new projects, as well as strategies that can be taken by existing cities, townships and neighborhoods in reducing their carbon emission levels.³³

Besides serving as a comprehensive guide, the LCCF also has an inbuilt carbon calculator with carbon equivalents that would help stakeholders assess their current baseline levels of the cities, townships and neighbourhood and target their intended levels.

A total of 52 local authorities are now part of the Low Carbon City Framework Programme which encourages strategies and actions to reduce carbon emissions at the local level, while urban areas such as Kuala Lumpur, Iskandar Malaysia, Seberang Perai and Melaka have signed up to be members of city alliances such as the C40 and ICLEI – Local Governments for Sustainability, making a commitment to minimise their carbon footprints.

National Low Carbon Cities Masterplan

Setting the direction and plans for the transition towards low carbon cities.

The National Low Carbon Cities Masterplan (NLCCM) is to help guide the implementation of low carbon developments and initiatives in Malaysia. A total of 33 local and regional government has been selected as target cities. The masterplan aims to remove barriers to integrated low carbon urban planning and development in Malaysian cities through policy support, awareness and capacity building and demonstration projects.³⁴

Complimenting this masterplan, the Green Technology Application For The Development of Low Carbon Cities (GTALCC) project plays an important role in the development of low carbon cities in Malaysia. There are already five participating cities in the GTALCC program:³⁵

1. Iskandar Regional Development Authority, Johor
2. Petaling Jaya City Council, Selangor
3. Putrajaya Corporation, Putrajaya
4. Sepang Municipal Council, Selangor
5. Hang Tuah Jaya Municipal Council, Melaka

³² *The Second Coastal Zone Physical Plan; Department of Town and Country Planning. 2011*

³³ *Low Carbon City Framework (LCCF); Ministry of Energy, Green Technology and Water. 2017*

³⁴ *The National Low Carbon Cities Masterplan (NLCCM); Ministry of Environment and Water. 2021*

³⁵ *Green Technology Application for the Development of Low Carbon Cities (GTALCC); United Nations Development Programme (UNDP).*

Table 3.2: 33 local and regional governments selected as target cities

Group 1		Group 2		Group 3	
1.	Hang Tuah Jaya Municipal Council	16.	Alor Setar City Council	16.	Kota Bharu Municipal Council
2.	Iskandar Malaysia	17.	Ampang Jaya Municipal Council	17.	Kota Kinabalu City Hall
3.	Iskandar Puteri City Council	18.	Ipoh City Council	18.	Kuala Terengganu City Council
4.	Johor Bahru City Council	19.	Kajang Municipal Council	19.	Kuantan City Council
5.	Kuala Lumpur City Hall	20.	Klang Municipal Council	19.	Sandakan Municipal Council
6.	Kulai Municipal Council	21.	Kuching North City Hall	20.	Sungai Petani Municipal Council
7.	Melaka Historic City Council	22.	Kuching South City Council	21.	Council
8.	Pasir Gudang City Council	23.	Miri City Council	22.	Tawau Municipal Council
9.	Penang Island City Council	24.	Selayang Municipal Council		
10.	Petaling Jaya City Council	25.	Seremban City Council		
11.	Pontian District Council	26.	Subang Jaya City Council		
12.	Putrajaya Corporation				
13.	Seberang Perai City Council				
14.	Sepang Municipal Council				
15.	Shah Alam City Council				

Source: National Low Carbon Cities Masterplan, 2021

3.4 Supporting Sustainability Policies

Malaysia remains committed to ensure adequate supporting policies on sustainability are made available. As important enablers in ensuring smooth progress towards sustainability, these supporting sustainability policies include:

National Affordable Housing Policy

A report from Khazanah Research Institute published in 2019 highlighted that Malaysian housing affordability had not improved significantly between 2002 and 2016. Over this period, housing was considered “seriously unaffordable” with the median multiple varying between four and five.

Responding to the issue, in May 2019, Malaysia enacted the National Affordable Housing Policy which was intended to improve housing affordability for low-income groups. It is a sub-policy of the National Housing Policy (DRN) 2018-2025.³⁷

The policy was prepared with the aim to provide potential house owners access at affordable prices and builders guidelines and market intelligence. It provides detailed guidelines for housing developers who are interested to build affordable homes. The guidelines include the building standards, key specifications as well as the ceiling price for the affordable homes.

Urban Community Farming Policy

The Urban Community Farming Policy was announced by the Ministry of Housing and Local Government in August 2021. It outlines five thrusts and 17 strategies that are in line with regulations and procedures currently enforced by local government authorities.

The policy would ensure effective urban landscape management, involving joint responsibilities between local authorities and the local community, with emphasis on the importance of optimising the use of land in the neighbourhood or permitted open spaces. The policy is an initiative to empower the urban communities and create opportunities and rooms for individuals and communities to manage the short-term social economy by encouraging organic vegetable farming.³⁸

National Transport Policy 2019 – 2030

The National Transport Policy 2019– 2030 serve as the overarching roadmap for developing an efficient, comprehensive, secure and sustainable transport sector with the aim of enhancing Malaysia’s economic competitiveness and supporting the well-being of its people. It sets out specific strategies to deliver an intelligent, connected, convenient and safe public transport system that meets the needs of citizens.

³⁷ National Affordable Housing Policy; Ministry of Housing and Local Government. 2019

³⁸ Penjana: Urban community farming takes root. News Straits Times. Nuradzimmah Daim - June 17, 2020

National Transport Policy 2019 – 2030

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The policy is anchored on the principle of sustainable transport and would be able to propel the nation in its logistic endeavours with enhancements in road, rail, air and maritime sectors, and their interconnectivity to help Malaysia realise its target as a Regional Distribution Hub.

The transport sector represents a critical enabler for Malaysia's socioeconomic development. In 2017, the transportation and storage subsector contributed 3.6% to GDP with a value of US\$ 11.6 billion, and 6.6% to the services sector value-added. This subsector grew at an average rate of 5.6% per annum between 2005-2017 and is projected to grow at 8.9% or more going forward.

National Solid Waste Management Policy 2016 – 2020

The waste generated in Malaysia in 2005 was 19,000 tons per day at a recycling rate of 5%. The quantity rose to 38,000 tons per day thirteen years later in 2018, despite the increased recycling rate of 17.5%. To enhance solid waste management, Malaysia has taken a stepwise approach to privatise and centralise its solid waste management. The standard hierarchy of waste management involves five crucial steps; reuse, reduce, recycling, treatment and disposal.⁴⁰

Solid waste management policies in Malaysia has evolved from simple informal policies to supplementary provision in legislation such as the Local Government Act, 1976 and the Environmental Quality Act, 1974 to formal policies such as the National Strategic Plan for Solid Waste Management (NSP) 2005, Master Plan on National Waste Minimization (MWM) in 2006, National Solid Waste Management Policy 2006 and the Solid Waste and Public Cleansing Management Act (SWMA) 2007.

National Disaster Risk Reduction Strategy

Malaysia's national guidelines for disaster management are based on the Directive No. 20: National Policy and Mechanism on Disaster Management and Relief (MKN 20), which is the foundational directive for the operationalisation of disaster risk management in the country. It establishes a coordinated mechanism for pre, during and post-disaster phases, determines roles and responsibilities of all agencies involved (from search and rescue to health, logistics and media) as well as outlines funding considerations.⁴¹

However, the current governance structure set out in MKN 20 is top-down, confined to government actors and deals mainly with operation during a disaster. Within the current structure, District Officers play an important role in initiating and coordinating efforts at the local level. At the state level, a small team under the State Secretary (Setiausaha Kerajaan Negeri) is in charge of, not only disasters, but also safety and security matters.

Insufficient levels of implementation for activities on ground is also another challenge. For example, although DRRM plans or risk sensitive plans exist, they are not enforced because of limitation of state or local government capacity on monitoring and law enforcement. Another common challenge refers to poor coordination between government agencies and other stakeholders, and a lack of information sharing, including with respect to risk assessment, monitoring and evaluation, early warning, disaster response and other DRRM activities.

At the point of preparing this report, a draft for the Malaysia's National DRR Strategies is being finalized, outlining five Strategic Thrusts (improving understanding of risks; strengthening governance; investing in disaster risk management; capacity and community engagement; and building partnerships), and seven Key Actions (prevention; mitigation; preparedness; response; recovery; risk governance; and risk financing).

In one of the target and key performance indicators highlighted in the Twelfth Malaysia Plan (12MP) is on the establishment of a National Policy on Disaster Risk Management by the year 2021 and the National Disaster Act by the year 2022.

National Industry 4WRD Policy

The policy was prepared to future-proof existing business and to expand local market access to the global stage. Digital technology will play a critical role in the achievement of the SDGs, although innovation will most likely affect progress in both positive and negative ways. The deployment of new technologies is seen to be essential in achieving the SDGs, considering the need for accelerated progress to fulfil the goals by 2030.⁴²

At the same time, as new technologies are usually unavailable to marginalised populations, it will be a key challenge to ensure that no one is left behind, as new innovations often exacerbate existing divides in society between those who can benefit, and those who are left behind. In addition, with the current speed of innovation, many opportunities and risks are still unknown but could rapidly crystallise, without regulators being able to respond in a timely manner.

39 *National Transport Policy 2019-2030 (NTP)*; Department of Prime Ministers Office. 2019

40 *National Solid Waste Management Policy (NSWMP) 2016-2020*; Department of Prime Ministers Office. 2005

Sustainability Related Financing

On top of the above-mentioned supporting policies, financing for programmes and projects related to the Sustainable Development Goals (SDGs) by strengthening and widening sustainability related financing are also being prioritised by the Ministry of Finance. The government is looking further at driving sustainability efforts especially in introducing policies as well as both tax and non-tax incentives for the green economy to push for more renewable energy investments.

The government is also looking into the sustainable infrastructure and cities that are fit for purpose in the post COVID-19 pandemic environment including optimising demands for management for energy, encouraging low carbon mobility and promoting the construction of green buildings.

Malaysia is now working with the United Nations Development Programme (UNDP) to establish an Integrated National Financing Framework, which comprises platforms for innovation and reforms spanning policy, regulation, financial instrument, institutions as well as greater public and private collaboration.

3.5 Progress to the 2030 Sustainable Development Goals

Sustainable and inclusive development has always been a key principle in Malaysia's development planning. Efforts to mainstream SDGs in national development plans were undertaken via the alignment of SDGs in the five-year national development plans, i.e., in the 11th Malaysia Plan and 12th Malaysia Plan, and will continue in 13th Malaysia Plan.

From 2017 to 2020, Malaysia registered positive economic growth and further achieved socio-economic progress. During the period, Malaysia's GDP growth expanded 2.3 per cent annually, and GDP per capita increased 1.4 per cent per annum from RM40,620 in 2017 to RM41,150 in 2020. The COVID-19 pandemic had severely interrupted economic activities and resulted in higher incidence of poverty and widened the inequality. Prior to the COVID 19 pandemic, Malaysia has achieved significant progress in eradicating poverty (SDG1).

The incidence of absolute poverty reduced from 7.6 per cent in 2016 to 5.6 per cent in 2019. Hardcore poverty has almost been eradicated, though pockets among selected groups, and multidimensional deprivations remain. However, following the pandemic, the incidence of poverty increased to 8.4 per cent in 2020. To cushion the impact of the pandemic, the government

implemented a series of special economic recovery packages to boost growth and protect the vulnerable.⁴³

In terms of SDG2, Malaysia has enhanced its food production, where the self-sufficiency levels of 10 major agri-food commodities continue to improve. However, the nutritional aspect of food security has become more pertinent as Malaysia faces double burden of malnutrition, particularly involving vulnerable groups and in times of unexpected emergencies.

In relation to SDG3, Malaysia has been successful in providing quality, accessible and affordable healthcare, on par with those in more developed countries, based on the principle of universal health coverage. The country's health security preparedness was demonstrated by successfully managing the COVID-19 outbreak. However, health burdens are rising due to an aging population, demands for better healthcare, and the increasing NCDs, which currently is responsible for more than 70 per cent of deaths.

Malaysia is also making progress towards sustainability and managing climate change by adopting a resource efficient and climate resilient development model. The sustainable consumption and production (SCP) approach was undertaken through creating green market, managing waste holistically, and increasing the share of renewable in energy mix. While various efforts are being made to better coordinate SCP, and climate change at the policy level, technical and financial support are still required in the implementation. This will support Malaysia's aspiration in achieving a net zero GHG emission by 2050.

Way Forward for SDGs Development in Malaysia

Moving towards 2030, the national development priorities will continue to be aligned and integrated to the SDGs. The SDG Roadmap Phase 2 (2021-2025) will be formulated to advance the SDG agenda by identifying priority areas, key enablers and critical 'accelerator points' for lagging SDGs, ensuring policy coherence across all levels of governments, and recommending strategies and plan of actions. Localising SDGs initiatives will also be further strengthened.

The 12MP will ensure that the people will benefit from socioeconomic development, achieve inclusivity and social cohesion, and improve general wellbeing. Malaysia will advance green growth towards a low-carbon nation, ultimately attaining carbon neutral future. Effective execution of the Twelfth Plan will contribute to achievement of the 2030 Agenda.

41 *National Disaster Risk Reduction Strategy; United Nations Office for Disaster Risk Reduction - Regional Office for Asia and Pacific Asian Disaster Preparedness Center. 2020*

42 *National Industry Policy 4.0 (4WRD); Ministry of International Trade and Industry Malaysia (MITI). 2018*

In addressing the SDG goals pertaining to climate change, biodiversity, and sustainable energy, Malaysia is also making progress towards sustainability and managing climate change by adopting a resource efficient and climate resilient development model.

The sustainable consumption and production (SCP) approach was undertaken through creating green market, managing waste holistically, and increasing the share of renewable in energy mix. While various efforts are being made to better coordinate SCP, and climate change at the policy level, technical and financial support are still required in the implementation. This will support Malaysia's aspiration in achieving a net zero GHG emission by 2050.

Malaysia continues to practice a unity in diversity approach, while emphasising governance, social cohesion and partnership in achieving SDGs 16 and 17. It is committed to South-South Cooperation through the Malaysian Technical Cooperation Programme, supporting 144 developing countries through technical and capacity building initiatives. In addition, the All-Party Parliamentary Group on SDGs was established to enhance SDG localisation. The Voluntary Local Reviews have also been initiated to ensure local authorities' programmes and initiatives are in line with the SDGs.⁴⁴

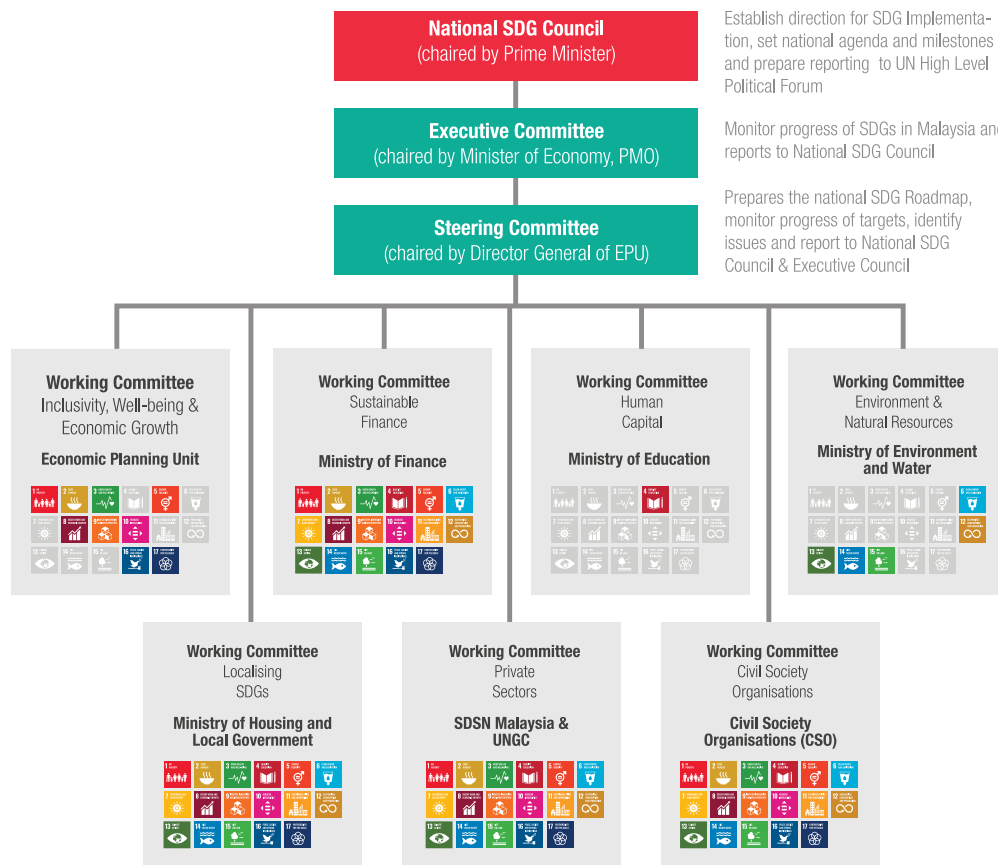
3.6 Governance and Institutional Frameworks for SDGs Implementation

Malaysia created the National SDG Council as part of the National Action Committee in December 2016. The council is chaired by the Prime Minister, with the purpose of planning and monitoring SDG implementation, setting the national agenda and milestones for the SDGs, and preparing reports for the UN High Level Political Forum (HLPF).

A Steering Committee is also set up and chaired by the Minister of Economics at the Prime Minister's Department. The Technical Working Committee is chaired by the Director General of the Economic Planning Unit reports up to the National SDG Council, and five Cluster Working Groups report up to the Steering Committee.

Seven Working Committees has been established, where each working committee are led by different relevant ministries, and includes representation from the private sector, academia, non governmental organizations and civil society organizations, and the UN Country Team.

Figure 3.4: Malaysia's SDG Governance Structure



Source: Economic Planning Unit; Prime Ministers Department.

43 The Edge; Special Report: Malaysia's Covid-19 Financial Support Packages. 2020

44 All-Party Parliamentary Group Malaysia (APPGM); Parliament of Malaysia. 2020



4.0
URBAN DEVELOPMENT
POLICIES AND
IMPLEMENTATION

4.0

URBAN DEVELOPMENT POLICIES AND IMPLEMENTATION

The Malaysian government pursued a deliberate urbanisation policy since the 1970s to the present period. The New Economic Policy was first to be adopted. From 1970 to 1997, Malaysia has experienced rapid urban spatial transformations. The regional strategy for urban development was outlined in the early seventies in the 2nd and 3rd Malaysia Plan. In the eighties, Structure Plans for major cities were prepared. These plans were meant to streamline city development in order to mitigate haphazard city developments thus ensuring the sustainability of city functions.

Urban development in Malaysia are governed by (1) spatial policies – urban planning policies and other policies that influence spatial development, and (2) other development policies that are regulatory in nature. This chapter highlights key policies that are instrumental to Malaysia's urban development and how these policies are being implemented to address the issue of sustainable urbanisation in this country.

4.1 National Spatial Development Planning Framework

Town and country planning activities in Malaysia are carried out at three levels of planning – the national, state/ regional and the local level – reflecting the three-tier government system of Malaysia (Figure 4.1). The activities are also being governed by several legislations that allow it to plan, build and manage growth in a sustainable manner. Several institutional frameworks and mechanisms were established at all levels of government to facilitate development initiatives.

Legal Framework

Under the Malaysia Federal Constitution, both the Parliament and the State Authority shares the power to make laws and decisions over planning matters. Activities of town and country planning in the Peninsular Malaysia are generally governed by the Town and Country Planning Act 1976 [Act 172] and its subsequent amendments. For Federal Territory of Kuala Lumpur, planning activities are governed by the Federal Territory (Planning) Act 1982 [Act 267]; while in Sarawak, the law governing their town planning activity is known as the Sarawak Land Code (CAP 81)

and for Sabah, it is governed by the Town and Country Planning Ordinance (Sabah CAP 141).

Act 172 is an Act of Parliament that regulates the overall spatial and physical planning developments in Peninsular Malaysia. The Act also provides the legal framework for planning governance, where roles of national, state and local planning authorities are set to address planning efforts for social and economic development as well as emphasize on environmental protection. These are to ensure sustainable development and inclusivity agenda are embedded as an integral part of urban development in Malaysia.

A development plan system has also been stipulated in Act 172, where the National Physical Plan, a national strategic spatial plan is prepared under the governance of the Federal Government. Following the framework of national physical development, the policies and plans are subsequently interpreted into State Structure Plans, which provides policies on development and use of land in the state. Consequently, Local Plan is prepared at the local level, outlining details that provide development facilitation and control. While at the same time Special Area Plan at the local plan is also prepared for areas needing special treatment and management.

Another major provision of the law in Section 2(1) of the Town and Country Planning Act 1976 is on development control. It stated that any form of urban development requires approval in the form of Planning Permission (Section 19(1) TCPA 1976), where local government functions as the Local Planning Authority. In ensuring check and balance is practiced, a planning Appeal Board is established at all states in Peninsular Malaysia under the provision of section 36(a) of the TCPA 1976 (Act 172). This is an administrative tribunal where the appeal board sits to hear all disputes arising from the decision made by Local Planning Authorities in the course of administering good decision-making in development control.

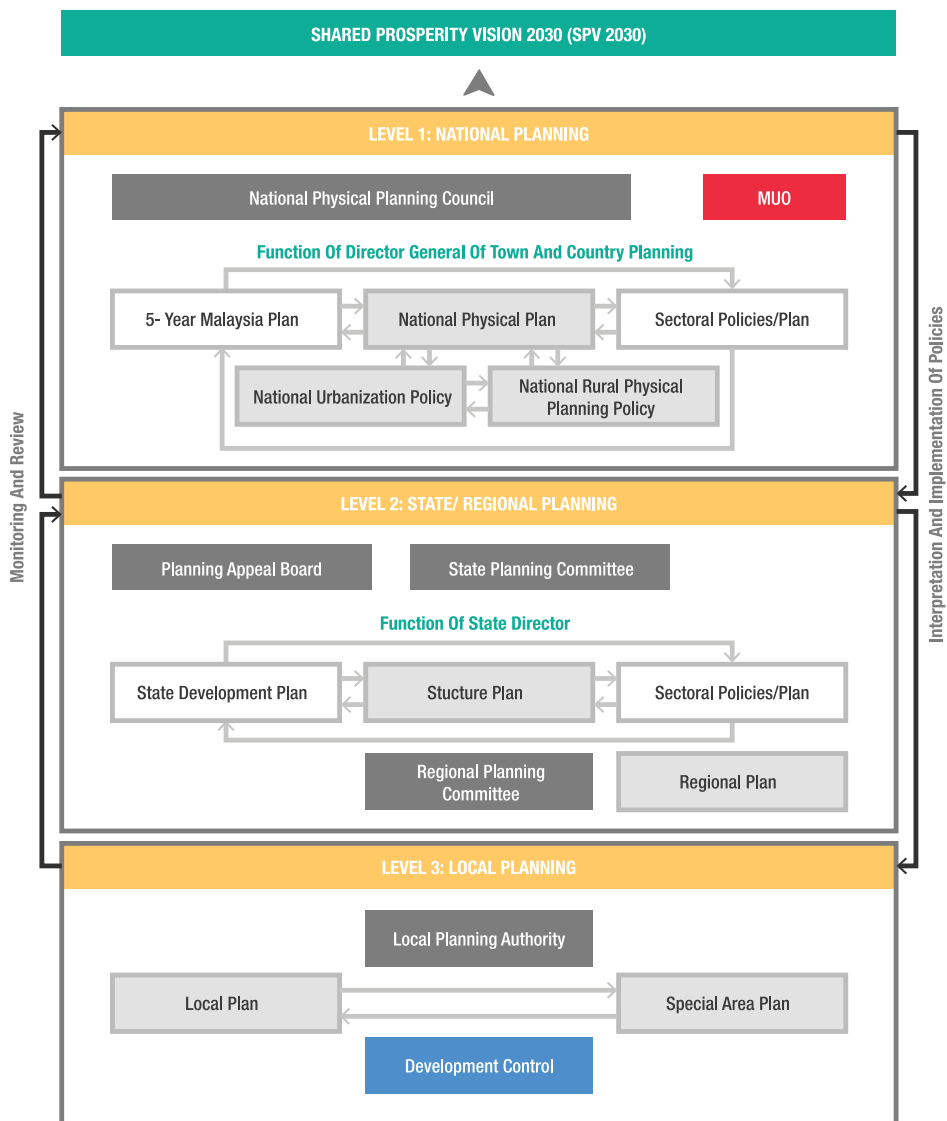
Planning Governance

At the national planning level, the Federal Department of Town and Country Planning (PLANMalaysia), under the Ministry of Housing and Local Government, is the department responsible for spatial or land use planning matters. In 2001, the National Physical Planning Council (NPPC) was established under subsection 2A (1) of Act 172, to coordinate matters related to town and country planning between the Federal Government and State Governments.

The council is chaired by the Prime Minister, with members consisting of all states' Chief Minister along with several Federal Ministers whose portfolios are related to town and country planning. At the state planning level, there are eleven State Planning Offices to manage town and country planning matters of the states.

The State Planning Director, through his role as the secretary to the State Planning Committee, which is a committee that determines the direction of urban planning at state level and chaired by the Chief Minister, plays an important role as the main advisor to the State Government on matters relating to town and country planning. While at the local level, Local Planning Authorities are the regulator of policies and guidelines. These Local Planning Authorities are the ones who exercise development control to any development activities within their area of jurisdiction.

Figure 4.1: National Spatial Development Planning Framework



Source: Ismail, Suraya & Choong Weng Wai, Christopher & Hamid, Hawati & Mustapha, Nur & Ho, Gregory & Theng, Tan & Kamaruzuki, Muhammad & Firouz, Adam. *Rethinking Housing: Between State, Market and Society*. (2019).

4.2 Addressing Urbanization through Development Plans

Malaysia practices a plan-led development system. At every level of planning, there is a development plan formulated to guide all planning and development activities. At the highest level, the five-year Malaysia Plan, the National Physical Plan (NPP) and other sectoral policies such as the National Urbanisation Policy, National Rural Physical Planning Policy, National Physical Plan for Coastal Zones and Action Plan for Central Forest Spine guide strategic development planning of the country.

At the state level, developments are being guided by the Structure Plan and other sectoral policies established by the respective state governments, which takes into consideration the strategic policies in the NPP as well as new formulation of policies determine by the State. At the local level, development are evaluated, approved, coordinated and implemented in line with development plans for any specific area through the Local Plan and Special Area Plan, prepared by each respective Local Planning Authorities.

Box 4.1
Development Plans in Malaysia

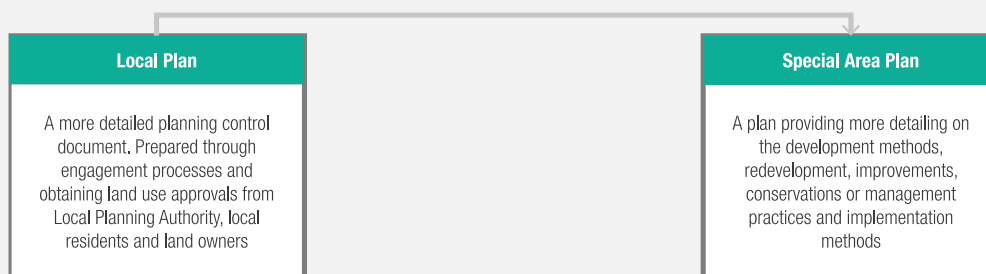
Stage 1: National Planning



Stage 2: Regional / State Planning



Stage 2: Regional / State Planning



Box 4.2

National Physical Plan

The National Physical Plan (NPP) is the highest planning document in the national spatial development plan framework. It contains physical plans that translate strategic and sectoral policies of the country in the context of spatial and physical dimensions. The NPP has undergone three reviews as stipulated under Section 6B of the Town and Country Planning Act 1976 (Act 172) and is now in its fourth edition.

The Fourth National Physical Plan (NPP4) recognizes the importance of implementing the global agenda on sustainable development and urbanisation, where global commitments by Malaysia including the New Urban Agenda, are translated into its policies and strategies. It also aligns to the 12th Malaysia Plan and places importance on five strategic thrusts that are Governance Structure, Spatial Development, Environmental Sustainability, Social Involvement and Urban Wellbeing, all guiding towards achieving sustainable urban development.



National Physical Plan 4 (NPP4) 2021-2025

NPP4 aim for Malaysia to be a **Prosperous, Resilient and Livable Nation** centered on five main principles of Sustainable, Comprehensive, Competitive, Catalytic and Community. These principles are the basis in the formulation of the plan and are integrated within the strategic spatial plan of the document. NPP4 has 3 Thrust and 11 Strategic Directions which consist of 39 Strategies with 120 Actions to be implemented.

NPP4 adopts the concept of **Comprehensive Spatial Ecosystem (CSES)** with emphasis on **optimal land use, economic development focus in key growth areas, enhancing inter-regional connectivity through integrated networks and conservation and preservation of ecological assets and agriculture.**

Key Targets of NPP4:

Urbanization rate:

- 80% (2030)
- Not more than 85% (2040)

Optimum Built Up Area

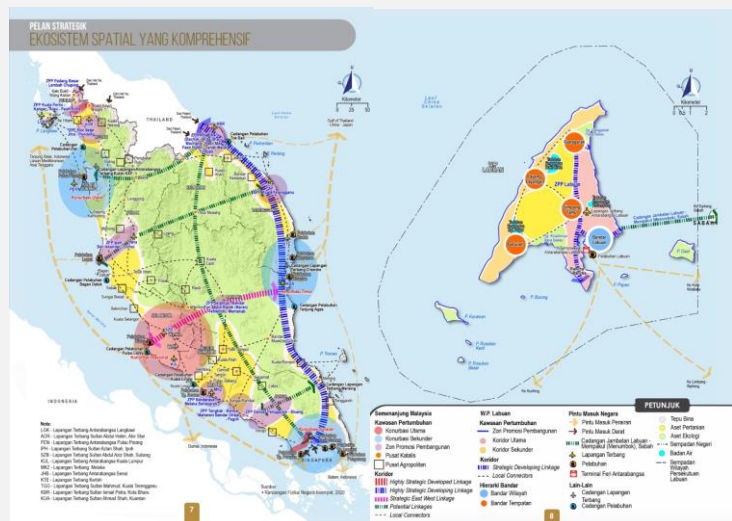
- 1,454,628 hectares (2030)
- 1,510,197 hectares (2040)

Forest coverage area (Peninsular Malaysia)

- 49.0% (2030)
- 50.0% (2040)

Level of Urban Sustainability (MurniNets)

- 101 Local Authorities (2030)
- 101 Local Authorities (2040)



Increasing The National Position (National Disaster Risk Management At The Global Level)

- 120 (2030)
- 125 (2040)

Wireless broadband and Fixed broadband

Adaptation of new technology in line with global trends and shift by 2030 and 2040

Structure Plan

The Structure Plan (SP) sets out policies and general proposals for the development and use of land within each state including measures for the improvement of physical living environment, management of natural resources, improvement of socio-economic well-being, promotion of economic growth and sustainable development and strengthening of communications, engagement, and awareness.

The SP identifies strategic social, economic and infrastructure projects for the states, providing guidance for spatial development on states issues of structural importance. The SP also acts as an investment guide for both the public agencies and private sectors and for the allocation of resources.

The SP interprets national spatial policies of the NPP as well as state policies and development proposals, which are integrated with the resource management strategies of the State. The SP for each state provides the framework and basis for the preparation of a statutory Local Plan covering each districts within the state. To date, there are eleven SPs that have been gazette.

Local Plan

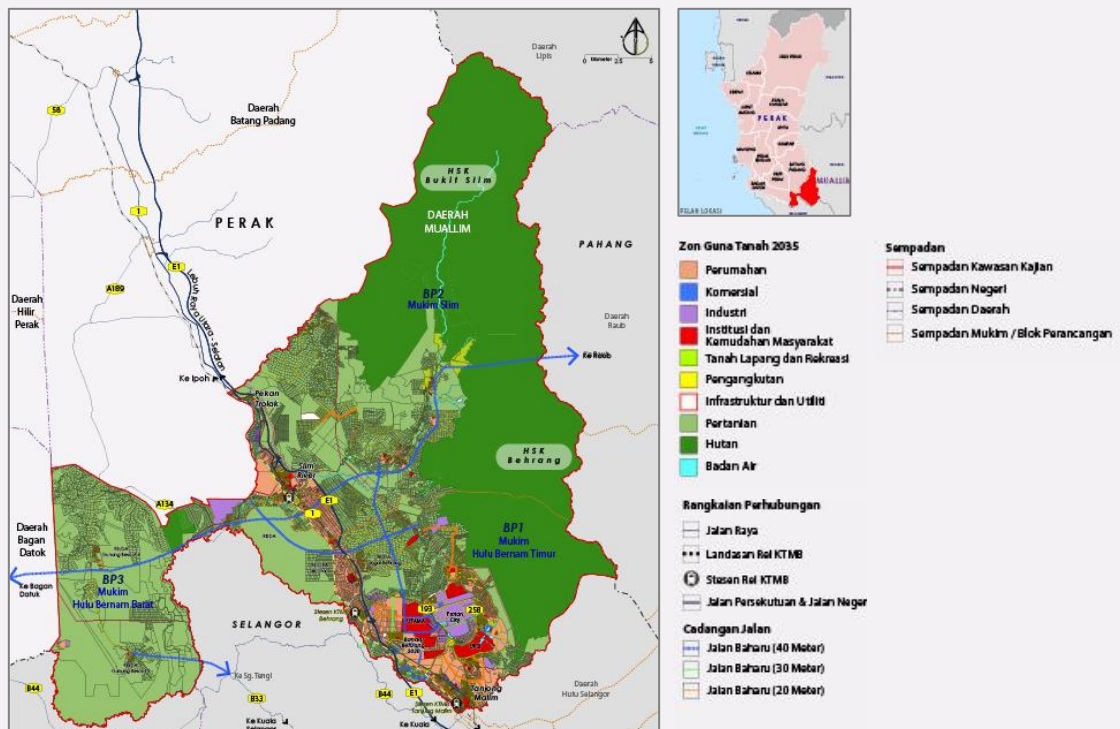
The Local Plan (LP) is an important component of the Development Plans as stipulated in the Town and Country Planning Act 1976 (Act 172). It serves as a vehicle for detail planning, facilitates and control site-specific developments for Local Planning Authorities. Section 12(3) of the Act defines LP as a detailed land use plan supported by written statements explaining proposals for the development and use of land in the area.

LPs has direct impact to the daily lives of citizens and to the development structure of the area. Hence LPs are prepared with extensive consultative process with key local stakeholders and representatives form public sectors and technical agencies, private business and industries and local communities.

It translates policies into development directions, regulates the usage of land and allocates land for development, open spaces, public amenities, infrastructure, utilities, addresses traffic, promotes conservation of local resources, and control and coordinate development activities in the local area.

The LP provides the essential framework for planning decisions. Any development of land and buildings requires planning approval from the Local Planning Authority. Planning permission will be granted if the proposal is in conformity with the statutory LP and fulfills requirements of technical agencies. To date, there are 108 LPs prepared in Malaysia.

Figure 4.2: Example of Proposed Land Use Zoning Plan in Local Plan

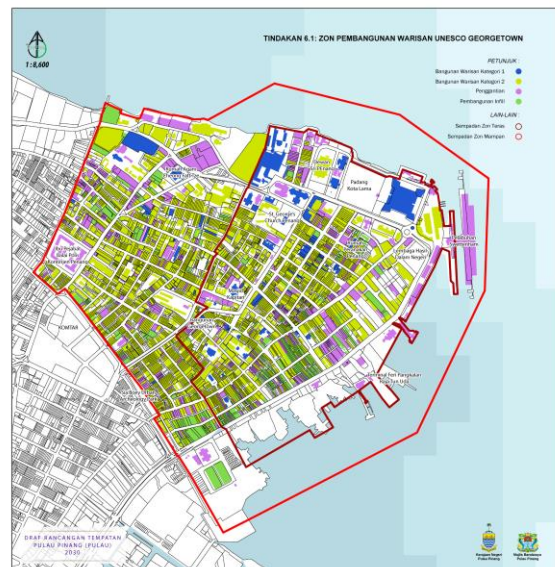


Special Area Plan

The Special Area Plan (SAP) is prepared for special and detailed treatment of a development. This may include areas for redevelopment, improvement, conservation or requiring management intervention. It is prepared following the same procedures of the LP and has the same effect as the LP. It contains Development Action Plans that detail out the required initiatives and actions for implementation in the form of Spatial Layout Plan or Management Plan.

It is supported by guiding frameworks that outline detail development specifications and development schedules that include detail treatments, implementing agencies, phasing plan, costing and funding of certain proposed projects. To date 37 SAPs have been prepared in Malaysia.

Figure 4.3: Special Area Plan



Box 4.3

Transparency in Development Plans

In Malaysia, the practice of public participation in development plan preparation is embed and provided for in its legal framework. The process, which is called "SERANTA" is a comprehensive effort, carried out to inform the public and encourage them to participate actively. The TCP Act 1976 requires the publicity of SERANTA to be announced in at least two local newspapers. In view of Malaysia multi-racial community, the current practice is that four local newspapers (Malay, English, Tamil and Mandarin) have been employed to announce SERANTA. Local authorities are encouraged to facilitate public participation through various innovative activities such as user-friendly material and widely placed information to increase its effectiveness and establish two-way communication. Encouraging public participation is undertaken at various stages, prior to the plan preparation – public workshops to gain understanding on local issues and needs are established and throughout the preparation, engagements are undertaken with various groups of stakeholders to ensure of a more inclusive process towards the plan.

Inception

Structure Plan

To inform and explain to public and conduct public opinion survey on issues confronting the city (Sect 12A, TCPA 1976)

Findings Report

Structure Plan

Report of Survey is shared with the public on matters included in the plan (Sect 9(1A), TCPA 1976)

Local Plan

Public engagement focus group discussions and formal technical working groups to advocate inclusivity in the plan

Draft Report

Structure Plan

Draft of the Structure Plan is then shared with the public for feedbacks, opinions and concurrence (Sect 9(2), TCPA 1976. Any alterations to a Gazette Structure Plan is brought to the public for consultation (Sect 11B(3), TCPA 1976)

Local Plan

Draft Local Plan and any amendments to a gazette Local Plan will be brought to the public for feedbacks. Sect 13, TCPA 1976 – Public Participation/SERANTA



The call for greater transparency and good governance has observed that many local planning authorities has undertaken public engagements in the plan preparation process beyond the required involvement of the public as stipulated in the Act. Supportive activities such as seminars, focus group discussions, dialogues, interviews and feedbacks from newspapers and e-mails are also being carried out.

4.3 National Urbanisation Policy

Rapid urbanisation in Malaysia has elevated urban issues and challenges, which includes the city's economic competitiveness, increasing cost of living, increase in waste, land conversion that over time reduces agriculture and forest areas that impacts our biodiversity, demand for housing, social amenities and infrastructure as well as efficiency in urban management to support growth.

All these require a more systematic efficient planning to ensure harmonious and sustainable urban environments and communities. Hence, the formulation of the Malaysia National Urbanisation Policy (NUP) is to guide and coordinate urban planning and sustainable urban development ensures urban centres play an optimal role as the engine of the nation's economic growth providing high quality of life through a systematic and planned urbanisation process.

Prepared in accordance with the role of National Physical Planning Council (NPPC) under section 2A(2)(a) and sub-section 6b (3) of the Town and Country Planning Act 1976 (Act 172), it outlines the core, policies, measures and action plans to coordinate and manage the implementation of urban development plans and governance of city municipalities, with emphasis on the balance between the social, economic and physical development in the city.

The first NUP was prepared in 2006. It focused on six main thrusts, 30 policies and 201 measures covering aspects of urban planning, development and administration. During its 2006 – 2015 implementation period, NUP 2006 successfully implemented 32 measures while another 46 measures are still under implementation.

In 2015, NUP 2 (2015-2025) was adopted. Measures from the first NUP that were not fully implemented are now being implemented in NUP 2, in addition to new directions and strategies to manage the new urbanisation challenges for cities in Malaysia. NUP2 outlines five main principles that focus on sustainable urban development for the people's wellbeing.

A total of 36 objectives, 62 strategies and 113 actions was adopted and implemented in Peninsular Malaysia and the Federal Territory of Labuan by various government agencies, private sector and non-government organizations. NUP2 takes into account new Federal and State government policies, current municipal issues, national visions and the global goals of SDGs, New Urban Agenda, Sendai Frameworks and best practices in planning and urban development.

All strategies and actions shall be applied to manage all 314 urban centres in Malaysia which has been categorized in five hierarchies to provide the basic function of retail, housing, education, health, transportation, social and recreation services to its local population.

It is envisioned that by 2025, the urban growth and development in Malaysia shall be dynamic, sustainable and prosperous – physically, economically, socially and environmentally. Thus NUP2 acts as development enablers and supports the New Urban Agenda (statement 89) and call for cities to implement national urbanisation policy effectively in spatial developments.

To date progress of the actions stated in the NUP2 has been measured base on the implementation time frames, where for the Short Term (2017-2018) actions have achieved 84.2% completion and the Medium Term (2017-2020) actions achieved 73.44%. The Long Term (2021-2025) actions are still in progress, however it can be stated that the overall implementation from various agencies is satisfactory.⁴⁷

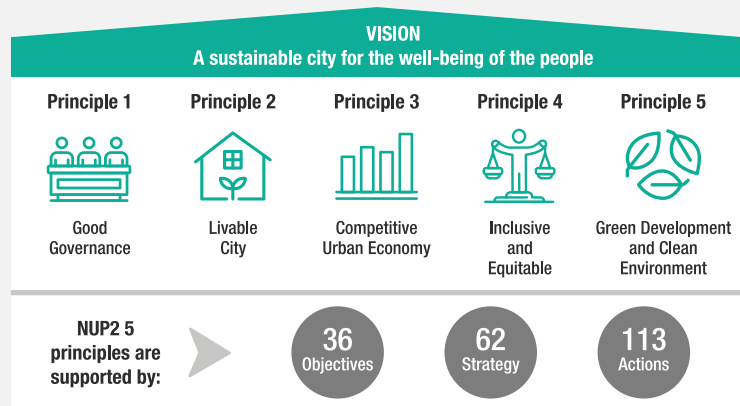
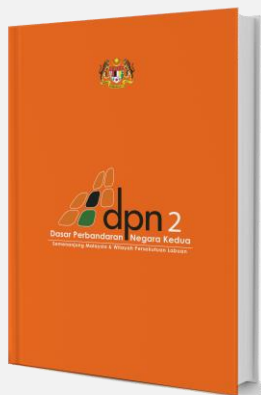
The implementation period of NUP2 will end in 2025. It shall then require a review of its implementation progress and effectiveness. This is to allow NUP3, to be enacted in 2024-2025, will become relevant and able to address municipal issues and challenges for the future. The NUP3 will refer to and consider latest government policies, scenarios and current needs of urban development in formulating plans for the development and management of urban areas in Malaysia.

⁴⁷ *National Urban Policy 2: Department of Town and Country Planning, 2017*

Box 4.4**National Urbanisation Policy 2 (2015-2025)**

The National Urbanisation Policy (NUP) aims to ensure that urban centres would be able to play optimal role as the engine of the nation's economic growth providing a high quality of life through a systematic and planned urbanisation process. It outlines the core, policies, measures and action plans to coordinate and manage the implementation of urban development plans and governance of city municipalities, with emphasis on the balance between the social, economic and physical development in the city.

NUP2 is formulated with five (5) principles that are supported by 36 Objectives and implemented through 62 Strategies and 113 Actions that will be implemented and monitored by the agencies that have been identified.

**Principle 2 and 4 of NUP****PRINCIPLE 2 OF NUP2: LIVABLE CITY**

NUP2 defines livable city as being:

- Complete
- Safe
- Able to cope
- Identity and attractive
- Healthy
- Social integration; and
- Resilient

PRINCIPLE 4 OF NUP2 : INCLUSIVE & EQUITABLE

NUP2 calls for cities to be more inclusive by:

- Ensuring all walks of society has the same rights, opportunities and benefits towards education, health and other social facilities;
- Ensuring economic opportunities is distributed fairly;
- Physical development that are comprehensive and equitable to all walks of life.

Urban Hierarchy in Malaysia

NUP2 had identified 283 urban centers in Peninsular Malaysia, five (5) centers in the Federal Territory of Labuan and 26 centers in Sabah and Sarawak. These centers are categorized in five hierarchy based on the projected population by 2025.

4.4 Aligning Towards the Sustainable Agenda

All development plans and policies in Malaysia are formulated and align to the Sustainable Agenda. The Sustainable Agenda in this aspect incorporates both the implementation of New Urban Agenda and its pathway towards achieving the Sustainable Development Goals. This has been captured in its Total Planning Doctrine, which frames values and principles within which planning and development structure and mechanisms in Malaysia will be directed and translated into its spatial context.

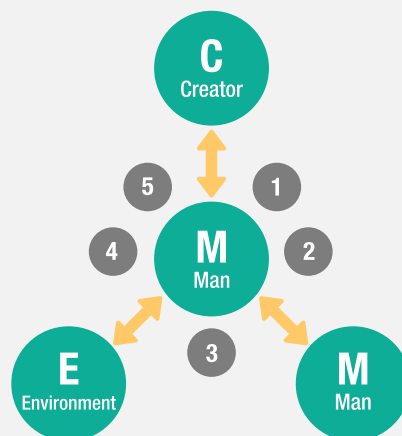
Total Planning and Development Doctrine

Malaysia has endorsed the concept of holistic development for land use planning, known as The Total Planning and Development Doctrine, in 1997. It is an approach to guide Malaysia’s physical planning system focusing on the concept of sustainable development. The doctrine is a paradigm shift that enables physical and social planning to be integrated with moral and spiritual values that will not separate economic growth from social needs, especially in the interest of national development.⁴⁸

The objective of the doctrine is to create a balance between physical development and human development that will contribute towards sustainability and increase quality of life for its society. In principle, this doctrine is also in-line with Maqasid al-Shari’ah (the objectives of Islamic law), which embodies what is considered needful for the constitution of a justly balanced community. Both concepts promote sustainable consumption of the natural resources for the benefit of the current and future generation. The doctrine is a key pillar for all spatial planning development agenda in Malaysia until today.

Box 4.5: Malaysia’s Total Planning Doctrine

Total planning and development doctrine conceived by the PLANMalaysia in 1997, is the principles for Malaysia’s physical planning system.



The Total Planning Doctrine sets a new direction towards sustainable development guided by the relationship of Man and His Creator, Man and Man, and Man and Nature

Balanced Relationships

- M** ↔ **C** Relationship between man and his creator
- M** ↔ **M** Relationship between man and his fellow man
- M** ↔ **E** Relationship between man and his environment

Universal Planning And Development Values

- 1** Justice, compassion, respect, trustworthiness and credibility, unity
- 2** Conscious of the creator, respect for privacy, encouraging interaction and acquaintanceship
- 3** Peace and security
- 4** Respecting the rights of individuals, cooperation, mutual respect, consultation, cleanliness & beauty
- 5** Preservation of the environment, Sustainable & effective use of resources

The application of this Doctrine has been included in the development planning of Putrajaya – the Federal Administrative Capital of Malaysia, where it has embedded the underlying premise of attaining sustainable communities.

48 D. B. Omar, *The Total Planning Doctrine and Putrajaya development*. 2004

Aligning and localizing the Sustainable Development Goals

As a member state of the United Nations, Malaysia is committed to play its part in translating global goals and sustainability agenda into its spatial planning policies, strategies and actions at all levels.

SDGs targets are incorporated in the National Physical Plan 4 (NPP4), which contains strong commitment to the SDGs by having its policies and strategies realigned to the global agenda. The formulation of NPP4's thrusts and strategies were aligned with the 17 goals of SDGs with SDGs 3, 8, 9 and 11 as main focuses.

Figure 4.4: National Physical Plan 4 alignment to the Sustainable Development Goals



Aligning and implementing the New Urban Agenda

Malaysia has incorporated the New Urban Agenda (NUA) as an agenda in its spatial development planning. NUA Commitment Statement are categorized into five (5) thrusts as follows:

- Thrust 1:** Urban Prosperity (15 statements)
- Thrust 2:** Social Inclusion (13 statements)
- Thrust 3:** Environmentally Sustainable (16 statements)
- Thrust 4:** Governance Structure (3 statements)
- Thrust 5:** Spatial Developments (21 statements)

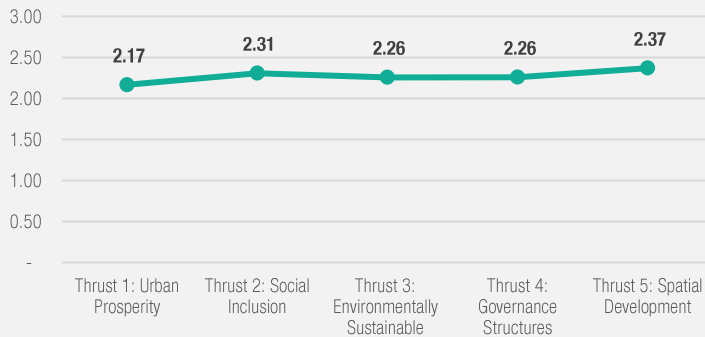
An analysis has been conducted to identify the localization of NUA into Malaysia's development plans. The process is to validate commitments from the agenda, where 68 statements out of the 110 relates to spatial planning were evaluated. The state offices of PLANMalaysia undertakes the evaluation by mapping NUA to policies, strategies and initiatives identified by the various State Structure Plans and Local Plans.

Figure 4.5 : The New Urban Agenda



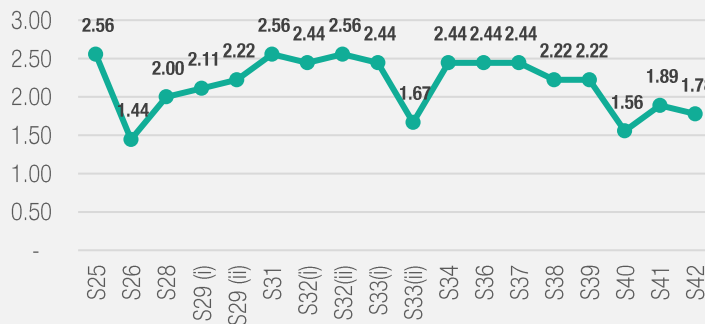
The New Urban Agenda has been translated into the local language thereby accelerating the localization of the agenda.

Figure 4.6 : NUA Mapping Assessment of Structure Plan



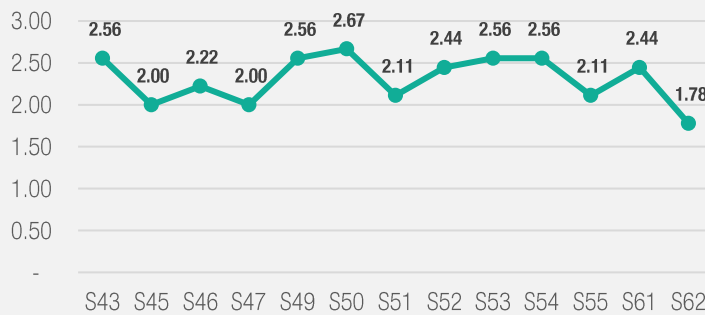
Graph 1: Overview

Nine (9) State Planning Departments have evaluated their planning document for SP, and one selected LP report and the findings shows that all states are dedicated to realising the NUA statement related to spatial planning by ensuring each state has a description of the Policy Statement and Initiatives that can fulfil the NUA statement on spatial planning.



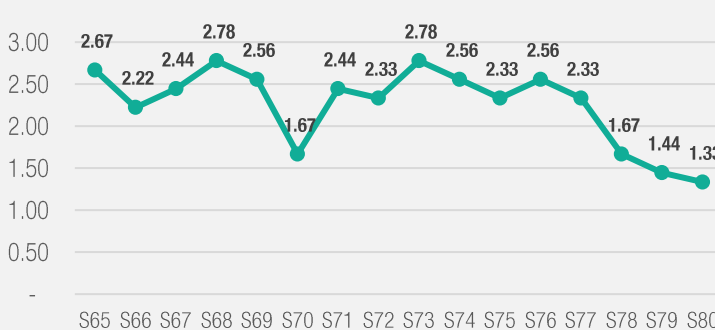
Graph 2: Thrust 1: Urban Prosperity for Structure Plan

Urban Prosperity thrusts have five (5) statements that fall on score 1, indicating that there is only a description of the policy statement written in the report without any further initiatives or project implementation.



Graph 3: Thrust 2: Social Inclusion for Structure Plan

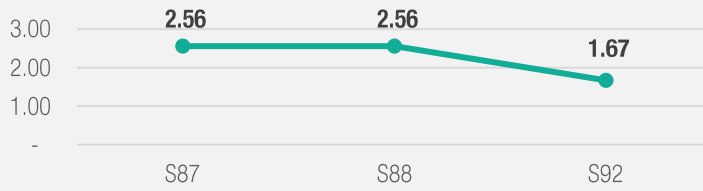
While Social Inclusion thrusts indicates that Malaysia is dedicated to social inclusion at the state level spatial planning document has a description of the Policy Statement and Initiatives for issues related to social inclusion.



Graph 4: Thrust 3: Environmentally Sustainable for Structure Plan

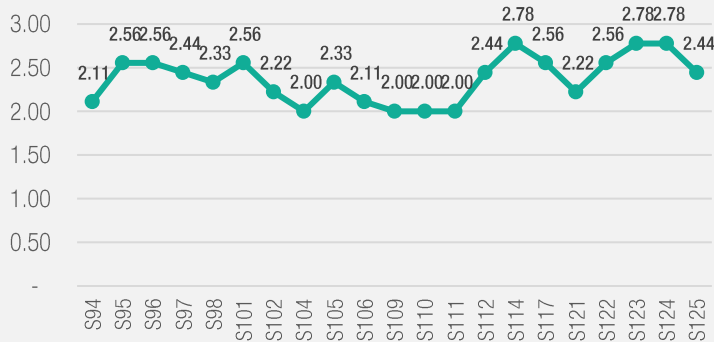
Meanwhile, Environmentally Sustainable thrusts have four (4) statements that only describe the Policy Statement without any initiatives or project implementation that can support the NUA spatial planning statements.

Figure 4.6 : NUA Mapping Assessment of Structure Plan



Graph 5: Thrust 4: Governance Structures for Structure Plan

Governance structure thrust have fewer statements related to spatial planning than the other thrusts. However, it does not mean the government is neglecting the Governance structure statement since various initiatives have been suggested to cater to this statement on structure plan documents. On average, all nine states have included a description of the Policy Statement and Initiatives in line with the NUA spatial planning statement.



Graph 6: Thrust 5: Spatial Development for Structure Plan

Finally, Spatial Development thrusts (Graph 6) has 21 statements related to spatial planning and Malaysia is dedicated to this aspect. The graph below shows that all 21 statements score two (2), where the Policy Statement and Initiatives are written on every structure plan for all nine (9) states.





5.0

SUSTAINABLE URBAN
DEVELOPMENT FOR SOCIAL
INCLUSION AND ENDING POVERTY

5.0 SUSTAINABLE URBAN DEVELOPMENT FOR SOCIAL INCLUSION AND ENDING POVERTY

5.1 Social Inclusion and Ending Poverty

Ending poverty has been the national agenda since introduction of the New Economic Policy in 1970 and emphasised in the 2MP (1971-1975). Malaysia have achieved commendable results in eradicating poverty over the decades, however the country is still witnessing increased poverty and inequality in both rural and urban areas. Malaysia envisions to progress into becoming a high-income nation by 2024. In meeting this ambition, the bottom 40% (B40) population group needs to be given economic development priority. Currently, there are 2.7 million B40 households, with 56% residing in urban areas. Supposedly, in the year 2020, this figure should indicate that the country is on track to achieve its goal of becoming a high-income nation. However, due to the extended COVID-19 outbreak and the subsequent lockdowns, the livelihoods of the B40s have been badly disrupted.⁵⁰

This development has revealed the urgency to rethink and introduce a set of new, and more sustainable and inclusive policies that go beyond entrenched paradigms. Upon reviewing the Poverty Line Income (PLI), the Multidimensional Poverty Index (MPI), and the introduction of the new PLI in 2019 by the Economic Planning Unit under the Prime Minister’s Department, this chapter discusses the impacts of the pandemic-induced economic crisis that brought challenges to Malaysia, and how sustainable urban development, echoing the principles of the New Urban Agenda, can bring social inclusion and eliminate poverty in the country.

Malaysia aims to eliminate hardcore poverty by 2025 by focusing on 1.5 million B40 households in urban areas with monthly incomes below RM4,850 in the 12MP.

The Multidimensional Poverty Index

In 2015, Malaysia launched a national MPI as part of our annual development plan. The aim for introducing the MPI was to ensure that progress in uplifting lower-income Malaysians toward a middle-class society would be measured by vulnerability and quality of life in addition to household income. MPI broadens the definition of poverty to include vulnerabilities in areas such as health, living standards and education attainment. Thus, the MPI was seen as a complement to the (PLI), a measure of income poverty that had been used since the 1970s.⁵¹

For these vulnerable groups, poverty is not only due to lack of income, but also limited access to education, health, and basic amenities. Thus, the shift from focusing on income-centric absolute poverty level to the multidimensional poverty sets the right direction towards inclusive development. The MPI plays an important in the policy decisions in the 12MP and the Shared Prosperity Vision 2030 agenda, as well as address SDG 1.

⁵⁰ Household Income and Basic Amenities Survey Report, Department of Statistics Malaysia. 2019

⁵¹ Kenneth Simler. Poverty & Equity Brief: Malaysia, East Asia & Pacific. World Bank Group. 2020

Figure 5.1: Structure of Malaysia’s MPI (2015–present)

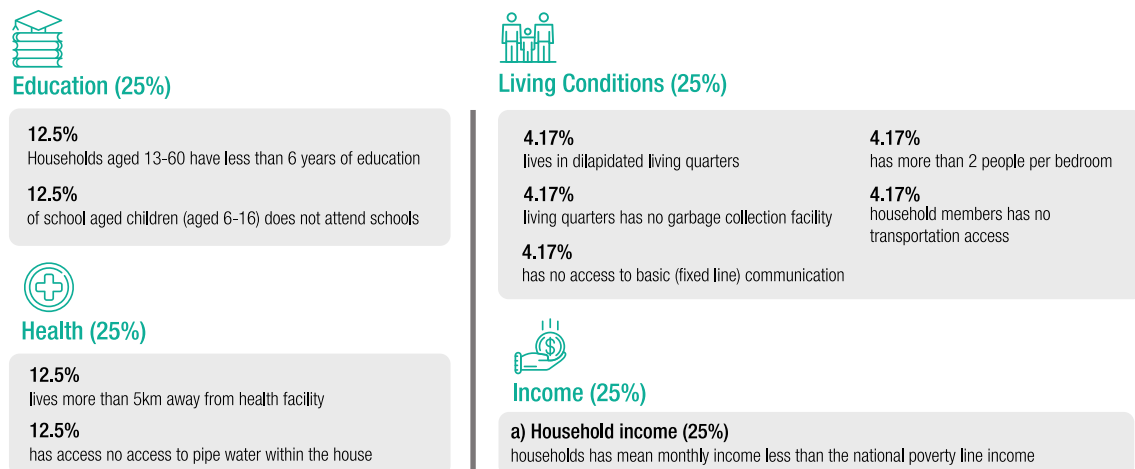


Table 5.1: Multidimensional Poverty Index (MPI) and Household Income Survey (HIS) estimates for 2014–2019 from the MP11 Mid-Term Review

Dimension	Indicator	Deprivation cutoff	Incidence of household deprivation (%)			
			Reported in MP11 MTR		Reported in 2019 HIS	
			(1) 2014	(2) 2016	(3) 2016	(4) 2019
Education	Years of schooling	All household members aged 13-60 have less than 6 years of education	1.1	1.2	1.2	1.0
	School attendance	Any school-aged children (aged 6-16) not schooling	0.6	0.4	0.4	0.4
Health	Access to healthcare facility	Distance more than 5 kilometers away and no mobile health facility	5.8	6.8	6.8	6.5
	Access to clean water	Other than treated pipe water inside house and public water pip/standpipe	4.9	4.1	4.1	3.9
Standard of Living/ Living conditions	Conditions of living quarters	Dilapidated or deteriorating	3.0	2.9	2.9	3.7
	Overcrowding	Average of more than 2 household members per bedroom	14.0	12.0	12.0	9.5
	Toilet facility	Other than pour or flush toilet	0.5	0.3	0.3	0.4
	Garbage collection facility	No garbage collection facility	16.2	14.9	14.9	13.3
	Transportation	All members in the household do not use private or public transport	0.3	0.5	0.5	0.6
	Basic communication tools	Does not have consistent fixed line phone or mobile phone	1.6	1.4	1.4	1.4
Income	Income poverty using 2005 PLI methodology	Mean monthly household income less than PLI	0.6	0.36	n/a	n/a
	Income poverty using 2019 PLI methodology	Monthly household gross income less than mean household PLI	n/a	n/a	7.6	5.6

Source: Malaysia Plan 11 mid-term review, 2018

Table 5.2: Multidimensional Poverty Incidence and Index, 2016 and 2019

	Incidence of Multidimensional Poverty (%)	Multidimensional Poverty Index (%)	Incidence of Multidimensional Poverty (%)	Multidimensional Poverty Index (%)
	2016	2019	2016	2019
National	3.66	2.64	1.52	1.10
Urban	1.28	0.94	0.49	0.36
Rural	12.33	9.38	5.26	4.01

Source: Household and Income Expenditure Division; Department of Statistics Malaysia.

Malaysia's MPI covers four dimensions: Education, Health, Living Standards and Income. Each dimension has one to six indicators with weightage given equally to each dimension in line with global practices.⁵²

The New Poverty Line Index

According to the Department of Statistics Malaysia (DOSM), the previous methodology in determining the national PLI was based on the minimum food requirements of each household member and 106 non-food items based on the spending patterns of the country's bottom 20% group (B20). In contrast, the new 2019 methodology is based on optimum food requirements and healthy eating, as well as 146 non-food items from the B20 households' spending pattern in the 2019 household expenditure survey. From the aspect of food items, they are based on the 2017 Recommended Nutrient Intake and the Malaysian Dietary Guidelines.

Under the new methodology, calculations for the food component of the PLI are now based on servings according to food categories that are converted to price, instead of the previous methodology that was based on the individual's calories requirements. As for non-food items, those covered are clothing and shoes; housing, fuel, and utilities; furniture; transport and communications; education and health.

Based on the new methodology, the national mean PLI in 2016 was USD 515 (RM 2,141) or 7.61% in 2016 compared to 5.6% in 2019. This would translate into a decrease in households that falls under the 'poor' category – a drop from 525,743 households falling below the poverty line in 2016 to 405,441 households in 2019.

As shown by the DOSM data, size matters when it comes to poverty, with 70.4% of the 405,441 poor households having more than four household members, while 13.3% of these households has four household members. Cases on extreme poverty improved from 0.62% in 2016 to 0.4% in 2019. This would translate into a decrease in the number of extreme poor households from 45,004 households in 2016 to 27,158 households in 2019.

The same data indicates that income threshold for the B40 group in 2019 comprising of 2.91 million households was USD 1,167 (RM 4,849). The middle 40 (M40) group's income threshold involving 2.91 million households was between USD 1,167 (RM 4,850) and USD 2,637 (RM 10,959). In addition, there were 1.46 million households in the T20 group with income more than USD 2,638 (RM 10,960).

For income distribution, the T20 constituted 46.8% of total household income in 2019, an increase from 46.2% in 2016. The M40 group had 37.2%, while the B40 only had 16.0% of total income; a decrease from 16.4% in 2016 which shows a widening inequality between the T20 and the B40 groups of the population.

The widening inequality was measured using the Gini Index, which in 2019, showed an increase by 0.008 percentage points from 0.399 in 2016 to 0.407 in 2019. This reflected a rising trend in inequality within urban areas being greater than rural areas. Over the period, the Gini Index of urban areas increased from 0.389 to 0.398, and in rural areas from 0.364 to 0.367.

The Gini Index for Bumiputera (the majority ethnic group) rose from 0.385 to 0.389; the Chinese ethnic group had increased from 0.411 to 0.417; and an increase of 0.382 to 0.411 for the Indian ethnic group. In short, based on the data before the COVID-19 pandemic outbreak, there is evidence of rising inequality throughout the country and among the various ethnic groups.⁵⁴

Reducing Inequality in Urban Areas and Eradicating Poverty

In recent years, urban poverty in Malaysia has an increasingly visible phenomenon due to impacts of urbanisation. Rapid urban expansion in the country had caused various problems for local government especially in fulfilling the provision of services and infrastructures, and providing houses for urban dwellers.

Excessive urban development has also resulted in uneven distribution of development benefits between urban centres as well as between rural-urban areas leading to some degree of regional imbalances. Furthermore, the gaps in income and other socioeconomic factors of people in the country has widened not only regionally but ethnically too.

There are also many social enterprises in Malaysia assisting in providing aids and social protection measures. This includes civil society groups, NGOs, well-meaning individuals movement, especially during the pandemic. The private sector has also entered the landscape, beginning with their standalone corporate social responsibility (CSR) activities.

As investment criteria begin to incorporate environmental, social and governance (ESG) elements, large corporations may soon include metrics like urban poverty into their business model. The government's role is to coordinate these services to avoid duplications by registering the organisations that offers regular services.

⁵² *Multidimensional Poverty Measure (circa 2017)*, World Bank, Washington, DC, 2021.

⁵³ *Household Income & Basic Amenities Survey Report 2019; Household and Income Expenditure Division; Department of Statistics Malaysia.*

The Prime Minister's Department's (PMD) Implementation and Coordination Unit (ICU), has compiled data on poverty through the *eKasih* National Poverty Data Bank System, which allows programmes and strategies to be tailored based on actual needs of each locality. To ensure a more focused implementation, a special poverty unit will be established at the federal, state, and district levels.

Malaysia's efforts to eradicate poverty have been relatively successful thus far, however we need improved strategies and solutions as our understanding of poverty matures. Winning the war against COVID-19 also requires that we repair our social safety nets and provide solutions to the complex problem of urban poverty.

Social Inclusion of Vulnerable Groups

There is a strong correlation between promoting social inclusions for building safer, stable and just societies for all, and setting up the enabling conditions for adequately managing social transformations leading to sustainable development and peace.

Social inclusion is the right thing to do, and it also makes good economic sense. Left unaddressed, the exclusion of disadvantaged groups can be costly. Social inclusion, a process by which societies combat poverty and social exclusion, require longstanding commitment from the government and citizens.

While everyone is affected either directly or indirectly, be it from job losses, or reduction of income, or worsening of well being, certain groups are impacted more than others. Challenges are more pronounced for low-income households, migrants (documented and undocumented), undocumented Malaysians, stateless persons, self-employed, refugees, women, elderly, disabled, children, Indigenous Peoples, and homeless.

Majority of Malaysian workers do not have enough savings for retirement. Data from the Employees Provident Fund shows that only 2 in 10 of employees have the minimum savings target of USD 54,000 (RM 228,000) by the time they retire. Translating that majority of the population will enter old age unprepared and without enough savings. Among the self-employed, which constitute about 20% of the labour force, 7 in 10 have less than one month of savings, while for those working in the private sector, 8 in 10 have enough savings for less than 2 months.

Moving forward, Malaysia's focus will be on ensuring more equitable access to economic growth opportunities while increasing wellbeing and quality of life across all segments.

Some initiatives undertaken since the 10th Malaysia Plan includes:

1. Raising income generation potential of B40 households through income generating activities, human capital development, and micro-enterprise support programmes.
2. Assisting children in B40 households to boost their education and skills attainment through aid programmes like the *Kumpulan Wang Amanah Pelajar Miskin (KWAPM)* and *Rancangan Makanan Tambahan (RMT)*.
3. Addressing the needs of special target groups (such as Indigenous Peoples) through land development and ownership, as well as skills training programmes.
4. Increasing women participation in the labour force and entrepreneurship through programmes such as the Micro Credit and Small Business Loan Scheme, Get Malaysia Business Online (GMBOnline), and Women Exporters Development Programme.
5. Home Help Services programme to assist and support the elderly and PWD living alone to live more independently and in comfort.

The government of Malaysia strongly believes that economic growth should be sustainable and generate social inclusion. Such beliefs have been translated into policies such as the ten and five year development plans, the New Economic Policy, the National Development Policy, the National Education Philosophy, the National Social Welfare Policy and the National Social Policy. These policies are being implemented through programmes aiming to create a more inclusive society.

To further improve and strengthen the country's commitment towards inclusivity, Malaysia shall continue to reorganise the broad range of development, outreach and extension programmes that are in place to ensure that vulnerable groups are not left behind in any area. The delivery mechanism will be strengthened across government, encouraging more active participation from the private sector and civil society.

In Sabah, the well-being of the people involves two important components, namely urban development and rural development that will shape the quality of life of the community in their respective areas. For urban development, Ministry of Local Government and Housing (KKTP) through Local Authorities is committed to emphasise efforts to transform their service delivery, strengthening and sustaining housing development sector as well as sustainable and systematic land use development planning.

While Ministry of Rural Development (MKLB) will actively implement poverty eradication programmes by giving priority to the hardcore poor. Entrepreneurs will be identified and trained through the Rural Entrepreneur Development Program and the 'One Product One District' Programme and usage of the latest technology so that they are not left behind. Basic facilities in rural areas will continue to be given attention. KPLB will continue to provide Alternative Rural Electricity Supply Program (BELBA) and Alternative Rural Water Supply (BALBA). To help the poor and the hardcore poor, the State Government will increase the distribution of houses next year under the Program Rumah Sejahtera Rakyat Sabah (RSRS)

COVID-19 Responses to Address Social Disparities

Malaysia is not spared from the devastating effects of COVID-19. The Department of Statistics Malaysia (DOSM), the Central Bank of Malaysia, and the International Labour Organization (ILO) have extensively captured the degree of adverse pandemic-induced shocks, with the economy contracting by 5.6% in 2020 – the biggest drop since the 1997 Asian Financial Crisis – and the unemployment rate reaching a 30-year peak at 5.3%, affecting over 800,000 individuals, in May 2020.

Concurrently, the pandemic has also unmasked the underlying extent of socioeconomic disparity in Malaysia. More specifically, these findings have illustrated that such shocks fall disproportionately on vulnerable groups, such as people with irregular employment. An online survey by DOSM in March 2020 found that 65.5% of self-employed individuals have seen their monthly income fall by at least 50% compared to 19.8%, 18.2%, and 32.6% of employees in government-linked companies, multinational companies, and other private firms, respectively.⁵⁶

This notion of economic disparity is further exemplified as monthly expenses of the top 20% and bottom 40% of earners have fallen by 60% and 41%, respectively, while 96% of Malaysians have insufficient savings to sustain six months of their pre-pandemic lifestyle. In short, they imply that the high-earners are more insulated from the consequences of the pandemic.

Direct policy interventions by the government are by assisting on the cash flow of firms and households that are negatively impacted by the crisis via direct cash assistance (cash injection to households, and wage subsidy and grants to firms), and also through other non-fiscal measures such as moratorium on loans, interest-free loans, and reduction in expenses.

The government strategy during the pandemic had gone back to basics: protect and create jobs, ensure shelter and food, and ensuring everyone residing in this country have access to affordable health care. Civil society such as non-governmental organization (NGOs), cooperatives and the private sector is playing more important role in addressing social disparities and poverty alleviation, complementary to the roles played by the government.

Sarawak COVID-19 Response

The well-being of the people is at the forefront of the State Government's agenda and is even more crucial that the welfare of the people is given due attention as it emerge from the economic and personal hardships encountered during the pandemic. The State Government has establish a firm foundation for the people to recover from the devastation caused to their lives and livelihood in the fight against the virus. Under the social services sector, Sarawak aims to provide a high living standard, healthy and inclusive society with affordable and innovative service delivery for its communities. Among the key initiatives are poverty alleviation programmes, social welfare programmes such as SarawakCare Insurance, Construction of State Research and Test Lab, new Normah Medical Specialist, Special needs Welfare Services and housing schemes.

5.2 Access to Adequate and Affordable Housing

Policies and initiatives to adequate and affordable housing

Since the 3rd Malaysia Plan, low cost housing projects has not met its target. For instance, throughout the 8MP only 197,649 low-cost housing units were built compared to 230,000 units required. Despite the formulation of the National Housing Policy in 2018. The government also realised the need of providing better offers and access to affordable housing, thus adopting the National Affordable Housing Policy in 2019.

Over the decades, Malaysia has taken different initiatives and focused on different target groups in affordable housing development. During the early period (circa 1957 – 1970s) the focus was to provide low-cost housing for low-income groups. Over time, as the nation's socioeconomic status elevates, demand by the M40 for affordable housing should increase.

⁵⁶ Labour Force Survey Report, Malaysia, 2020; Labour Market Information.

The government began to develop medium-cost affordable housing for this target group, opening wider opportunities for more parties to be involved in affordable housing projects. Gradually, housing development projects changed from public sector-led to private sector-led, which then evolved into joint ventures between the two.

Housing affordability has become the main concern of Malaysia's housing policy after decades of efforts, leading to the formulation of a specific housing policy to strengthen the government's initiatives in overcoming the housing affordability issue. The policy review shows that the housing affordability of low-income groups are still not guaranteed even though Malaysia has long implemented it. Table 5.1 shows the government's initiatives of affordable housing development with different policies and strategies in different times.

Low-Cost Housing Development after Independence: 1957–1970

After Malaysia gained its independence in 1957, the government started looking into squatter and overcrowding problems within housing developments caused by the rural – urban migration. A small amount of the national budget was allocated for low-cost housing development under the First Development Plan for Malaysia and the Second Five Year Plan (1956–1965).

During this time, housing development was not yet the priority of the government but housing provision for civil servants was. This resulted in the construction of 23,236 government quarters and 8938 low-cost homes for civil employees and low-income groups, respectively. From 1966 to 1970, squatter and slum problems gained more attention.

Laws were enacted for squatter clearance, such as The Emergency (Essential Powers) Clearance of Squatters Regulation (Laws of Malaysia 1969), Kuala Lumpur Federal Capital (Clearance of Squatters) Bylaw (Kuala Lumpur City Hall 1963), and Section 425 of the National Land Code (Laws of Malaysia 1965).

The 1MP (1966–1970) stated the goal of improving the well being of low-income groups, making the construction of low-cost housing a milestone in achieving the goal. In 1967, the “Housing Crash Programme” was implemented as an initiative of the government to provide low-cost housing.

Housing the Poor: 1971–1985

After the race riots tragedy of 13 May 1969, which was triggered due to income and social inequality the country was experiencing, the New Economic Policy (NEP) was launched in 1971 to address this gap. Many housing programs were carried out to achieve one of the NEP's objectives, i.e., to reduce and to eradicate poverty within Bumiputeras (Malays and indigenous people of Malaysia).

The quota system was introduced in housing development to make it mandatory for developers to include 30% of low-cost housing in most residential projects. The “Core Housing” concept was unveiled under the 2MP (1971–1975), which was designed to provide low-income groups with very basic accommodation, allowing them to expand and improve their housing according to their economic conditions.

In the 3MP (1976–1980), several initiatives were implemented to control housing cost, such as increasing building density, decreasing unit's floor-area, reducing the size of front porch, and lowering infrastructure facility standard. To accelerate low-cost housing construction, the government provided funding and extended the loan repayment period from 20 to 25 years to developers.

During the 4MP (1981–1985), the “Low-Cost Housing” concept was implemented that stressed upon the production of low-cost housing in urban areas. In 1981, the government enforced that 30 – 50% of private housing projects should be low-cost housing with a maximum cost of USD 6,000 (RM 25,000) per unit, forcing the involvement of the private sector in the development of low-cost housing.

Since then, low-cost housing development has been one of the goals in every five-year national development plan. In terms of performance, low-cost housing development increased from 1971 to 1985. Under the 2nd Malaysia Plan (1971–1975), 13,244 units were completed, achieving 50.5% of its target. And during the 3rd Malaysia Plan (1976–1980), low-cost housing rose to 26,000 units. However, this is only achieved 35% of the plan's target due to the reduced role and the lack of manpower of the reshuffled housing ministry then.

Housing Market Reform: 1986–1997

From 1986 to 1987, Malaysia's economy was in recession due to the global financial crisis, resulting in a reduction in government's budget for housing development in the 5MP (1986–1990) and the 6MP (1991–1995). The housing policy then was stipulated in line with the goal of international institutions, such as the World Bank and the International Monetary Fund, to promote an open market and to reduce government involvement in business affairs.

Under the 5MP, the institution of the One Stop Agency was established to facilitate the approval of housing project applications and to help developers obtain bank loans, and the Recovery Fund for Abandoned Housing Project was initiated to help developers complete their abandoned projects.

It was during the 6MP that the concept of "Human Settlement" was implemented in housing schemes to take into consideration the need for social facilities, housing types, and financial accessibility for low-income groups. Cross-subsidies method was implemented to allow developers to cover for the losses from low-cost housing with a gain from ordinary housing development by charging higher prices.

Funding was established to speed up the provision of low-cost housing and this resulted in increased production of low-cost housing - with the majority being supplied by the private sector.

Slum Clearance: 1998–2010

Due to the 1998 Asian Financial Crisis, challenges of economic turmoil urged the Malaysian government to establish the Economic Action Council to improve economic growth. One of its agenda was to address the squatter problem. In 1998, the Malaysian government launched a special low-cost housing program – the Integrated People's Housing Program to relocate squatters in urban areas, especially those in Kuala Lumpur.

It also raised the maximum low-cost housing price from USD 6,000 (RM 25,000) to USD 10,000 (RM 42,000) per unit in view of the non-profitability caused by high land price cost, rise in infrastructure, and development costs in city centres. By allowing developers to gain more competitive profits, this readjustment encouraged the greater involvement of both public and private developers in low-cost housing development.

In 2002, the Housing Development Act on Control and Licensing 1966 was amended to improve the effectiveness of housing development. At the same time, the Computerised Open Registration System was implemented as part of the screening process of eligible buyers.

In terms of policy performance, under the 7MP (1996–2000), 95.3% of the target of 190,597 units was achieved, among which the private sector contributed 129,598 units.

During the period of the 9MP (2006–2010), housing development continued to focus on the provision of adequate, affordable, and quality houses for all Malaysians, with a greater emphasis on appropriate locations and conducive living environments. As the housing market was led by the private sector and supported by the public sector, the private sector contributed more in high-cost housing, with its contribution to low-cost housing gradually decreasing.

First Affordable Housing Initiative: 2011–2015

The National Transformation Policy was introduced in 2010. Under the Government Transformation Programme, seven (7) National Key Result Areas were identified as being in urgent need for drastic action from the government. And one NKRA's correlate to housing development that is "raising living standard of low-income households".

Over the years the housing policies stated in the Malaysia plans had emphasised the objective of delivering affordable and sufficient housing to low-income groups and the growing number of the middle-income segment had also led to the increased demand for affordable housing. In 2012, the National Housing Policy was issued, which became the direction for all relevant parties involved in housing development.

It has six thrusts and twenty policy directions to provide sufficient housing for low- and middle-income groups. In 2013, the government set up the target of building 1.1 million affordable homes in five years to meet the market demand and stated that housing projects should include 20% low-cost and 20% medium-cost housing units in 2014. In the same period, the Build-Then-Sell concept was implemented, apart from the One Stop Centre system established in 2007, to shorten approval process.

At the same time the public and the private sectors, as well as joint ventures between the two, built affordable housing to increase accessibility to own or rent a house. A total of 102,201 affordable houses were completed under the 10MP (2011–2015) within the framework of various programmes designed to fulfil the needs of different target groups. This include Program Bantuan Rumah, Program Perumahan Rakyat, Rumah Mesra Rakyat 1Malaysia, and the Rent-to-Own Programme for low-income households, and the Perumahan Rakyat 1Malaysia (PR1MA), 1Malaysia Civil Servants Housing (PPA1M) and Rumah Wilayah Persekutuan (RUMAWIP) for middle-income households.

New financing schemes were offered, such as the My First Home Scheme, the Youth Housing Scheme, and the Private Affordable Ownership Housing Scheme (My Home), to provide financial assistance to homebuyers. To maintain the condition of affordable housing, the government also implemented the Housing Maintenance Program, the 1Malaysia Maintenance Fund, and the My Beautiful Malaysia programme for public low-cost housing, private low- and medium-cost housing, and government quarters.

Continued Affordable Housing Development: 2016 until Now

In 2017, the Central Bank of Malaysia declared that residential property in Malaysia had reached its peak in a decade but nearly half of the total PR1MA homes (25,132 units) were unsold as recorded on 15 November 2017, showing mismatch between supply and demand by price. The provision of PR1MA homes was priced from USD 24,000 (RM 100,000) to USD 94,000 (RM 400,000), whereas housing priced above USD 60,000 (RM 250,000) was considered unaffordable for the target groups. Based on the Housing Cost Burden approach, the National Bank estimated in 2016 that the maximum affordable housing price should be USD 66,000 (RM 282,000). However, the actual median housing price was USD 74,000 (RM 313,000).

In 2018, the National Housing Policy (2018–2025) was enacted to provide adequate and affordable housing for the needy. As a sub-policy, the National Affordable Housing Policy (DRMM) was issued in 2019 to further address problems of affordable housing for low- and middle-income households. Both policies outlined a set of guidelines for all parties involved in affordable housing delivery, such as the determination of price range for each state and the establishment of housing standards to be fulfilled by developers.

They also described government's initiatives in reducing affordable housing costs in terms of land price, development charges, and compliance cost, developing an integrated housing system and setting up a platform of education and advice on financial matters. The DRMM created a unified policy framework for developers to build affordable and cost-saving housing for the target groups of low- and middle-income households.

As a result, 458 public affordable housing projects were constructed on waqf land (waqf is a voluntary charitable endowment in the form of cash, property or land, for syariah compliant causes) through the cooperation between the Department of Waqf, Zakat and Haj (JAWHAR), and other institutions, such as the State Islamic Religious Councils, state governments, and local authorities.

The National Housing Department developed the National Housing Data Banking System as an integrated housing information system that allowed data sharing among agencies and state governments to facilitate the coordination to determine the suitable locations of affordable housing.

Several financing initiatives were also provided to improve the housing affordability of low- and middle-income households, such as the Rent-to-Own Financing Scheme.

In 2019, the Home Ownership Campaign was launched to promote Malaysian home ownership and to overcome the issue of unsold properties.

By the mid-term of the Eleventh Malaysia Plan (2016–2020), 139,329 units and 30.9% of the target had been completed for low- and middle-income households, while the homeownership of low- and middle-income households increased through various affordable housing programmes. However, there was still a shortage of affordable housing in urban areas.

Role of Ministry of Housing and Local Government

The Ministry of Housing and Local Government (KPKT) is responsible for providing quality, conducive, liveable and affordable housing. The government has always been committed to providing affordable housing especially for the B40 and M40 groups. For B40, there are two types of programme provided by the Ministry which are Public Housing Programme (Program Perumahan Rakyat; PPR) and Public-Friendly Housing Programme (Rumah Mesra Rakyat; RMR). RMR is managed by Syarikat Perumahan Negara Berhad (SPNB), an agency under the Ministry.

For PPR, since its introduction in 1982 until December 2021, 154 PPR projects were completed, comprising of 97,196 housing units. The B40 group can purchase a PPR house with a price of USD 8,300 (RM 35,000) in Peninsular Malaysia and USD 10,000 (RM 42,000) in Sabah and Sarawak. PPR also offers rental rates as low as USD 30 (RM 124) per month. Rental PPR also targets to relocate squatters and the homeless especially those in urban areas. The Government has also introduced the Rent-to-Own PPR Programme especially for those whom are not financially capable to acquire mortgage from financial institutions.

In addition, the Government will continue the existing housing programme for the M40 group through Affordable Housing Programme (Rumah Mampu Milik; RMM) with a sale price of USD 71,000 (RM 300,000) and below. This includes housing schemes such as the Malaysian Civil Servants Housing (Perumahan Penjawat Awam Malaysia; PPAM), housing programmes under the

PR1MA Malaysia Corporation (Perbadanan Perumahan Rakyat 1 Malaysia; PR1MA) and SPNB Residential, which benefit the M40 group. To date, there are 23,841 PPAM units, 21,183 PR1MA housing units and 27,518 SPNB residential housing units completed.

In line with the 12MP strategy to increase the supply of affordable housing by 500,000 units of houses during the plan's implementation period, the government has established the 12MP Housing Cluster Coordination and Reporting Committee to ensure the development of 500,000 units of affordable housing can be achieved by 2025. This development strategy will involve KPKT as the lead coordinator to 15 Federal Ministries/ Agencies of housing providers, State Governments and the private sector.

Upgrading of Homes, Squatters and Urban Villages

At the same time, the Government is committed to continue the People Friendly House (RMR) Program under Syarikat Perumahan Negara Berhad (SPNB) which has also been proven to allocate housing benefits to the B40 group who have their own land or land owned by family members with given permission.

Until December 2021, a total of 47,714 units have been completed. A total of USD 75 million (RM 315 million) is allocated to build 3,000 units of RMR houses nationwide in 2022. The RMR program is a program to meet the needs of low-income group to build houses on their own land based on the conditions set and is open to all Malaysians.

This program is targeted for those with a monthly household income of USD 710 (RM 3,000) and below who do not own a house or owns a dilapidated, but have a land to build better house. The RMR programme offers 3 bedrooms and 2 bathrooms detached house type, priced between USD 17,700 (RM 75,000) to USD 25,000 (RM 106,500), where USD 4,700 (RM20,000) is subsidized by the government. Loan facilities are offered to cover the remaining costs. As of December 2021, there are a total of 7,000 applicants deemed eligible in the waiting list with 90,000 are in the process of completing their applications nationwide.

Figure 5.2: Overview on National Housing Policy (2018 – 2025)

National Housing Policy (2018 - 2025)

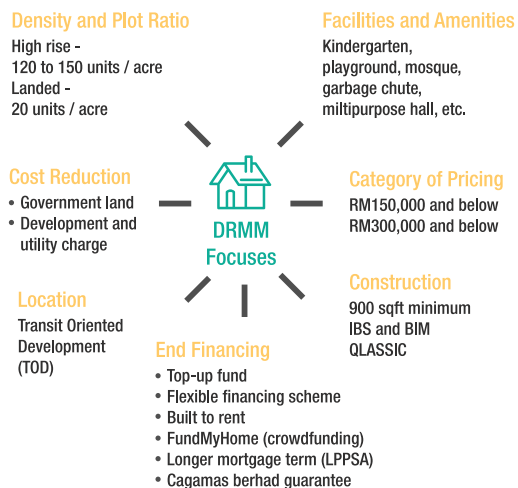
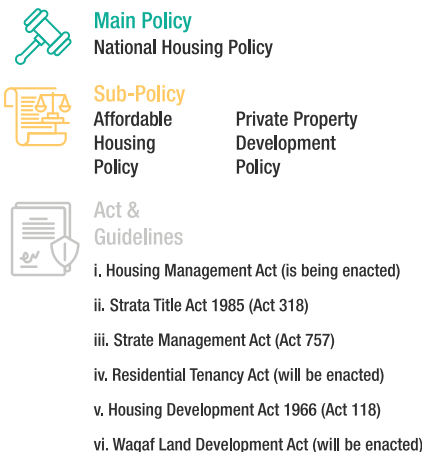


Table 5.3: Government's policies and strategies on affordable housing development, 1957 – 2020

Phase	Backgrounds and Challenges	Initiatives of Government		Implementation Effects
		Name of Policy	Strategies	
1957 – 1970	Rural–urban migration, squatter and overcrowding problems	First Development Plan for - Malaya and Secondary Five-Year Plan (1956 – 1965)	Improve basic infrastructure and rural development Focus more on benefit of civil servants	23,236 government quarters and 8,938 low-cost housings constructed
		1 st Malaysia Plan (1966 – 1970)	Housing Crash Programme Laws enacted for squatter clearance	21,790 low -cost housing constructed (73% from target)
1971 – 1980	Tragedy of 13th May 1969, New Economic Policy (NEP) was established	2 nd Malaysia Plan (1971 – 1975)	Housing program carried out in line with NEP objectives Low -cost housing built by state governments with subsidised Federal loans Core Housing concept	13,244 units completed (50.5% from target)
		3 rd Malaysian Plan (1976 – 1980)	Control on housing costs Housing loan repayment period extended from 20 years to 25 years	26,000 units completed (35% from target)
1981 – 1990	Economy depression from 1986 to 1987	4 th Malaysia Plan (1981 – 1985)	Low-cost housing concept 30–50% of private housing projects for low cost housing at maximum USD 6,000 (RM 25,000) per unit	Public sector: 71,310 units completed (40.4% from target) Private sector: 19,170 units completed (21.9% from target)
		5 th Malaysia Plan (1986–1990) - (1986–1990)	Promote open market policy Reduction in public housing development budget Establishment of one stop agency Establishment of Recovery Fund for Abandoned Housing Project in 1990	Private sector: 88,880 units completed (24% from target) Public sector: 74,330 units completed (61% from target) Housing scheme: Special Low-cost Housing Program

Phase	Backgrounds and Challenges	Initiatives of Government		Implementation Effects
		Name of Policy	Strategies	
1991 – 2000	To provide adequate housing and ensure houses built are accessible and affordable for all citizens, especially low income group	6 th Malaysia Plan (1990 – 1995) - (1991–1995)	Implementation of the concept of Human Settlement Implementation of cross-subsidies method Establishment of Low-cost Housing Fund in 1993, Housing Foundation for the Poorest People, and Low -cost Housing Revolving Fund in 1994	Private sector: 214,889 units completed (98.9% from target) Public sector: 46,497 units completed (36.7% from target) due to inapt project sites and high construction costs Housing scheme: Special Low-cost Housing Program
	Asian Financial Crisis from 1997 to 1998, economy breakdown, squatter problem raised in 1990s	7 th Malaysia Plan (1996 – 2000) - (1996–2000)	In 1998, low -cost housing price inclined to USD 10,000 (RM 42,000) per unit Implementation of Low-cost Housing Revolving Fund to encourage private involvement.	190,597 units completed (95.3% from target) Housing scheme: Integrated People's Housing Program (SPNB), 1998
2001 – 2010		8 th Malaysia Plan (2001 – 2005) - (2001–2005)	Housing Development Act - on Control and Licencing 1966 amended in 2002 registration system implemented	210,529 units completed (85% from target), 113,235 units by public sector and 97,294 units by private sector. Housing scheme: <i>Program Perumahan Mampu Milik; Program Perumahan Mesra Rakyat</i>
		9 th Malaysia Plan (2006 – 2010)	Provision of adequate, affordable, and quality houses, with greater emphasis on appropriate locations and conducive living environment	95,800 units completed (91.2% from target) Housing scheme: <i>Program Perumahan Rakyat; Program Perumahan Mesra Rakyat</i>

Phase	Backgrounds and Challenges	Initiatives of Government		Implementation Effects
		Name of Policy	Strategies	
2011 – 2020	In 2010, National Transformation Policy was introduced to achieve the Government Transformation Programme.	10 th Malaysia Plan (2011 – 2015) - (2011–2015); National Housing Policy - 2012	Implementation of the Build-Then-Sell concept Enforcement of government to include 20% low-cost and 20% medium-cost housing units in housing projects Launch of new financing schemes Launch of maintenance programme to maintain the condition of affordable housing	102,201 units completed (56.3% from target) Various housing schemes introduced for both low- and middle-income households
	Unsold property in Malaysia due to mismatch of supply and demand and unaffordable housing price for the target group	11 th Malaysia Plan (2016 – 2020) - (2016–2020); National Housing Policy (2018–2025) National Affordable Housing Policy, 2019	Construction of affordable housing on <i>waqf</i> land (land donated by Muslim society for charitable purpose) Development of the National Housing Data Banking system Introduction of the Rent-to-Own financing scheme Introduction of the Home Ownership Campaign in 2019.	From 2016 to 2017, 139,329 units completed (30.9% from target) Various affordable housing programs launched for those low- and middle-income households

5.3 Mobility and Accessibility

Access to Public Transportation System

Malaysia experienced rapid development in order to achieve its Vision 2020. This had come with the need for effective and efficient public transportation system. However, responding to this had been very challenging. For example, Kuala Lumpur faces immense challenges in trying to accommodate additional private cars every year and the increase of motorcycles that is faster than its population growth.

Malaysia's public transportation, which has seen sweeping development over the past five years, such as the introduction of the first Klang Valley Mass Rapid Transit (MRT) line (Kajang Line) and the extension of the Kelana Jaya and Ampang/ Sri Petaling Light Rail Transit (LRT) lines. In 2018, Malaysia achieved a modal share of 21% and its target is to reach the 40% public transport modal share target in 2020.

Some challenges faced include inadequate connectivity, lack of accessibility and reliability of services, the reluctance of the public to switch from private vehicles and, of course, the impact of the COVID-19 pandemic. Lack of first- and last-mile connectivity between different modes of transport is also a particular pain point, hampering seamless travel. Public transport users continue to have subpar commuting experience that includes "low on-time performance", while transport operators struggle with the "absence of holistic travel demand management" that has affected efficiency and reliability of public transport.

Utilisation of public transport remains below target mainly due to reluctance to switch from private vehicles to public transport. This is partly contributed by the relatively low-cost of car ownership, proven by the increase in the number of registered vehicles, by about 6% per annum, from 20.2 million in 2010 to 30 million in 2018. Malaysia has one of the highest ratios of vehicles to the population in the region, which stood at 0.9 in 2018.

The 12MP also highlighted the lack of coordination between the federal and state governments over matters like public transport policy, planning and development, hampering the optimisation of infrastructure planning in various states. One of the biggest challenges in urban transport development and implementation is the fragmentation of governing and implementation agencies.

Responding to the Challenges

Low public transport utilisation is a serious problem, which is why the 12MP also includes a number of initiatives to fix this by providing affordable, reliable and seamless mobility in the near future. The government wants to provide a more accessible and integrated transport system and reduce the nation's dependence on private vehicles. The latter will include measures such as limiting parking spaces and imposing higher parking charges in city centres.

Good service planning and programming at public transport stations with poor physical infrastructure will limit the performance of the public transport system. Thus, the infrastructure provided must be sufficient. For better access to public transportation systems, the Station Area Planning (SAP) can be adopted. Within 400m of a public transport station (e.g. MRT, LRT, KTM Commuter Station), micromobility facilities and pedestrian walkways between public transport stations and surrounding residential areas should be well connected. Existing pedestrian walkways need to be improved to provide safety (wider walking space with better lighting), security and comfortable walking experiences (suitable walking surface and appropriate marking).

Protection for pedestrians and cyclists travelling to public transport stations must be ensured by creating physical separation from motorised traffic. The Malaysian Institute of Road Safety Research (MIROS), together with the involvement of local authorities such as Kuala Lumpur City Hall (DBKL), Subang Jaya City Council (MBSJ), Shah Alam City Council (MBSA) and others are preparing a mobility master plan that will further enhance infrastructure as well as ensure the safety of all road users.

Another on going measure is to give star rating on selected urban roads on their risk and safety level by utilising the international road assessment program, iRAP. This could encourage road owners to strategically improve their roads with the road safety countermeasures.

Better planning to connect public housing areas to accessible and reliable public transportation is vital to ensure that the urban poor have greater access to socio-economic opportunities. As Malaysia sets its sights on becoming a developed and inclusive nation, this needs to be put at the forefront of urban development priorities. Better access to public transportation for urban poor communities could be a big step towards inclusive growth.

It is explicitly mentioned in the SDGs' Goal 11 target 2, that: "By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons."

According to a paper from the Jeffrey Sachs Centre on Sustainable Development, it is highlighted that innovation in public transportation can improve population health by decreasing road deaths and accidents. In 2016 in Malaysia, 7,152 people were killed in 521,466 road accidents. That is nearly 20 deaths every day, at a cost to the country of over RM 9 billion. The World Health Organization has ranked Malaysia as having the third highest deadliest roads in the world.⁵⁷

Therefore, sustainable transport must be integrated as an essential ingredient in sustainable development strategies. Transport infrastructure lasts for decades, which means that the decisions that the local and national governments make today will have long-lasting impacts on urban development and form, as well as climate. The lack of unified planning is a key obstacle to the delivery of efficient urban transport. By focusing on what sustainable urban transport means to Malaysians, we can move closer to a wealthier, cleaner, and happier city and country.

57 Cara Kennedy-Cuomo. *The Case for Sustainable Urban Transportation for Malaysia*, Jeffrey Sachs Center on Sustainable Development. 2021



Photo source : MRT Corp website

Access to Information Communication Technology

Malaysia is focused on the development of connectivity, satellite broadband, digital infrastructure for buildings, 5G ecosystems, and smart automation. We have easy access to other growing markets and robust infrastructure, connectivity, and economic stability. The ICT sector is one of the fastest-growing sectors in the Malaysian market, currently contributing 19.1% of the country's GDP (2019) and is expected to reach 22.6% by 2025.

However, digital adoption by Malaysian businesses still lags behind the global average: only 29% of businesses had a web presence while a meagre 5.2% of businesses engaged in e-commerce in 2015. This figure might have improved with the COVID-19 outbreak that forced more businesses to adopt digitalisation in order to stay relevant, make sales, and simply to survive.

The World Bank's 'Malaysia's Digital Economy' report also states that there exists a digital divide among businesses in Malaysia, as small- and medium-sized establishments are less likely than the average business establishment to access and use the internet, and that businesses engaged in e-commerce tend to be much larger than the average establishment.

Responding to these issues and challenges, the government launched the MyDIGITAL initiative in 2021 as a comprehensive approach designed to anchor Malaysia's digital economy by 2030. This initiative serves as part of the government's plans to transform Malaysia into a digitally driven, high-income nation and a regional leader in digital economy.

MyDIGITAL is implemented via the Malaysia Digital Economy Blueprint, and will take place in three phases. Phase One (2021-2022) is focused on strengthening the foundation of digital adoption. Phase Two's (2023-2025) aim is to drive inclusive digital transformation. Phase Three's goal (2026-2030) is to make Malaysia a digital content and cyber security lead in the regional market.

As part of the effort to accelerate innovation and create an efficient digital ecosystem, the government sets out four key digital infrastructure projects under MyDIGITAL that will be executed via Malaysia Digital Economy Blueprint. The four key projects are as follows:

1. USD 5.06 billion to be invested over five years through the National Digital Network (JENDELA) project to strengthen existing connectivity.
2. USD 39 million to be invested by several telecommunications companies to strengthen connection to the international subsea cable network until 2023.
3. USD 3.57 billion to be invested over 10 years for the implementation of 5G nationwide. This is expected to create approximately 105,000 job opportunities.
4. USD 2.85 – USD3.57 billion to be invested by Cloud Service Provider (CSP) companies over the next five years to increase data storage space, reduce operating costs and improve analytical efficiency.

However, it is important that we are aware that the presence of the digital divide in Malaysia still exists. This divide had been caused by multiple issues such as the lack of basic ICT infrastructure (such as fixed telephone lines or Internet connection) in rural areas. This has led to a wider information gap between the rural and urban communities. Other most commonly reported issues in the development of ICT adoption are related to the quality and availability and maintenance of infrastructure, community involvement, ability to meet local needs and requirements, as well as capacity gaps among people.

5.4 Safety and Security

Safety is an inherent feature in the creation of sustainable built-up environments. It was clearly stated in the United Nations (UN) policy New Urban Agenda (NUA), which advocated “creating safe, resilient, sustainable and inclusive cities”. Meanwhile, the SDG 11 stated that the aim was to “make cities inclusive, safe, resilient and sustainable”.

Safe City Malaysia Programme

Safe City Malaysia is defined as a city free from any form of physical, social and mental threats where the community can live in peace and harmony in a well-protected and conducive living environment that relates to the overall quality of life.

Malaysia’s Safe City Program (SCP) was first established in August 2004 following the Cabinet directive to ensure cities and towns are safe from crime. The call was due to the disturbing increase in the crime index, particularly in major cities in the country. Then, the crime index of Kuala Lumpur, mainly snatch theft, contributed to about 18% of the total crime index of the nation, with an average of nine reported cases daily.

Crime occurrences received comprehensive media coverage then, the victims were traumatised, and fear of crime increased and had been politicised. The Safe City Programme 2004 was tailor-made to prevent property crimes (snatch theft, break-in (night and day), motorcycle and car theft) rather than violent crimes.

Box 5.1: Malaysia Safe City Program – Objectives, Strategies and Prevention Steps

The primary objectives of the Safe City concept are :

- Free from violence
- Free from disaster
- Free from social and moral decay
- Free from any form of indoor or outdoor accidents

Prevention Steps

Strategy 1: Environmental Design Initiatives

1. Preparation of bollards
2. Control landscape crops along pedestrian walkways
3. Crime prevention research through environmental design
4. Sharing crime information through GIS-Based mapping
5. Revision of housing arrangement guidelines

Strategy 2: Improvement Of Public Areas

1. Crime reminder sign board
2. Safety mirror
3. Security alarm
4. Washing / cleaning cluttered and hidden areas
5. Motorcycle locked parking base
6. Installation of closed-circuit television (CCTV)
7. Lights installation at business premises’ walkways
8. Public pathways that are not sheltered or obstructed from public view
9. Lighting crime targeted area
10. Obstruct business activities and park car at the pedestrian walkways
11. Generate a variety of business activities
12. Private security guard service

Strategy 3: Community Engagement And Awareness

1. Education/public awareness
2. Education
3. Installation of lighting at side lanes, front, and back yard
4. Preparation of community crime booklet
5. Increase patrolling in housing area

Source: PLANMalaysia, 2020



Photo source : Safe City Programme, PLANMalaysia

Table 5.4: Safe City Programmes Budget Allocation since 2010 – 2020

Initiative To Address Street Crime at Hot Spot Areas 2010 – 2012			
Year	Numbers of Local Authorities	Budget Allocation (RM in mil)	
2010	12	30.5	
2011	151	64.0	
2012	151	91.0	
Total		185.5	
Safe City Monitoring System 2010 – 2016			
Year	Numbers of Local Authorities	Numbers of Police Station	Budget Allocation (RM in mil)
2010 (Phase 1)	12	42	5.3
2011 (Phase 2)	-	8	2.78
2012 (Phase 3)	23	140	13
2013 (Phase 4)	74	196	2.26
2015 (Phase 5)	12	125	4.1
2016 (Phase 6)	30	304	2.35
Total			29.79
Whitening Initiative for Black Spot Areas 2013 – 2020			
Year	Numbers of Local Authorities	Budget Allocation (RM in mil)	
2013	17	42.85	
2014	39	5.7	
2015	24	10	
2016	20	12	
2017	24	15	
2018	21	15	
2019	22	10	
2020	27	15	
Total		125.55	
GRAND TOTAL		340.84	

Source: Source: PLANMalaysia, 2020

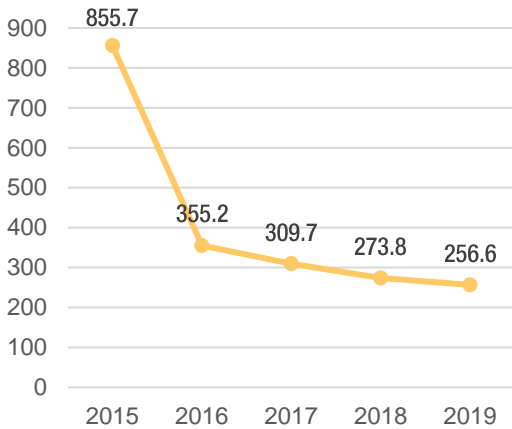
Impact of the Safe City Programme in Crime Reduction

In general, Malaysia has seen a significant decrease in the overall reported crime index per 100,000 populations over the last five years, with 855.7 ratios in 2015 to 256.6 ratio in 2019. In addition, Malaysia has been faring well based on the Global Peace Index (GPI) in terms of peace and safety.

The GPI 2020 report shows that Malaysia is now ranked 30th in the world with a 2.174 score (the lower the score, the more peaceful the country), coming 3rd as the safest country in Asia behind Japan and Singapore among Asian Countries. It is something commendable for the country.

Implementing the initiative to address street crime in hot spot areas (2010-2012) and whitening initiative for black spot areas (2013-2019), SCP has successfully implemented various activities and physical projects related to crime prevention and reduction at different local authorities all over Malaysia. SCP achievements and outcomes since 2010 – 2019 as shown below.

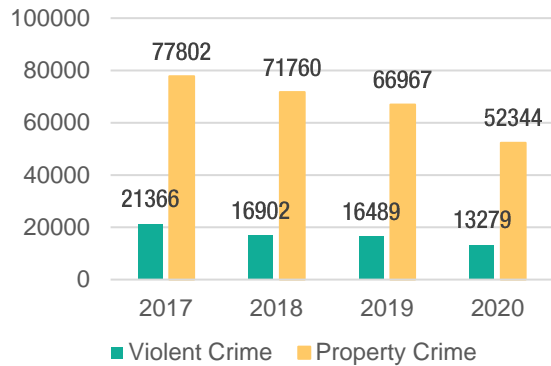
Figure 5.3: Malaysia Crime Index Ratio per 100,000 populations from 2015 – 2019



Source: Source: PLANMalaysia, 2020

Reduction in snatch thefts occurred in cities that have implemented safe city measures, including separation of pedestrian walkways from motorised vehicles, construction of bollards, landscape treatment along pedestrian walkways, cleanliness of streets and alleys and also by installation of CCTV and lighting-up shopping/commercial areas. The findings shows an encouraging result and some correlations, i.e., cities that have implemented crime prevention measures managed to reduce the occurrence of crimes, in particular snatch thefts.

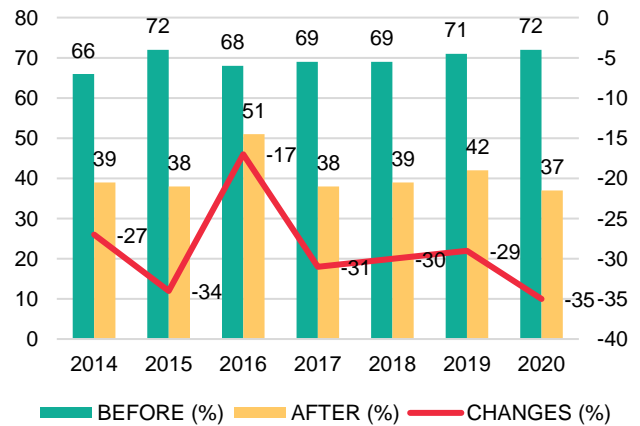
Figure 5.4: Malaysia Crime Index by Type of Crime, 2017 – 2020



Source: Source: PLANMalaysia, 2020

SCP implementation has also succeeded in reducing the Fear of Crime (FOC) among the public, especially involving the black spot area whitening initiatives. The FOC study was carried out before and after implementing the physical project in the area as proposed by the local authorities. Graph 5.2 indicates that public discernment towards fear of crime is decreasing over the years. It shows SCP programme fulfilled its purpose to enhance the living environment, safety and quality of life of the public.

Figure 5.5: Fear of Crime Over The Years, 2014 - 2020



Source: Source: PLANMalaysia, 2020

5.5 Good Infrastructure and Services

Water Supply and Sanitation

Malaysia is blessed with a rich availability of water resources with 971 billion m³ rainfalls per year. In terms of access to adequate water and sanitation services, my overall observation is that Malaysia has achieved high performance. The accessibility of water and sanitation services is truly impressive.

According to the WHO/UNICEF Joint Monitoring Programme Report 2015, 92% of the population of Malaysia have access to safely managed water services and 82% to safely managed sanitation services. This shows that most Malaysians have access to a piped and central water supply and an adequate sanitation facility, whether a sewerage connection, a safe septic tank or a latrine.

As for affordability of water and sanitation services, Malaysia has financially accessible tariffs for both water and sewerage provision. In some States, there is a universal provision of Government subsidized water until a certain consumption, usually 20 cubic meters per month, and in some others, this subsidy is applied to a targeted population, with less economic resources.

For desludging of septic tanks, in some states such as Sarawak, the service is subsidized and is charged in the house assessment fees. Malaysia has explicitly committed to achieving SDG Goal 6 - ensure availability and sustainable management of water and sanitation for all - particularly by aligning its development plans with the 2030 Sustainable Development Goals.

Meanwhile with rapid urbanisation in Malaysia, it is facing significant challenges in terms of water and sanitation. Malaysia generates about six million tonnes of sewage every year, most of which is treated and released into the rivers. Proper treatment of sewerage is paramount as about 98 per cent of Malaysia's fresh water supply comes from surface water. The current pandemic has also led to increased wastewater production. An exponential increase in medical waste has made their way into landfills and oceans, which can adversely impact our health.

Sustainable wastewater management is one of Malaysia's key focus areas for effective water governance. The government is planning to build 77 sewage treatment plants nationwide by 2040 under the National Sewerage Catchment Strategy. To address issues of universal water and sanitation services coverage, reliable and intelligent technology will be critical in enabling this transformation.

With water movement and treatment processes being highly energy intensive, pumps account for a significant amount of energy consumption. Therefore, energy efficiency in wastewater processes is not only important for effective wastewater management but also plays a crucial role in driving sustainability and costs down. Smart wastewater systems can also meet the demand for freshwater by detecting and preventing combined sewage overflows and chemicals in wastewater.

Water Management in Malaysia

Water resources are managed as a State resource though the federal government passes the legislation and sets most of the regulations. Hence, "water" is a State matter, and water encompasses water bodies such as rivers, lakes, streams, and groundwater. In Malaysia, though water is a state matter, it is not exclusively a matter within the sole jurisdiction of the States as the Federal Government has specific powers.

The Federal Government has jurisdiction in the case of national water supplies works, as well as rivers and canals which cut across state borders, except those which are regulated by an agreement between the States concerned. The Federal Government also has control over other aspects of water resource utilisation such as hydropower generation, navigation within ports, marine fisheries and mining. Water rates are considered a source of revenue to the States.

Water related laws enacted by the Federal Government include the Waters Act, Land Conservation Act, Fisheries Act, Street, Drainage and Building Act, Town and Country Planning Act, Local Government Act and National Land Code. However, the bottom line is that the State Governments, by virtue of the fact that water and related matters lie within their jurisdiction, are in a better position to control and regulate such matters.

The State of Selangor in has enacted the Selangor Waters Management Enactment (SWMAE) that establishes the Selangor Waters Management Authority (SWMA). SWMA is expected to regulate and manage all water resources in the state of Selangor on a sustainable basis.

In recent decades, the government has embarked upon a privatization campaign that has seen the privatization of essential services. Some, such as electricity and telecommunications, have been successful. Though the privatization of the Penang Water Supply Corporation Sdn Bhd appears to be successful, some such as Indah Water Konsortium, the national sewage water treatment company and the Kelantan Water Company have not been profitable.

Currently, six states are served by Water Supply Companies (privatized), four states by Water Supply Board (corporatized), three states by Water Supply Department (under State Governments) and four states by the Public Works Department (Federal Body) (The Malaysian Water Association 2002: 18). As water is a vital resource, the Government must ensure that it still has an important say in its management, tariffs, quality, service, etc.

Electricity

Malaysia electricity supply industry (MESI) has gone through a long journey since pre-independence and has gone through a complete private-state-public cycle. From privately owned and managed, it became monopolistic after the national electricity board (NEB) gradually took over the companies that were privately generating and supplying electricity.

Two years after the privatisation of the NEB (where the name changed to Tenaga Nasional Berhad (TNB)), the monopoly structure started to slowly make way for other participants at the generation level with the presence of the independent power producers (IPPs). Grievances from the major stakeholders and customers had prompted a study on MESI to be conducted by the Khazanah Nasional Berhad (Khazanah) in 2008, which concluded that MESI was underperforming and that this was largely due to the subsidization.

An immediate consequence of the finding from the Khazanah's study was the setting up of the MyPower Corporation (MyPower), a special purpose agency created to detail out the key reform initiatives of MESI 1.0 that are aligned with the government's economic transformation programmes at the time. The agency was put under the then Energy, Green Technology and Water Ministry (KeTTHA).

Industry efficiency is expected to be increased through greater utilisation of the market-based competition throughout the value chain, reduced government intervention, increased transparency, adoption of more cost-reflective and time-based tariff, subsidisation of targeted consumers and increase in cross border trade.

Future proofing the industry is to be attained through the introduction of the market-based competition, adoption of new technologies, promotion of renewable energy (RE) and the implementation of the energy efficiency initiatives. The last objective of empowering the consumers can be achieved by incentivising the changes in their consumption patterns and facilitating their active participation as power producers.

Sewerage Treatment Plan

Indah Water Konsortium (IWK), a company owned by Minister of Finance Incorporated, is Malaysia's national sewerage company, which has been entrusted with the task of developing and maintaining a modern and efficient sewerage system for all Malaysians. In 1994, the Federal Government awarded the company the concession for nationwide sewerage services, which prior to that, was under the responsibility of local authorities.

Since then, Indah Water has taken over the sewerage services from local authorities in all areas except the States of Kelantan, Sabah, Sarawak, Majlis Bandaraya Johor Bahru and Majlis Perbandaran Pasir Gudang. A modern and efficient sewerage system is vital for the country so as to ensure that wastewater is treated before being discharged into our rivers.

Extensive use has been made of primary treatment systems such as communal septic tanks and imhoff tanks and unreliable low cost secondary systems such as oxidation ponds. In addition, large urban areas utilize individual septic tanks. It is estimated that there are over one million individual septic tanks in Malaysia. These tanks only partially treat sewage, discharging an effluent still rich in organic material. This has the potential to create public health and environmental problems, particularly in urban areas.

IWK is responsible for planning and rationalizing the public sewerage facilities to reduce the number of treatment plants using the "multipoint concept" or regionalization. Finally, sewerage pipeline networks will be laid in urban areas currently serviced by individual septic tanks to convey the domestic sewage to modern secondary treatment facilities.

In Malaysia, 38% of public sewage treatment plants in the country are mechanical plants. These plants operate using mechanical equipment that accelerates sewage break down. It is hoped that in the long-term, Malaysia's sewerage system will be made more efficient through the standardization of the types of plants used.

These extensive programs are nothing short of a revolution in the management of domestic sewage in Malaysia. The entire sewerage infrastructure can expect to undergo changes. Estimates have been made of the number and type of public treatment plants currently in Malaysia.



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CCTV
for operation
in progress



6.0

INCLUSIVE PROSPERITY AND
OPPORTUNITIES FOR ALL

6.0

INCLUSIVE PROSPERITY AND OPPORTUNITIES FOR ALL

Malaysia's economy registered a moderate annual growth rate of 2.7% over the period of 2016-2020¹. The global pandemic that affected our economy has significantly affected Malaysia's targets set in the 11MP. Services and manufacturing contributed significantly to this growth and together with construction sector, it contributes 84.6%² to the economic growth in 2020. However the movement control order imposed in March 2020 had severely impacted the services sector especially tourism related activities.

These sectors are predominant in our cities especially activities such as retail, wholesale, trade, transport and communications that contribute significantly to the urban economy. With 25.7 million people living in urban areas and 69.1%³ of them within the working age, there is an important consideration to address productivity and diverse job opportunity for the 17.8 million working age population.

As Malaysia continues to pursue its aim for a high income nation, it has taken the opportunity to reform its economic foundation towards a stronger recovery, and the 12MP sets the direction for a high-value and resilient economy, characterized by innovative industries and entrepreneurial development. This is a key strategy that will contribute to the well-being of Malaysians in the long term.

Our Urban Economy

Malaysia's urban economy is dominated by services and manufacturing sector, where 64.5% and 16.7%⁴ of the working population are in these respective sectors in 2020. However the performance of labour productivity in these two sectors has not met the 11MP (2020-2025) targets, where services grew at 1.1% (against target of 3.9%) and manufacturing grew at 1.8% (against target of 3.9%). And COVID-19 has also further made changes to the employment when there is an increase, when compared to 2019, of people employed in services by 0.9% but a decrease in manufacturing by 0.6% due to some establishments scaling down their operations due to the pandemic.

In pursuit for sustainability and resiliency, and in balancing social and environmental importance, Malaysia calls for a green growth agenda. This is by encouraging more green industries, green markets and investments by encouraging innovation and adopting green technologies to transform current activities.

With the relevant policies in place as mentioned in previous chapters, green economy will be enhanced through digitalisation and industry 4.0 (4iR) as well as the advancement of SMEs in the country. The emergence of 4iR is estimated to increase productivity by 30%⁵ across all sectors by the year 2030, contribute to 22.6% of the national GDP and transform 875,000 MSMEs⁶ (micro small medium enterprises) to adopt e-commerce by 2025. These targets alongside a few others will ensure Malaysia provides better services in the future, besides increasing the number of skilled workers and producing higher value added products.

The urban economy is also evolving with new emerging economies that is changing the landscape for job opportunities and how our cities should be shaped. The emergence of shared economy, gig and creative economy has created a large number of micro and informal sectors in our cities and towns. With the boom in e-commerce, it has strengthened these new activities and have helped reduce unemployment. This has increasingly risen during this pandemic, with many shifting into this segments of economic activities

The gig economy is said to contribute to 18.5% of the national GDP in 2018 and in 2020, it is estimated that 4 million Malaysians are gig workers whom are young and well exposed to the digital platforms. They are however not considered a worker under the relevant employment act in the country as they are considered self-employed and has a flexible contract for some the services offered. Malaysia thus supports gig economy and its 12MP emphasise on the development of an eco-system that will encourage people to be more involved. This is to cushion unemployment which is about 4.2%⁷ as of early 2022 which is also contributed by the pandemic.

Thus the diversity in Malaysia's urban economy is fundamental towards building a more sustainable and resilient economy.

1,2,4 12th Malaysia Plan 2021-2025
3,7 Labour Force Statistics Report February 2022, DOSM
5 National 4th Industrial Revolution Policy
6 Malaysia Digital Economy Blueprint

Impact of COVID-19

The impact of the COVID-19 pandemic on the country's economic activities can be seen whereby the output of the economic sector in 2020 contracted 6.3 percent or RM196.8 billion to RM2,907.1 billion as compared to RM3,103.9 billion in 2019. Urban economic activities was severely affected when the largest reduction in gross output value was Services sector by RM115.9 billion (-9.1%), Construction sector at RM39.2 billion (-18.5%) and the Manufacturing sector at RM6.9 billion (-0.5%)⁸. In the service sector, activities most affected are those that involve physical interaction such as retail trade, leisure and hospitality, recreation and transportation services.

Micro Small Medium Enterprises (MSMEs) constitute 97.2% (1,151,239) of business establishments in Malaysia, employs 48% (7.3 million) of our workforce and contribute to 38.2% of our 2020 GDP⁹. The COVID-19 greatly impacted them as many are not resilient and able to deal with the shocks. Wide array of measures have been introduced by the Government of Malaysia to cushion and mitigate the economic impact and disruptions caused by COVID-19 outbreak. The growth of MSMEs GDP is usually higher than Malaysia's, however in 2020, its registered a negative 7.3%, lower than national GDP for the first time in 17 years since 2003.

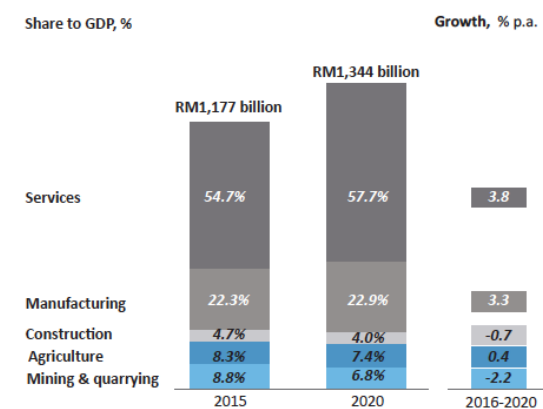
In terms of employment, Malaysia has been in the state of full employment where the unemployment rate was below 4% since 1995. However, it experienced unprecedented trend when unemployment rate reached 4.5 per cent in 2020, with the highest rate of 5.3% registered in May 2020, triggered by the implementation of Movement Control Order as well as the closure of Malaysia's international borders. Strict adherence to COVID-19 containment measures had also limited business operations, thus affecting income received. Since the resumption of interstate travel from 11 October 2021 and more economic sectors allowed to reopen since September 2021, the unemployment has been on a downward trend with the unemployment rate recorded 4.1% in February 2022 compared to 4.5%¹⁰ in September 2021. The decline in unemployment was mainly contributed to increase in demand for labour.

Some impacts of the pandemic are short term and should avoid being extended into a longer term and hence many efforts are made to assist people who lost their jobs or had their income reduced. This include fiscal stimulus to support income loss, to support the poor and B40 group, to boost investments as well as to support employment and avoid retrenchments are among measures taken for short term interventions.

In addition, there are other impacts of COVID-19 that our urban area faces which includes disruptions in food supply chain and changes to lifestyles. These has led to urban areas encouraging local food farming where urban farms are being cultivated and guidelines to enable and support innovative farming techniques are prepared. E-commerce continues to grow as people become very accustomed to on-line retailing and business and industries being more reliant on ICT, contributing to 11.5% to GDP in 2021 (8.5% in 2019)¹¹.

Thus COVID-19 has created much negative impact socially and economically, however it has also led to many sound solutions that can be enhanced and upscale to support new changes that cities need to reinvent itself in the long term.

Figure 6.1: Gross Domestic Product by Kind of Economic Activity, 2015-2020



Note: Based on GDP at constant 2015 prices.
Source: Department of Statistics Malaysia

8 12th Malaysia Plan 2021-2025

9 SME Performance 2020, DOSM

10 Labour Force Statistics Report February 2022, DOSM

11 Performance of Digital Economy Report, DOSM

6.1 Strengthen Informal Economy & Develop Local Entrepreneurs

As reflected earlier, the implementation of movement control order (MCO) to curb the spread of COVID-19 have heavily affected the business activities of SMEs and micro-businesses. The Survey on the Impact on Entrepreneurs During MCO 3.0, held from 15 till 28 June 2021, found that 3.15% or 37,415¹² entrepreneurs had ceased to operate or closed down. The survey also found that 49% or 580,000 entrepreneurs were at risk to close down if the implementation of MCO extends to October 2021 that further affects an estimated 7 million workforce.

Under the Economic Stimulus Package, a large budget had been allocated to revive and revitalise the businesses of Micro, Small and Medium Enterprises (MSMEs). The Ministry of Entrepreneur Development and Cooperatives (MEDAC) has been overseeing and taking measures to help entrepreneurs face these challenges, where short-term measures are taken to provide social and mental support via call centres called ADU@MEDAC as well as provide stimulus packages and incentives to support the MSMEs.

The 12MP has acknowledge the issue of low productivity among MSMEs which is mentioned as three times less productive than large firms, resulting in wider productivity gap during the 11MP. Dependency on low skilled workers and lack of technology adoption and innovation by MSMEs are among the contributing factors.

The 12MP have made this sector a priority by boosting the capabilities of Entrepreneurs and MSMEs with a set target of its contribution to GDP of 45% in 2025¹³. Three strategies has been identified:

- Creating innovative and sustainable entrepreneurs;
- Promoting inclusive participation through MSMEs, Cooperatives, and Agro-based associations; and
- Creating a conducive and holistic eco-system for entrepreneurship.

MEDAC's medium and long term actions includes :

- i. Reviewing macro economy policy holistically to enhance the role of MSMEs in Malaysian economy in line with 12MP;
- ii. Developing action plan to formalise informal businesses;
- iii. Developing guidelines related to home-based businesses together with MHLG; and
- iv. Reviewing legislations and policies that hinder the affected MSMEs to revive and rise again.

The Ministry is committed to empower entrepreneur's ecosystem, hence it conduct programs to boost local product's marketing capacity, provides alternative financing for entrepreneurs and develop coaching program to enhance entrepreneurship skills especially to entrepreneurs under B40 category (low-income household) in urban and rural areas.

Cooperatives sector is part of contributors to the nation's economic development and well-being of the people. Various cooperatives have been formed which focus on women, youth, persons with disabilities, indigenous peoples and local community. To date there are 14,567¹⁴ established cooperatives that consist of 68 various target groups with 7.04 million memberships. In the 12MP, governance structure and legal framework that govern the cooperative movement will be improved through the implementation of the Malaysian Cooperative Transformation Plan (TRANSKOM) 2021-2025. The cooperative movement among the B40 and rural communities will be further promoted to encourage them to pool their limited resources to achieve economies of scale.

Meanwhile, MEDAC continuously enhance public's confidence in the cooperative movement via Suruhanjaya Koperasi Malaysia (SKM) that creates programs during the pandemic, to address reducing operational cost and improving sales revenues. SKM with ANGKASA have been collaborating together to explore and enhance Network and Value Chain of the Co-operative Economic Sector and cultivating entrepreneurship in Co-operatives. This collaboration is to ensure Socio-Economic Excellence of the Cooperative Movement towards Globalization. Malaysia Cooperative Institute (IKMa), the agency responsible to train co-operatives in Malaysia plays a vital role in contributing to Inclusive Urban Economy of the nation. IKMa will establish and expands cooperative training and education through their comprehensive co-operative development and enhancement plans/programs. These plans/programs aims for excellence in human capital, cooperatives and entrepreneurial development.

¹² Survey on the Impact on Entrepreneurs During MCO 3.0

¹³ 12th Malaysia Plan 2021-2025

¹⁴ Ministry of Entrepreneur Development and Cooperatives



7.0

ENVIRONMENTALLY SUSTAINABLE AND RESILIENT URBAN DEVELOPMENT

7.0 ENVIRONMENTALLY SUSTAINABLE AND RESILIENT URBAN DEVELOPMENT

7.1 Protections and Sustainable Management of Natural Resources

Malaysia is one of the 12-mega biodiversity countries in the world. Protecting our natural capital and biodiversity, an integrated approach to conservation is necessary to develop cornerstone biodiversity conservation. Among the first measures taken by Malaysia to conduct a country survey on biological diversity culminating in the “Assessment of Biological Diversity in Malaysia” in 1997, which was almost immediately followed by the launching of the National Policy on Biological Diversity.

The protection and management of our natural resources, as well as harnessing the environmental, social and economic challenges to create innovative opportunities. A variety of societal challenges with the potential to contribute to green growth, ‘future-proofing’ and fostering citizen well being, can provide business opportunities while safeguarding the natural ecosystem in building a resilient society.

Safeguarding our natural ecosystem is an effective mechanism for addressing biodiversity loss, climate change and poverty in an integrated manner. The action will result in multiple co-benefits for health, the economy, society and the environment, and thus they can represent more efficient and cost-effective solutions than more traditional approaches.

The protection and sustainable management of natural resources provides multiple strategic opportunities since urban areas rely in large part on green features in and around cities to perform essential ecosystem services. Some of the opportunities are:

1. It provides opportunities for adaptation to climate change, thus increasing urban resilience to risks, such as droughts, floods and heat waves, as well as opportunities for small-scale climate mitigation through increased carbon storage.
2. Nature-based solutions can support economic development in urban areas, which is highly dependent on the amount and quality of natural resources available, such as water for sanitation, drinking and manufacturing.
3. The long-term sustainability of our food systems and its security relies on the application of nature-based solutions that safeguard our natural ecosystem.
4. It enhances and nourishes the region’s natural capital – providing resources and services, and absorbing emissions and wastes.
5. A balanced combination of nature-based solutions with grey infrastructure – structures such as dams, seawalls, roads, pipes or water treatment plants can significantly reduce vulnerability to flooding and erosion while maintaining the beauty of coastlines.

As natural resources are one of Malaysia’s greatest capital and asset, it is imperative to ensure proper management of the ecosystem, especially in terms of conservation and its protection. Sustainable management of natural resources is important to ensure current and future generations will continue to enjoy the benefits from natural green growth.

The National Policy on Sustainable Biodiversity Management

Malaysia adopted its National Policy on Biological Diversity in 1998. The policies main objective is to conserve Malaysia’s biological diversity and to ensure its natural resources are consumed in a sustainable manner for the continued progress and socioeconomic development of the nation. It was revised in 2014, producing the current National Policy on Biological Diversity 2016 – 2025. It outlines five key principles on biodiversity management:

Heritage: Biological diversity is a national heritage. It must be sustainably managed, wisely utilised and conserved for future generations.

Precautionary: The lack of full scientific certainty should not be used as a reason to postpone measures to minimise threats of significant loss of biodiversity.

Shared responsibility: The conservation and sustainable utilisation of biodiversity are the shared responsibility of all sectors of society.

Participatory: Planning and management of biodiversity must be carried out in a participatory manner.

Good governance: Good governance, including accountability and transparency, is crucial to biodiversity conservation.

The policy also forms part of Malaysia's response to the Convention on Biological Diversity's Strategic Plan for Biodiversity 2011-2020.

Environmentally Sensitive Areas (ESAs) and Urban Development Peninsular Malaysia

Environmental Sensitive Areas (ESAs) refers to areas that are of critical importance in terms of the goods, services and life-support systems they provide such as water purification, pest control and erosion regulation. In addition, they also refer to areas that harbour the wealth of the nation's biodiversity. The need to identify and manage ESAs is of fundamental importance for seeking balanced development within and around such areas based on the concept of sustainable development.

The identification of ESAs enhances the understanding of the various trade-offs between land development, environmental protection and societal well being, and this facilitates effective planning for future development. The concept of ESAs, which evolved from a sectoral approach at the international and national levels, was modified to be more integrated for its implementation at the city and state levels, even at national levels. ESAs are ranked in three categories:

Rank 1 ESAs: No development, agriculture or logging should be permitted except for low-impact nature tourism activities, and for research and education purposes. Areas ranked in this category include the existing and proposed protected areas, as well as important habitats such as turtle landing sites, salt licks, important plant areas, limestone outcrops and natural wetlands of high conservation value. Rank 1 ESAs also include water catchment areas where dams and proposed dams are located, and areas with an altitude of above 1,000m.

Rank 2 ESAs: These include other forests and wetlands outside protected area and areas with an altitude of between 300m and 1,000m. Sustainable logging and low-impact tourism are allowed in Rank 2 ESAs, but no physical development and agriculture activities are permitted.

Rank 3 ESAs: These include all marine parks, catchment zones for water intake and groundwater recharge, as well as areas with critical and significant risk of erosion, and areas with an altitude of between 150m and 300m. Minimal and strictly controlled development may be allowed in these areas depending on the type and intensity of the projected impact and constraints.

Figure 7.1: Environmentally sensitive areas (ESAs) Peninsular Malaysia



Legend:

- ESA Rank 1
- ESA Rank 2
- ESA Rank 3
- Not included in ESA Rank

Source: *Environmental Sensitive Areas: National Physical Plan 3; Plan Malaysia. 2010*

Sarawak Environmental Sustainability

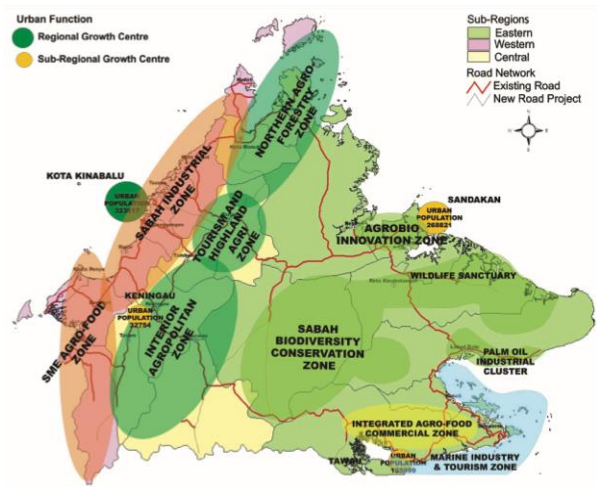
Sarawak aspires to be a sustainable developed State by 2030. Sarawak will be a thriving society driven by data and innovation where everyone enjoys economic prosperity, social inclusivity and sustainable environment. Environmental sustainability is an integral part of Sarawak development initiatives. This is to ensure clean and healthy environment for current and future generations. Moving forward, Sarawak will innovate using data to increase productivity, develop high value products, improve safety of our people and assets as well as enhance environmental conservation efforts.

Sarawak aims to balance economic growth with a responsible approach towards utilisation of natural resources and integration of climate adaptation and mitigation plans. This approach prioritises the sustainable use of land and ocean resources for economic growth, improved livelihoods and jobs while preserving the health of the land and ocean ecosystem. In line with sustainable development principles and commitments towards climate adaptation, various initiatives will be implemented such as to maintain more than 50% forest and tree cover, establish an integrated watershed management policy to conserve and protect water resources, increase urban green spaces and prioritise green mobility solutions, including developing electric vehicle (EV) based public transport systems and expansion of renewable energy.

Sarawak environmental sustainability will be further enhanced through the development of Sarawak Sustainable Environment Blueprint. The Blueprint will cover both the green and blue economy initiatives. Green Economy covers all economic activities on land. The State will develop Green House Gases (GHG) inventory for all economic sectors and cities to identify the major contributors to GHG emissions in order to formulate Green Economy initiatives. Blue Economy covers all economic activities in ocean and coastal areas. The State will develop Blue Economy Index to provide input and indicators for the formulation of the initiatives.

The Green and Blue Economy initiatives will provide a comprehensive and holistic Sarawak Sustainable Environment Blueprint covering amongst others, climate action, forestry, financing, water and land use, green cities and mobility, resilient infrastructure, sustainable energy, circular economy and integrated watershed management. The Blueprint, which will map out our strategies to build a sustainable, resource-efficient and climate-resilient State, is to be enforced and implemented by the enforcement agencies through intensified data collection and digitalisation.

Figure 7.2: Sabah Growth Strategy



Source: National Physical Plan

Environmental Protection in Sabah

Sabah is a land rich with biodiversity and culture. It has vast natural forest areas that contributes to the mass of carbon sink areas for Malaysia and has always place great importance on environmental preservation and conservation as well as green sustainability. This year in 2022, the State Government will be implementing the Sabah Endangered Wildlife Action Plan and Sabah Coastal Management Plan, Management Plan for Mabul Island, Pom-Pom Island and surrounding islands.

The Sabah Environment Protection Department has developed an application called "Environmental Police", which aims to increase environmental awareness on marine pollution issues based on the Sabah State Environmental Education Policy 2009.

The green sustainability agenda is also directly related to the tourism industry. Sabah's natural endowment, location and richness in biodiversity are its key strengths, positioning it as one of the major tourist destinations as well as the national centre for agrobio research activities in Malaysia. The diversity and uniqueness of the flora and fauna in the state continues to be the main attraction for domestic and foreign tourists. As such, a total of RM9 million is allocated under development expenditure to the Department of Wildlife, Sabah Parks and the Department of Environmental Protection to protect flora and fauna species. In addition, a total of RM115.73 million is also allocated to other departments and agencies that contribute to nature-based tourism development sector such as the Forestry Department and Sabah Biodiversity Unit. The green sustainability agenda is very important as it not only involves environmental issues and global warming phenomenon, but also an asset for economic development and state revenue.

Urban Parks and Landscape

Malaysia's landscape network system is being streamlined with priority given to expanding green infrastructure through a comprehensive development programme. It also harnesses the potential of creating value to cities by enhancing and protecting natural areas and connecting to new parks and green areas from urban development.

To date, the National Landscape Department has successfully created 9,585ha of public parks nationwide, which is 14.26% of the total open space targeted for this year. This development had led to better quality landscapes and contributed to low carbon that would improve the quality of life of Malaysians. However, this figure is still much lower than the actual target of 57,614ha, thus more land needs to be converted into green areas.

Nature and green spaces contribute directly to public health by reducing stress and mental disorders, increasing the effect of physical activity, reducing health inequalities, and increasing perception of life quality and self-reported general health. State and local governments' provision of parks and recreation facilities and preservation of green lungs for local communities brings huge benefits to residents and the environment.

It is hoped that the country's landscape development in the next 25 years would be more advanced and offer superior landscape quality to be enjoyed by future generations. In achieving this vision, the National Landscape Policy (NLP) was formulated as an operational guide based on the approach of sustainable ecosystem. At the same time, improving the quality of Malaysia's landscaping services and its landscaping asset management at all levels would provide the best services possible.

Figure 7.3: Hierarchy of Parks in Malaysia



Source: PLANMalaysia Planning Guidelines, 2020

7.2 Managing Urban Waste Sustainably

Along with economic development and growth in Malaysia, waste generation is increasing and diversifying in Malaysia, and thus appropriate management of solid waste is urgent to realise a greener economy. In this regard, Malaysia is on the way of catching up with its own rapid economic expansion, giving more consideration on the venous side of its economy. The Ministry of Housing and Local Government is committed towards efficient and comprehensive solid waste management to provide a clean and sustainable urban environment.

Various efforts have been implemented to increase public awareness as well as the improvement of facilities to encourage and facilitate the involvement of all parties, especially the community to ensure that solid waste management is implemented systematically. The Ministry takes the approach of expanding and introducing initiatives including the use and adaptation of the latest technology to ensure implementation in solid waste management is continuous and sustainable.

The National Cleanliness Policy under Ministry of Housing and Local Government was launched on 3 November 2019. The policy is a government's drive to make Malaysia a clean country and to create a society that adopts the practice of cleanliness in order to guarantee the well-being of the people and sustainability of the environment. National Cleanliness Policy Philosophy is to build a clean, sustainable and prosperous nation through the adoption of the practice of cleanliness in oneself, family, community and society in the effort to sustain the environment. The implementation of the National Cleanliness Policy focuses on five clusters.

1. Awareness of cleanliness
2. Environmental sustainability
3. Circular economy
4. Governance and enforcement
5. Quality and skilled human capital

These clusters are supported with a total of 14 strategies and 91 action plans to achieve the objectives stated in the National Cleanliness Policy.

"In Malaysia, the population of 32.8 million in 2021 generates tremendous amount of solid waste, which is estimated to be at 38,427 metric tones per day in 2021 (1.17 kg/capita/day), of which, 82.5% is disposed in landfills."

Figure 7.4: Overview of the National Cleanliness Policy



Source: National Cleanliness Policy; Ministry of Housing and Local Government. 2020

A key challenge in Malaysia is the insufficient of infrastructures to treat and dispose our waste. Most of the disposal sites are non-sanitary, scattered and located at unsuitable locations. This poses adverse effect on public health, water resources contamination and emission of the greenhouse gases (GHGs). As of today, there are about 141 landfills with only 21 landfills considered sanitary and most of these landfills are without material recovery facilities. Realizing the dependency on landfill is not an effective and sustainable manner of waste management.

Integrated waste management facilities focusing on waste-to-energy technology is our future plan that aims towards zero waste to ensure no waste is disposed directly to landfills without being separated, recycled or treated. The government has thus shifted its policy focus, considering the installation of six new energy recovery plants by 2025. In this regard, biogas, high efficient incineration and landfill gas collection with energy recovery could be promoted more.

Malaysia's recycling rate in 2021 is 31.52%. KPKT strives to increase the national recycling rate to 40% by 2025 in an effort to achieve the objective of zero waste to landfill as well as to promote cyclical economic growth.

This is also in line with the planning and strategy of sustainable solid waste management under the 12th Malaysia Plan and National Cleanliness Policy. Therefore, the practice of 3R (Reduce, Reuse and Recycle) is very important to increase the recycling rate and should be practiced by various sections of society.

In line with the country's aspiration towards green growth, the development of solid waste industry in Malaysia is currently towards circular economy by transforming from linear economy to the circular economy. The principles of reducing, reusing and recycling should be strengthened by extending it towards minimizing solid waste generation at sources and maximizing the use of waste as resources. To support this transformation, four major waste reduction strategies have been identified to support the transformation of linear economic to circular economic in waste management as below:

Extended Producer Responsibility (EPR)

A strategy to add all of the environmental costs associated with a product throughout the product life cycle to the market price of that product and this will be borne by the producers as their responsibility.

Pay-As-You-Throw (PAYT)

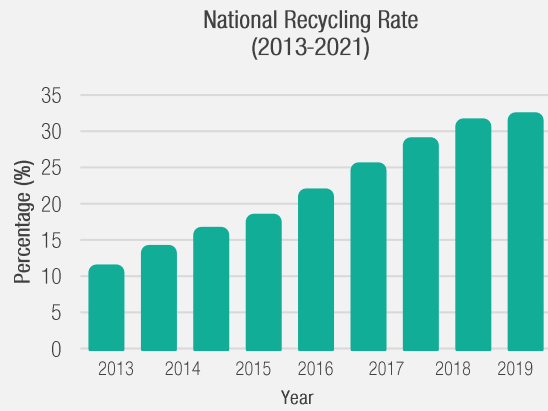
An economic instrument for waste management that applies the “polluter pays” principle by charging the inhabitants of municipalities according to the amount of residual, organic, and bulky waste they send for third-party waste management.

Deposit Refund System (DRS)

A surcharge on a product when purchased and a rebate when it is returned

Box 7.1: Malaysia Performance of 40% Recycling Rate by 2025**Malaysia Performance of 40% Recycling Rate by 2025**

National recycling rate (NRR) is one of the indicators to measure the recycling rates activity in Malaysia. As stated in 12th Malaysia Plan, Malaysia has marked the target of 40% of NRR by the year of 2025. There are five main categories of recycling items that have been measured which is plastic, paper, metal, glass and others such as fabric and rubber. The graph is showing the trend for the recycling rate from 2013 until 2021. In 2021, Malaysia has recorded NRR of 31.52% compared to 30.67% for the previous year. Malaysia is on the right track in achieving the target of 40% recycling rate by year 2025.



Source: National Recycling Rate (NRR); Ministry of Housing and Local Government. 2021

Figure 7.5: Innovation Facility and Integrated Recycling Centre, Precinct 5, Putrajaya – a waste recovery and repurpose centre that also educates the public on the importance of managing waste sustainably



Box 7.2: Malaysia Policies and Targets in Solid Waste Management

12th Malaysia Plan

Achieve 40% of National Recycling Rate by the year 2025

Malaysia Roadmap Towards Zero Single-use Plastic 2018-2030

No single-use plastics by 2030 - by encouraging plastic industry to transform into eco-friendly products

National Sustainable Consumption and Production (SCP) Blueprint

- Towards a circular economy waste system and the need for all types of waste to be managed in a holistic manner based on lifecycle approach
- Phasing out of conventional landfilling by 2030

Green Technology Master Plan 2017 – 2030

Establish an Extended Producer Responsibility (EPR) system for resource circulation to support other related national policies.

National Cleanliness Policy (2020 – 2030)

Reduce waste to landfill and increase the national recycling rate to 40% by 2025.

National Solid Waste Management Policy 2016

Develop a comprehensive solid waste management system based on waste management hierarchy with objectives of reduction of waste in an efficient and cost effective system, and to strengthen legislations and institutions with regard to waste management.

Enforcement of Separation at Source (SAS)

Mandatory separation of waste at the point of generation to improve recovery of recyclables starting for household and for ICI (industrial, commercial & institution) and C&D (construction & demolition) in states adopting Act 672.

Source: *Ibid*

Waste Management and Protection Mechanisms

In 2007, the Solid Waste and Public Cleansing Management Act 672 was gazette to allow the Federal government to take over the management of solid waste from the Local Authorities in Peninsular Malaysia and the Federal Territories of Putrajaya and Labuan, which was previously under the purview of local authorities prior to gazette of Act 171 (Local Authority Act 1976).

To date, seven states – Johor, Kedah, Melaka, Negeri Sembilan, Pahang, Perlis and Federal Territories of Kuala Lumpur and Putrajaya have adopted the act, while the remaining states' waste management are still being managed by their respective local authorities.

Implementing Act 672, the federal government have set up the Solid Waste Management and Public Cleansing Management Corporation (SWCorp) through Act 673 (Solid Waste Management and Public Cleansing Management Corporation) to manage solid waste and public cleansing in states that has adopted Act 672. Since the establishment of SWCorp, various initiatives have been implemented to enhance solid waste and public cleansing management, which includes:

1. Awareness programs
2. Enforcement
3. Industry engagements
4. Zero waste communities
5. Use of technologies
6. Campaigns

These initiatives involve partnerships between various ministries, agencies, private sector and communities that are crucial to achieve the desired outcomes. It is still a challenging journey for Malaysia to achieve its many targets set towards a clean and waste free nation, hence these initiatives are undertaken in a consistent and continuous manner to obtain buy-in and commitments from all parties.

Box 7.3: Key Functions of Solid Waste Management and Public Cleansing Management Corporation (SWCorp)



Recommend policies, plans and strategies on solid waste and public cleansing management services



Implement such policies, plans and strategies including schemes by the Federal Government



Implement measures for the improvement of any existing solid waste and public cleansing management services



Recommend standards, specifications and codes of practice relating to any aspect of solid waste and public cleansing management



Monitor compliance on the standards, specifications and codes of practice



Implement and enforce the solid waste and public cleansing management laws and to recommend reform to such laws to the Federal Government



Increase concerted efforts towards improving the operational efficiency of solid waste and public cleansing management services



Implement measures to promote public participation and to improve public awareness



Formulate and implement human resource development and funding and cooperation programmes



Establish institutions, centres and workshops for the undertaking of research and other activities necessary for or related to the development of the solid waste and public cleansing management services



Implement measures to promote public participation and to improve public awareness



Encourage, promote, facilitate and stimulate the growth of the solid waste management services and public cleansing management services by various means including arranging for the conduct of researches, assessments, studies and advisory services



Maintain and improve the standard and level of the solid waste management services and public cleansing management services

Source: Key Functions of SWCorp; SWCorp Malaysia.

Box 7.4: Campaigns and Awareness Programmes on Good Waste Management Practice and Other Sustainable Lifestyle Practices



Education for Multi-ages, in collaboration with the Ministry of Education Malaysia (MOE), Community Development Department (KEMAS) and the Department of National Unity and Integration. Activities include training, teaching and module development on solid waste management, 3R practice, awareness talk and exhibition, publications, exhibitions and many others.



Recycling Bank Programme, implemented since 2010 aims to educate and create awareness to the public on the importance of recycling in addition to the adoption of the concept of 3R in their daily lives. Programmes include 3R@kids (kindergartens), 3R@edu (schools), 3R@IPT (universities), 3R@gov (government agencies), 3R@com (communities), and 3R@ind (private sector/industries).



Recycling Competition at Schools, supported by MOE and private corporations such as Fraser & Neave Holding Berhad (F&N) and Tetra Pak Malaysia. The programme is a platform for schools to be leaders in 3R practices for the local community; educate students to value solid waste as an economic resource and artistic value, and instill a culture of loving environmental cleanliness through 3R practices among school children.



National Recycling Day, organised by KPKT and SWCorp since 2015 to encourage public participation in practicing recycling in their daily life. A catalyst programme to cultivate 3R practices as the most important and effective step in managing solid waste sustainably.



Waste to Art Competition: Organised SWCorp since 2016, the art competition aims to increase public awareness and understanding of the potential use of a recycled item as a commodity or source of income. This competition is in collaboration with the National Visual Arts Development Board and is in line with the National Creative Industry Policy.



Malaysia took part in the **World Cleanup Day** since 2020, encouraging public and volunteers to conduct cleaning activities at their homes and neighbourhood.

Three main activities conducted to ensure good waste management practice:

1. Enforcement on illegal dumping activities, separation at source, commercial, industrial and institutional premises and construction premises
 - a) Enforcement Action on Illegal Dumping Activities
 - b) Enforcement Action on Separation at Source
 - c) Enforcement Action on Commercial, Industrial and Institutional Premises
 - d) Enforcement Action on Illegal Construction Premises
2. Engagement with industry players
 - a) Round table session with the recyclers and industrial players
3. Zero Waste Community
 - a) Implemented in 17 public housing area as a platform to help the people generate income through waste
 - b) Will be scaled up to other affordable housing areas in the effort to encourage a zero waste community
 - c) In line with the National Community Policy that targets to empower local communities

Use of Technology in Solid Waste Management

The increase in population, rising socio-economic status, rapid economic growth and changes in the increasingly modern lifestyle are among the factors to the increase in the generation of solid waste generated by Malaysians which has now reached 38,000 tons per day.

The Government through the National Solid Waste Management Department (JPSPN) and SWCorp as the agency that manages solid waste management and public cleansing services in Malaysia is continuously intensifying initiatives to use environmentally friendly technology in solid waste treatment and disposal activities. The use of cost effective and environmentally friendly technology can ensure a safe and clean environment. Among the technologies used are:

a. Plasma Pyrolysis Technology

This technology is a local product designed for a capacity of 2 tons, 2.5 tons and 4.0 tons using plasma pyrolysis technology which is the process of heat retention in high temperatures. This technology is suitable for areas far from landfills and hard to reach solid waste collection processes such as in island and remote areas. The heating process is simple and the result of the treatment will produce ash. For now, it is still in the experimental stage for treatment-at-source and a pilot project is proposed to be implemented.

b. Anaerobic Digester (AD)

A series of biological processes in which micro-organisms decompose biodegradable matter in the absence of oxygen. The end product is biogas, which is used to generate electricity and compost. This technology is suitable for the treatment of food waste.

c. Waste Executive Geographical Information System (WEGIS)

WEGIS is an information system developed for public to access recycling facilities information nearest to their location. This system helps to encourage Malaysians cultivate recycling practices where information on eight categories of recycling facilities with the total number of 5,594 facilities are accessible through WEGIS.

Table 7.1: Recycling Management Facilities Information System

No.	Recycling Facility Categories	Quantity
1.	Recycle Center Operated By Private Operator	532
2.	Community Recycle Centre (CRC)	496
3.	Recycle Center Operated By Concessionaire	27
4.	Recycle Center Operated By Local Authority / School / Private Agency	21
5.	Kosis (MHLG Zero Waste Community Programme)	17
6.	Drop Off	4,395
7.	E-Waste Recycle Center	62
8.	Recycle Factory	44
TOTAL		5,594

Source: C&D Waste Management System; SWCorp

Towards Resilient Urban Development

While Malaysia ranks low in term of disaster risks, the level of exposure to natural hazards is rated at high level according to the the World Risk Report 2019 – 2020. Where it is estimated approximately 29,800 square kilometres, or 9% of the total area, within which nearly 5 million people resides are areas affected by flooding annually. Of these, 300,000 people live within one kilometre from the coastline, and 600,000 within the 2-kilometre band. Altogether, as much as 60% of the country's population reside near or along the coastlines due to their reliance on socio-economic activities dependent on fishing or agriculture. The exposure is likely to worsen given that regional sea level rise in Malaysia is expected to be higher, reaching 0.25 to 0.5 meters by 2100 in Peninsular Malaysia, and potentially exceeding 1.06 meters in Sabah.

Urbanisation, environmental degradation, climate change, and development-related processes and planning, shape and configure hazards. The complexity of systems and uncertainty related to the impact of development and climate change affect the way we understand and manage risks. Just like other countries with exposure to disaster risks, especially in the Southeast Asia region, Malaysia's disaster exposure ranges to various climate-related disasters such as floods, flash floods, landslides and strong winds, and had increased partly due to climate change.

Despite the relatively low levels of disaster risks in Malaysia, managing DRR, climate change adaptation (CCA) and sustainable development still require significant support and investments from all relevant stakeholders. Furthermore, efforts to reduce poverty to increase resilience, and investing in the sustainable management of natural resources must maintain their on-going momentum.

In taking into account future risks and uncertainties, Malaysia has taken several initiatives to mainstream DRR into its development agenda to safeguard risk sensitive investment in the country. Several on-going national initiatives in Malaysia to advance disaster risk reduction at the local level, with National Disaster Management Agency (NADMA Malaysia) was spearheading the effort to develop a national legal framework for disaster risk reduction which would serve as the umbrella for state governments and local authorities in the country.

Malaysia has also developed the National Science, Technology and Innovation Plan for DRR to comprehensively and systematically address knowledge gaps on current and emerging hazards in the country, including taking an integrated approach to DRR and climate change adaptation, to ensure sustainable development. At the level of the civil society, NGOs such as MERCY Malaysia had developed strategic DRR initiatives with the objectives of building community resilience, together with improving DRR capacities of local communities, humanitarian actors and others in a collaborative way.

Additionally, while sustainable development and green growth are adequately represented at the national level policy and strategic planning, it seems that whole-of-society approaches for risk reduction have been overlooked due to high focus on responsive emergency planning in Malaysia. Current policies relating to disaster risk management are mostly from two decades ago, and DRR remains to be mainstreamed into wider development planning and policy, apart from the national level aspirations as reflected in the 11MP. Some efforts have been made to further integrate and harmonize DRR and CCA policymaking in the country to support sustainable and resilient planning.

Putrajaya, Kuala Lumpur and Melaka City have been chosen as 'role model cities' under the resilient cities campaign (on-going since 2011) to lead the way towards change in urban planning. Backed up by the National Urbanisation Policy, and the National Physical Plan, it is envisaged that resilience of cities in the country could be improved significantly by risk-informed development, and by the incorporation of green spaces to support DRR and CCA. In Melaka, the state has increased its investments in resilient and sustainable planning to support growth that can respond to the pressures of urban expansion and associated risks, including coastal erosion, flash flooding, landslides and depleting environmental resources.

Another effort is the Multi-Hazard Platform, an output of the project on Disaster Resilient Cities: Forecasting Local Level Climate Extremes and Physical Hazards for Kuala Lumpur. The project is supported by the Newton-Ungku Omar Fund, administered by Innovate UK and the Malaysian Industry-Government Group for High Technology (MIGHT). The Multi-Hazard Platform, located in the City Hall of Kuala Lumpur (DBKL), supports DBKL to strengthen the management of flash floods, landslides, sinkholes, strong winds, urban heat and air pollution in the city as the climate changes. This can then be replicated to address major hazards in tropical cities of Malaysia and the Asia Pacific.

Up north, stretching along the coast of Penang state, Seberang Perai is another example on how impacts of climate change are becoming more visible to the people of this city, which lies at sea level and is subject to flooding due to high tidal waves. Despite its growth and development trends, local authorities still face many limitations in tackling these issues.

The Seberang Perai City Council, decided to take a participatory approach to resilience-building and engaged with different local stakeholder groups in working towards DRR in cohesion with other development goals. DRR investments were channelled through comprehensive planning, and this policy alignment allowed for the creation of a disaster management plan that filled an existing gap in this legislation between the local and national levels.

Local actors worked together to develop a common strategy for the future of Seberang Perai, which aims to carve a route for it to become a truly sustainable city. This partnership model known as the 'Seberang Inclusive Partnership' have helped to mainstream the global agendas at the local level and increased citizens' understanding of the need for policy alignment and coherence. Essential in this partnership model is its 'extensive inclusiveness', which includes local groups ranging from the city's citizens and local authorities, women and youth groups, academics, industry owners and other private sector actors, NGOs and CSOs.



Photo: Town watching and risk mapping activities by MERCY Malaysia, Seberang Perai & Georgetown Pulau Pinang



Photo: Flood Mitigation, Kampung Tok Muda, Klang (2016)



Photo: Community Based Disaster Risk Management - Kuala Krai



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8.0 MALAYSIA SMART SUSTAINABLE CITIES AGENDA

Malaysia together with other 192 world leaders adopted the 2030 Agenda for Sustainable Development (2030 Agenda) at the United Nations General Assembly in New York on 25 September 2015. The global commitment towards a more sustainable, resilient and inclusive development, with 17 Sustainable Development Goals (SDGs) and 169 targets must be achieved at global, national, sub-national and local levels. Hence localising the agenda has been a priority for Malaysia to contextualise the local achievements of the 2030 Agenda's goals and targets, to set the local actions and their means of implementation using indicators to measure and monitor their progress locally.

The Malaysia Sustainable Urbanisation Framework further defines the relationship between SDGs and the New Urban Agenda (NUA) to address more specifically the means and approaches on how cities need to be planned, designed, managed, governed and financed to achieve the sustainable development goals. This allows for the process of localisation to be both 'top-down' and 'bottom-up' where all stakeholders involved in the delivery of the goals to concurrently take action accordingly. With the main goal to achieve a Sustainable Urban Nation for Malaysia, the framework aligns the 17 Goals to Malaysia's commitments in sustainability and climate change as well as relates vertically and horizontally to policies at national and sub-national levels.

The framework has two thrusts focusing on the three transformative commitments of the New Urban Agenda: Social Inclusion and Ending Poverty; Sustainable and Inclusive Urban Prosperity and Opportunities for All; and Environmentally Sustainable and Resilient Urban Development. In order to achieve its commitment towards Cities for All, there are development enablers that Malaysia leverage upon to achieve the goals, which are our National Urban Policies as well as our focus on strengthening our Local Urban Economy. In view of our digitalization and industry 4.0 policies, Innovation and Smart Solutions is also identified as a key development enabler. Malaysia has also emphasised on the importance of urban planning and urban design, local rules and legislations and local governance and implementation that has been mentioned in the previous chapters as key operational enablers to play a significant role in this commitment.

The framework also reaffirms the power and role of cities in achieving and contributing to the success of the Agenda 2030 and NUA targets. It is worth noting that the framework is not a stand-alone framework for monitoring the targets, but serves as a means of implementation for global agendas in Malaysian cities.

Figure 8.1: Malaysia Sustainable Urbanisation Framework



8.1 Malaysia SDG Cities

The Malaysia Sustainable Urbanisation Framework is the basis for the Malaysia SDG Cities, a national program, where city roadmaps towards the 2030 Agenda by local leaders and their stakeholders are prepared to ensure achievable goals are carried through towards sustainability. The Malaysia SDG Cities is developed by Urbanice Malaysia, a Centre of Excellence under the Ministry of Housing and Local Government, Malaysia. Urbanice advocates the agenda for a sustainable and resilient urban nation for Malaysia and its key objective is to encourage all Malaysian cities to prepare its sustainable development roadmap and action plans to meet their local needs and challenges. It promotes the development of integrated urban solutions, foster

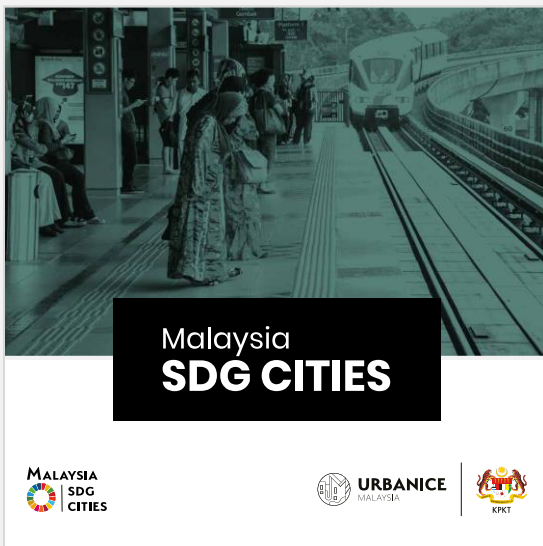
community resilience and call for urgent climate actions to achieve sustainable cities and communities in Malaysia.

The Malaysia SDG Cities (MSDGC) Roadmap recognizes that cities and communities are crucial in determining their own set of priorities and decides on the means of implementation to ensure that the Sustainable Development Goals and targets are met. As an urban nation where currently more than 24 million people (75% of Malaysians) lives in cities and urban areas, the framework is set to encourage a bottom-up approach in developing local action plans that will accelerate the SDGs achievement for Malaysia.

Box 8.1: Development Plans in Malaysia

Malaysia SDG Cities

In localizing SDGs, the Malaysia SDG Cities will adapt, implement and monitor the SDGs goals and targets at the local level. This will accelerate the localisation process where 60% of the SDGs targets in Malaysia will depend on local government and local actions in Malaysia. SDG11 in particular is the role of local government, local agencies and its stakeholders to implement and ensure that our cities and urban areas are inclusive, safe, resilient and sustainable. And with 24 million urban dwellers, it is important that Malaysia meets the needs of the growing urban areas, cities and its inhabitants.



Developed in 2019 to accelerate the localization of the SDGs in Malaysia. It was subsequently launched on the 29th September 2020 by Prime Minister of Malaysia at Malaysia Urban Forum 2020 (MUF2020).

The Malaysia SDG Cities Roadmap aims to:

- a) Raise local government awareness, commitment and capacities towards the sustainable agenda;
- b) Set local priorities and focus attention on urgent urban challenges to harness future opportunities;
- c) Create a platform for partnership to mobilize and empower stakeholders to identify practical integrated and innovative Solutions.
- d) Develop an Action Plan to achieve the SDGs and align with National, State and Local sustainable development policies and strategies;
- e) Facilitate local government to access to funding resources and develop business models to finance SDGs actions;
- f) Strengthen role of Local Governments to monitor, evaluate and report SDG progress to global level via the preparation of the Voluntary Local Review; and
- g) Enable Local Governments and communities to be the catalyst of local change.

Vertical Integration

Malaysia SDG Cities emphasizes on the integration and coherence of local to national and state sustainable policies and strategies, to ensure that its local actions are effective to meet the goals. This is especially important as the SDGs are multi-dimensional and the interlinkages and integrated nature of the goals are crucial in ensuring that the purpose of the New Urban Agenda is realized. At the local level, horizontal integration is also important as there are many initiatives undertaken individually and coordinating these efforts across government departments locally is important.

Hence in developing the city's sustainable roadmap, local governments has undertaken various focus group discussions with as many agencies and stakeholders necessary to collectively identify the pressing local issues, efforts already taken and policies that are already in place, subsequently identifying important gaps and developing the necessary actions to achieve the goals.

Progress Made

In its first year, Malaysia SDG Cities identified the need to transform fundamental public institutions, functions, and operations in city government as its primary strategy to impact how cities can localize the SDG. The initiative promotes practices such as inclusive stakeholder engagement, comprehensive analyses of SDG diagnostic of the city, effective monitoring, and cross-sector collaboration to effect systemic change in these cities' governance.

The program recently reached a threshold in its history, with almost half of its cities completing the intensive review and diagnostic process leading to the publication of SDG Roadmap. Now in its third year, MSDGC has become a dominant subject of curiosity on how cities can localized the SDG; MSDGC is the first national initiatives to employ a consistent set of tools, supports, and resources across so many diverse cities and levels—and certainly the first of its size to have the explicit mission of building local-level SDG implementations and monitoring.

Vertical Integration



Malaysia SDG Cities Progress Today

11 Cities in Malaysia including Sabah and Sarawak, and more cities onboarding soon.

200k – 1.8 Million

Cities with populations ranging from 20k to 1.8M

7,000+

More than 7,000 city stakeholders were engaged through more than 30 workshops and engagement ranging from mayors, internal departments, government agencies, community groups and private sectors



20%

NGOs and Community Groups



5%

Private sectors and business players



29%

Government and technical agencies



46%

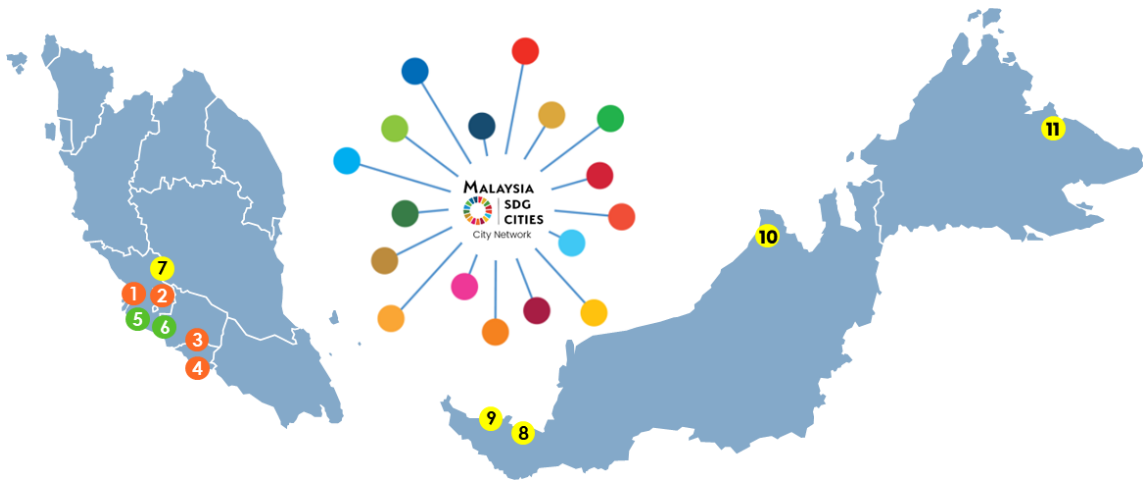
Mayors, high-level city officials and local authority officers

The Malaysia SDG Cities Networks

MSDGC has worked extensively with two city cohorts; cohorts of approximately 1-5 cities from 2019 to 2022 where these cities have moved through MSDGC's milestones accordingly and prepared their roadmaps and progress reports. And targeting into its second cohort 2023-2025 which are focus on further acceleration of implementation, where a state-wide cities approach will be undertaken to fast-track the localization progress.

The MSDGC have spread beyond cities and the network in Malaysia, where discussions with other global organization to mainstream the 2030 Agenda at local level have been regularly undertaken. And private sectors has also started a keen interest in this program and are now developing their local action plans to align to the SDGs. Malaysian cities in this network has benefitted with this wider networks with exchange of views and sharing of experiences.

Box 8.2: Malaysia SDG Cities – City Works Application



1 SHAH ALAM

- Developing a SDG roadmap and voluntary local review that addresses and reporting the progress of the 2030 Agenda
- Prioritizing and measures with partner for potential SDG project application
- SDG project application

2 KUALA LUMPUR

- Developing a SDG roadmap and voluntary local review that addresses and reporting the progress of the 2030 Agenda
- Prioritizing and measures with partner for potential SDG project application
- SDG project application.

3 ALOR GAJAH

- Raising awareness and capacity building about SDG
- Developing a SDG roadmap and voluntary local review that addresses and reporting the progress of the 2030 Agenda

4 MALACCA CITY

- Raising awareness and capacity building about SDG
- Developing a SDG roadmap and voluntary local review that addresses and reporting the progress of the 2030 Agenda

5 SUBANG JAYA

Voluntary local review that addresses and reporting the progress of the 2030 Agenda

6 SEPANG

- Raising awareness and capacity building about SDG
- Developing a SDG roadmap and voluntary local review that addresses and reporting the progress of the 2030 Agenda

7 SELAYANG

- Raising awareness and capacity building about SDG
- Developing a SDG roadmap and voluntary local review that addresses and reporting the progress of the 2030 Agenda

8 KOTA SAMARAHAN

- Raising awareness and capacity building about SDG
- Developing a SDG roadmap and voluntary local review that addresses and reporting the progress of the 2030 Agenda

9 KUCHING

- Raising awareness and capacity building about SDG
- Developing a SDG roadmap and voluntary local review that addresses and reporting the progress of the 2030 Agenda

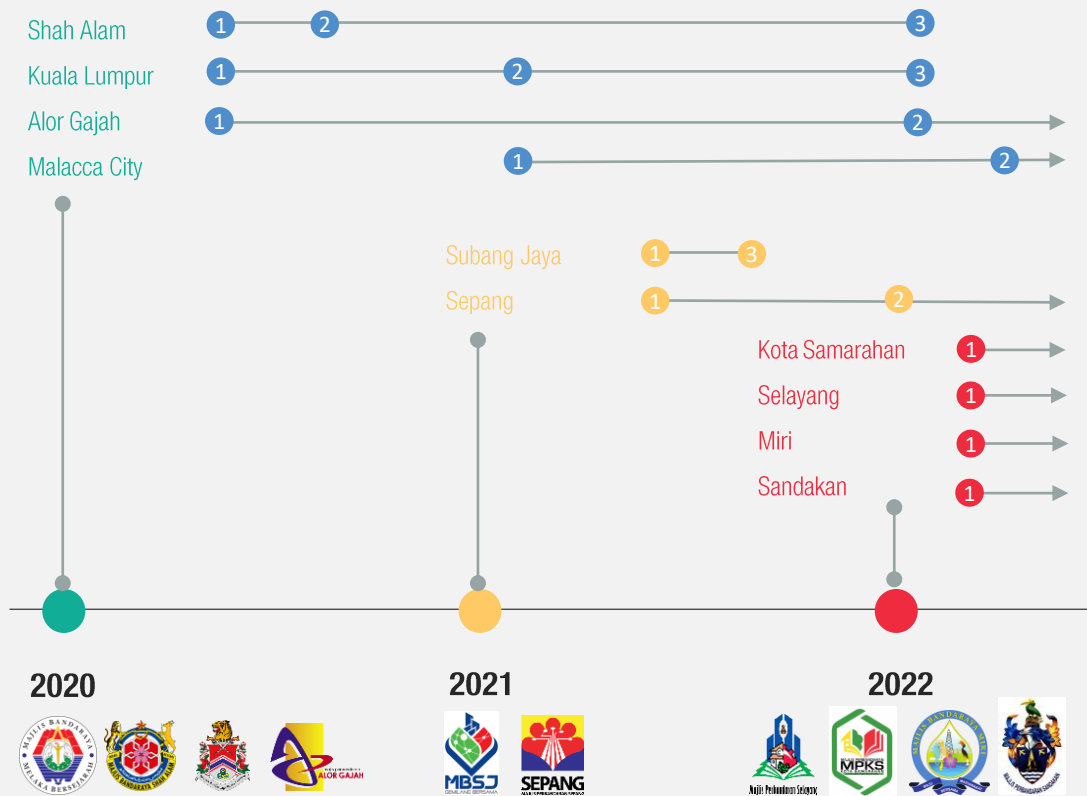
10 MIRI

- Raising awareness and capacity building about SDG
- Developing a SDG roadmap and voluntary local review that addresses and reporting the progress of the 2030 Agenda

11 SANDAKAN

- Raising awareness and capacity building about SDG
- Developing a SDG roadmap and voluntary local review that addresses and reporting the progress of the 2030 Agenda

City's Timelines in Malaysia SDG Cities Roadmap



Notes: Blue cities are the first cohort (announced in September 2020), orange are the second (2021) and pink are the third (2022). Number represents phases or lifecycle of Malaysia SDG Cities: 1= Initiation and Early SDG Diagnostic; 2= Development of strategy and project implementation; 3= Monitoring and Reporting / Voluntary Local Review

Kuala Lumpur SDG City Roadmap

1.75 million population
243 Km² in total area



Most advanced SDGs in KL

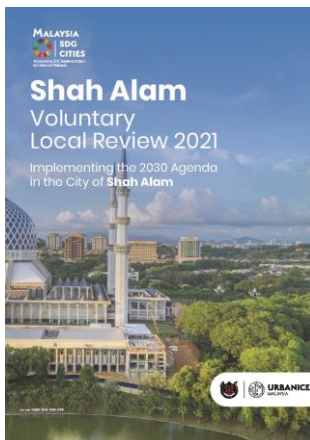


Kuala Lumpur, home to over 1.7 million people, is the most populous city in the Malaysia. Known as the “Capital City of Malaysia,” K.L.’s economy is driven by international finance, entertainment, education, health, and tourism – the city is the highest GDP contribution to Malaysia. SDG diagnostic, especially in a city as large and complicated as Kuala Lumpur, will require creating SDG representatives throughout the city hall. Kuala Lumpur City Hall SDG localization process is led by the Sustainability Unit under the city planning department and SDG champions from each departments - making Kuala Lumpur the first city in the Malaysia SDG Cities Network to establish such positions.

Kuala Lumpur City Hall held city-wide meetings to hear from over 750 residents and key stakeholders to identify prioritized SDGs, discuss concerns and aspirations, engage with the federal and government agencies, and lay out recommendations to accelerate the SDG implementation and leaving no one behind in line with the city aspiration “Kuala Lumpur City for All”. This work led to the production of Kuala Lumpur SDG roadmap where four urgent actions that are cross-cutting sectoral strategies that together represent an actionable and timely set of recommendations. These are; 1) Mainstreaming The SDG Agenda At All Level 2) SDG Tracker : Data And Monitoring System. 3) Empower And Support Local Ownership In 2030 Agenda Efforts. 4) Targeted Aid And Support Focus On Eradicating Poverty .

Voluntary Local Reviews

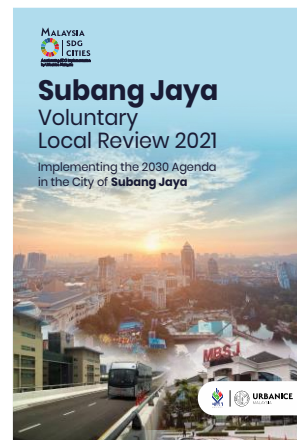
Local Authorities are also encouraged to prepare a Voluntary Local Review report for their area of jurisdiction. The Voluntary Local Review is a follow through of the Malaysia SDG City's Roadmap and cities will report on the progress made in implementing the **2030 Agenda** and the pledge to **leave no one behind**. It also form part of the cities commitment to continuously review their actions and its impacts and address any urgent challenges faced locally. Two local authorities has submitted their cities Voluntary Local Review to HLPF in 2021. Shah Alam and Subang Jaya has successfully reported their progress and in 2022, Malaysia will be submitting the Kuala Lumpur City VLR and the Selangor Voluntary Sub-National Review.



Shah Alam, Selangor

0.669 million population
290.3 km² in total area

VLR Prioritized SDGs



Subang Jaya, Selangor

0.969 million population
161.8 km² in total area

VLR Prioritized SDGs



Shah Alam is the first city in Malaysia to participate in the Malaysia SDG Cities network and prepare its Voluntary Local Review. The city's commitment is high and has established internal working committees to prepare the VLR. It sets the pathway for sustainability by aligning all its internal and local blueprints and action plans to the SDGs and identifies the gaps that requires actions which will be undertaken in partnership with its city's stakeholders. As the State Capital of Selangor, Shah Alam has strong commitment financially to the sustainable agenda. This has been acknowledge as critically important for effective and accountable financing for sustainable development.

Shah Alam realises that many of its development issues are essentially distributional issues, thus it has develop strategic partnerships, puts focus on matters of equitably, including the most vulnerable people in the development process within the city and its locality. The partnerships and their various objectives and initiatives identified several target groups of marginalised communities that include the disabled, urban poor, indigenous peoples, and future generations. Shah Alam in its first VLR reports on its progress for 5 priority SDGs that seem of urgently needed by its local communities.

The Subang Jaya VLR is prepared following the Asia Pacific Regional Guidelines on Voluntary Local Reviews, the first regional knowledge product of the Penang Platform for Sustainable Urbanization, which was formally established in 2019 during the 7th Asia-Pacific Urban Forum held in Penang, Malaysia, as well as aligned to the Malaysia SDG City framework. Subang Jaya is committed to the sustainable agenda and is concretely advanced in formulating their SDGs implementation progress report for the VLR. Participatory processes involving key members from city councils, community leaders and local stakeholders were undertaken in the development of the VLR. This process raises awareness on sustainable agenda, allow communities to identify and raised key local issues, be part of the decision making processes, and to share the responsibility in realizing the sustainable agenda.

Subang Jaya will proceed to develop its mid to long term plan to further improve and meet the other SDGs targets. There are 5 key principles adopted and this includes • Good Urban Governance; • Sustainable and environmentally friendly urban planning and development; • Socio-economic development to improve community well-being; • Mobility and access to communities and place; and • Equitable and inclusive society.

8.2 Smart Cities

Smart city is seen as a new approach in urban management and development to make Malaysia's cities more sustainable and liveable. At the same time, technological advancement, and the usage of information technology (IT) applications makes smart city more practical and convenient for urban population and city managers. The emphasis towards making Malaysian cities into smart cities and strengthening digital infrastructure has been embedded in Malaysia's development plans such as the Twelfth Malaysia Plan (12MP), the National Physical Plan 4 (NPP4) and the National Urbanisation Policy 2 (NUP2).

Smart City, Sustainable Development Goals (SDGs) and New Urban Agenda (NUA)

The development of smart cities is also to uplift Malaysian Cities' competitiveness and support Malaysia's commitment towards global agenda such as Sustainable Development Goals (SDGs) and New Urban Agenda (NUA). Malaysia advocates the planning and implementation of Smart Cities agenda that improving the citizens' quality of life, strengthening, and diversifying the economy while prioritising environmental sustainability through the adoption of smart solutions. Smart Cities and the SDGs explore how smart cities initiatives intersect with the global goal of making urbanisation inclusive, resilient, and sustainable.

Box 8.3: Smart Cities and NUA Commitments

The New Urban Agenda commitments show the importance of smart city planning towards sustainable cities and communities. To realise these three smart cities' related commitment to NUA, Malaysia is embracing the concept of 'People Centric Smart City' in their planning. Malaysia envisions smart cities that are integrated with sustainable technologies in the cities' services such as 5G connectivity, cashless community, autonomous public transport, drone delivery, energy-efficient buildings, smart treatment of water and waste management that can improve the public safety and the quality of life of the public.

36 “We commit ourselves to promoting appropriate measures in cities and human settlements that facilities access for persons with disabilities, on an equal basis with the others, to the physical environment of cities, public information and communication (including information and communications technologies and systems) and other facilities and services open or provided to the public, in both urban and rural areas”

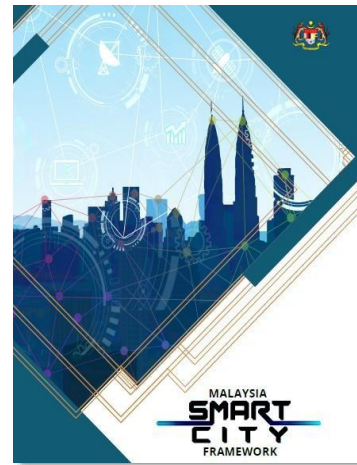
45 “We commit ourselves to developing vibrant, sustainable and inclusive urban economies, building on endogenous potential, competitive advantages, cultural heritage and local resources, as well as resource-efficient and resilient sustainable consumption and production patterns and fostering an enabling environment for businesses and innovation, as well as livelihoods”

66 “We commit ourselves to adopting a smart-city approach that makes use of opportunities from digitalization, clean energy and technologies, as well as innovative transport technologies, thus providing options for inhabitants to make more environmentally friendly choices and boost sustainable economic growth and enabling cities to improve their service delivery”

Smart City Policies & Strategies

In Malaysia, Ministry of Housing and Local Government has developed Malaysia Smart City Framework (MSCF) in 2019 to streamline and coordinate the development of smart cities in Malaysia. This framework is a national-level framework that serves as a guide and reference to Local Authorities as city managers, State Governments, Federal Ministries and departments, industry players, academician and other stakeholders in planning and developing smart cities in Malaysia holistically and in line with the current developments. MSCF has seven (7) key components – Smart Economy, Smart Living, Smart Environment, Smart People, Smart Government, Smart Mobility and Smart Infrastructure. It contains policy directions and outlines the strategies and initiatives for each component for cities to implement smart city initiatives in Malaysia.

Figure 8.2: Malaysia Smart City Framework



Box 8.4

The Evolution of Smart City in Malaysia

Urban planning has gone through various phases of evolution starting from the Garden City concept that was first implemented in planning in 1930 to other several concepts of city planning and theories. In 1995, the government has taken a step forward to plan and develop Putrajaya as an Intelligent Garden City and Cyberjaya as a Multimedia Super Corridor hub. The development of these two cities became the catalyst for urban development based on digital technology. From here, the smart city concept in Malaysia evolved as new technologies emerged.

The Evolution Of The Cities From Garden Cities To Smart

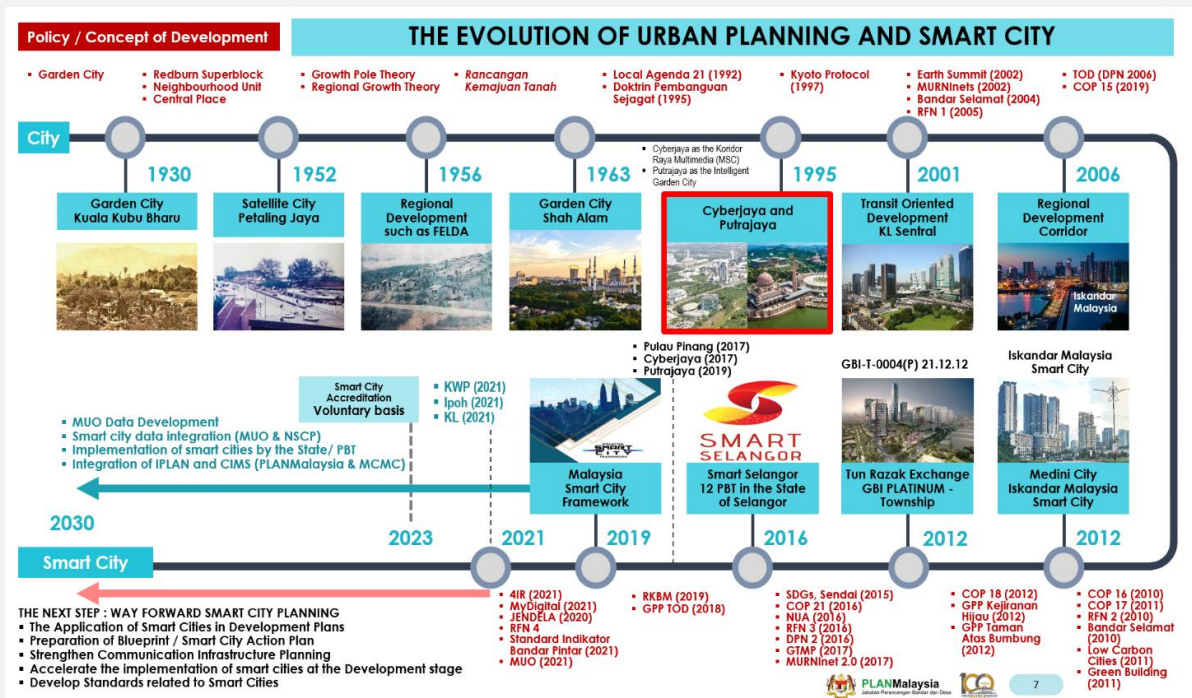
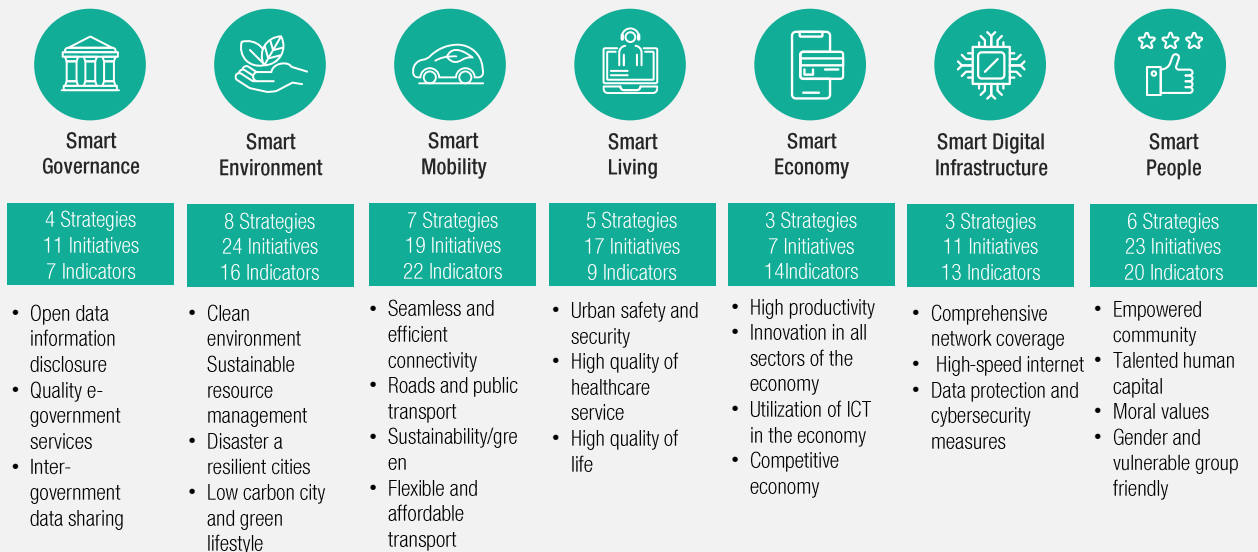


Figure 8.3: Smart City Components



Source: Malaysia Smart City Framework (MSCF), 2019

The MSCF smart cities development and implementation in Malaysia is the new approach to urban planning, development and management that can provide solutions to help improve efficient delivery of urban services, overcome environmental pollution, and improve the quality of life of urban dwellers. MSCF will be the game changer for Local Authorities in Malaysia whom as city managers are responsible to address and overcome urban challenges faced at the local level. This is reflected by various evaluation undertaken based on indicators set by the smart city implementors, aimed at improving the well-being and quality of life of various urban communities.

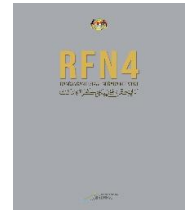
The emergence of smart cities in the national development agenda shall positively impact urban development policies and planning today and in the future. The policies and strategies at the national level have been translated to the state and local level (city, municipal and district council) through initiating smart city blueprints and/or embedding action plans in their existing city/district plans.

With the smart city blueprints, greening initiatives, and efforts to go digital with artificial intelligence capabilities, Malaysian cities can be models for other cities in the region. Though still at an early stage, the holistic approach of a people centric smart city, provides good examples that can be emulated and localised in other cities. The smart city will provide a new approach in city

planning, construction, management, and services by using the Internet of Things, Artificial Intelligence (AI), cloud computing, big data and spatial geographic information integration.

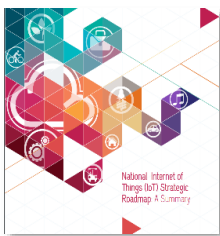
The emphasis in transforming Malaysian cities by adopting smart cities solutions has been highlighted in its Twelfth Malaysia Plan 2021-2025 (RMK-12), National Physical Plan 4 (NPP4), National Urbanisation Policy 2 (NUP2), Malaysia Smart City Framework, Low Carbon City Framework (LCCF), Communication Infrastructure Design Guidelines (GPP-i), National Digital Network Plan (JENDELA) by MCMC and other trending revolution supported by the technological breakthrough of the Fourth Industrial Revolution (Industry 4.0) (Industry4WRD: National Policy on Industry 4.0), including the use of Internet of Things (IoT), Cloud Computing, Open Data and Big Data Analytics.

- 01** Planning policy makers should set overall goals and standards and management systems relating to the Smart City Aspirations of the city that provide clarity and certainty for developers.



- 02** National initiative which symbolises the aspirations of the Government to successfully transform Malaysia into a digitally-driven, high income nation and a regional leader in digital economy.

- 03** The National Policy on Industry 4.0 (Industry4WRD) is a proactive measure undertaken by the Ministry of International Trade and Industry (MITI) to transform the Malaysian manufacturing industry and its related services to be smarter, more systematic and resilient.



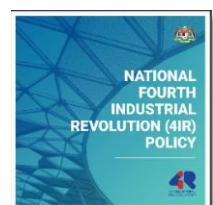
- 04** There are three main goals for the implementation of the National IoT Strategic Roadmap: Create a conducive IoT industry ecosystem to stimulate the smooth implementation of IoT technology. Strengthen technopreneur abilities and capabilities in Apps and services development based on IoT technology

- 05** The GTMP creates a framework which facilitates the mainstreaming of green technology into the planned developments of Malaysia while encompassing the four pillars set in the National Green Technology Policy (NGTP) i.e., energy, environment, economy and social.



- 06** The Jalanan Digital Negara (JENDELA) plan was formulated to provide wider coverage and better quality of broadband experience for the Rakyat, whilst preparing the country for 5G technology. Explore the many initiatives set up to bring you improved connectivity and communication.

- 07** The National 4IR Policy is a broad, overarching national policy that drives coherence in transforming the socioeconomic development of the country through ethical use of 4IR technologies.



The Malaysia’s Smart City Ecosystem

Smart cities are better understood as ecosystems in which multiple actors play their roles, all with their own interests and objectives, co-exist and collaborate. Just as a city itself is a community with various constituents, in a smart city, governments, private sectors, academia, citizens, developers, government and business all have a role to play in ensuring that technology is used in ways that enrich the lives of its inhabitants. The diagram below provides an illustrative – though not an exhaustive representation of ecosystem in Malaysia.

Malaysia Smart City Outlook 2021 – 2022 by MiGHT also highlighted on Malaysia Smart City Industry Ecosystem which comprises of people, organisations and businesses, policies, laws and processes integrated together to create the desired outcomes. Diagram below shows that the Malaysia Smart City Industry Ecosystem is made up of multiple “capability layers” and these layers must integrate and coordinate with each other.

National Government

National Ministries play a key role in outlining regulations, frameworks a setting the national agenda for smart city development. Includes:

- National Ministries
- Agencies/Authorities



Private Sector

Provides Smart City technology and services, while leading key private smart city projects and digitally transforming entire sectors. Includes

- Technology Vendors
- Conglomerates
- Real estate developers
- Carriers



Local Government & Operators

Local government formulate curated smart city strategies and play a key role in sourcing, tendering, and implementing smart city projects. Includes:

- City Councils
- Local Department
- Local Operators
- Local Agencies



Academia & Civil Society

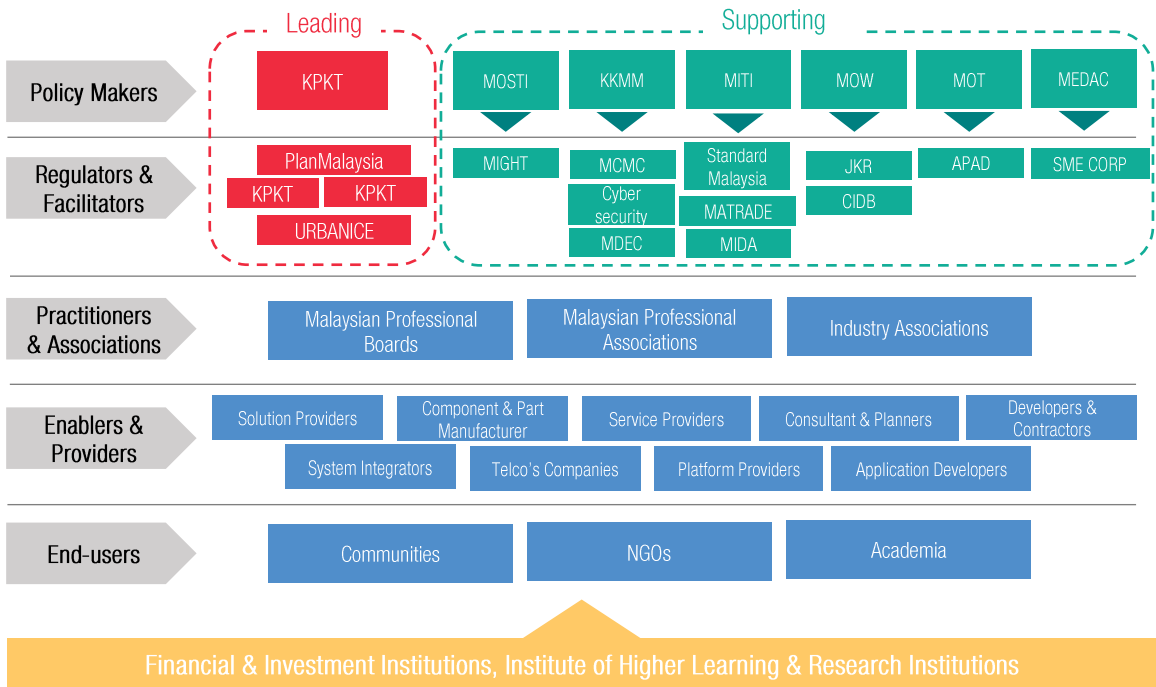
Play a growing role in developing centres of excellence, sharing best practices, fostering coordination, and facilitating smart city financing. Includes:

- Universities
- Research Centres
- Associations
- Networks



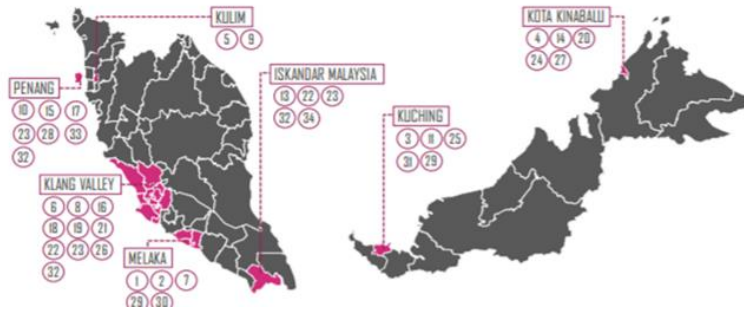
Source: Smart City Handbook Malaysia, 2021

Figure 8.4 Malaysia Smart City Industry Ecosystem



National Key Smart Cities Projects

Based on Smart City Handbook Malaysia, they have identified 100 smart city projects that have been implemented, or are in progress across Malaysia. Diagram below shows the 34 selected high-profile projects, classified based on smart city components around cities and urbanised regions.



Smart Environment

1. Green Technology
2. Waste To Energy
3. Disaster Management System (DMS)
4. Integrated Waste Management (IWM)

Smart Living

5. Community Urban Farming
6. Safe City
7. Smart Grid
8. Digital Healthcare
9. Integrated CCTV

Smart People

10. Digital Library
11. Digital Training Lab
12. E-learning Programmes (Eklas)
13. AI-powered Innovation City

Smart Economy

14. Sabah E-payment
15. 5G Virtual Tourism Experience
16. Touch N Go E-wallet

Smart Living

17. Penang Connectivity Masterplan
18. AI-powered Platform (City Brain)
19. 5G Infrastructure Development
20. High Speed (HS) Mobility Solution
21. Hyper-scale Data Centre (DC)

Smart Government

22. Urban Observatory
23. Open Government Data
24. E-planning Permission
25. Integrated Operation Centre
26. Smart City Rap 2020
27. Smart City Masterplan Feasibility Study
28. Government Cloud Computing

Smart Mobility

29. E-bus
30. Smart Mobility Management (SMM)
31. Smart Traffic Light
32. Intelligent Transportation System (ITS)
33. Smart Parking System
34. Autonomous Vehicle Proof Of Concept

National Smart City Platform

The Malaysian government is currently in the process of improving urban planning and management through the 'Data Driven Decision Making' approach. MHLG through PLANMalaysia is developing the Malaysia Urban Observatory (MUO) as a 'big data analytic platform' that integrates data from various agencies.

Under MUO, a special sub-module for Smart City is included - the National Smart City Platform (NSCP). This platform will facilitate the real time data sharing between agencies through online, the ability to perform analysis and analytics, report generation and mapping to support more accurate decision making in addressing increasingly complex urban challenges. This platform will also provide data and information based on smart city components based on real-time to support the planning and implementation of policies, strategies and policies as well as alternative solutions to municipal issues. This platform will be connected to an Integrated Command Centre, a special system, and applications to produce real-time data towards the creation of the latest and dynamic urban big data and drive smart city innovation.

The NSCP aims to:

- Facilitate the sharing of municipal data/information online in real time through different sources/platforms to create national smart city data;
- Assist in analysing data/information from various sources to make data driven decision making more efficient related to urban development and management;
- Monitor and measure the implementation and achievements of cities in Malaysia in the implementation of smart city initiatives (in line with ISO 37122) to be on par with cities at the international level; and
- Support the planning and implementation of the Malaysian Smart Cities Framework 2019-2025 which has identified Policies, Strategies and Initiatives to meet the National direction to make cities in Malaysia more competitive

Smart City Standards

The needs for Standards on Smart City have been highlighted in Malaysia Smart City Framework, where Policy 6 in the document highlighted the need to establish standards to recognize smart city status that is globally accepted and PLANMalaysia is working together with National Standard Body - the Department of Standard Malaysia (DSM) and other stakeholders to developed Malaysian Standard on Smart City Indicators via identical adoption of ISO 37122 (Sustainable Cities and Communities - Smart City Indicators), which has been approved by Minister of International Trade and Industry on 9th December 2021.

The development of this standard is under the establishment of the Technical Committee for Sustainable Cities and Communities or known as TC/D/29 under the supervision of Department of Standards Malaysia. This TC/D/29 is also a 'mirror committee' to Technical Committee on Sustainable Cities and Communities TC 268 at the ISO level. Under this setup, there are 2 Working Groups which are Smart City Indicators led by PLANMalaysia, and another working group looking at Smart Cities Infrastructure led by Malaysia Communication and Multimedia Commission (MCMC) together with MiGHT. The adoption of ISO 37122 Smart City Indicator Standard will allow Malaysian cities to achieve accreditation and be compared in terms of performance and achievement, locally and internationally.

The Smart City Indicator Standard is to provide guidance and reference for Local Authorities, State Governments, Ministries, Departments, industry players, academics, and other interested parties to participate in the planning and building of smart cities in a holistic way in line with current developments. The indicators would form a yard stick to measure and determine the level of smart city implementation in the future so that they are in line with global ranking standards. The indicators specified in the standard are to be reported annually. This Smart City Indicators Standard also acts as the benchmark for the smart city ranking exercise and can be used as a voluntary basis where any cities that are ready can apply to be certified with Smart City status.



Smart city indicator standard assist cities to:

- Measure the service performance through the smart city element;
- To prioritize smart city implementation based on the indicators;
- Towards optimizing the e-government in a fully digital ecosystem (end to end digital services); and
- Use smart city standards as a benchmark in strategic planning

The Smart City Indicators will be adopted by the local governments to evaluate the performance of city management and the quality of life for their citizens. In the initial stages of this standard implementation, Local Authorities that want to get Smart City recognition or certification will be applying based on the accomplishment of the indicators that will be set soon by the scheme owner. It also could be used as the basis for smart city index in the future once the smart cities implementation reaches a certain maturity point.

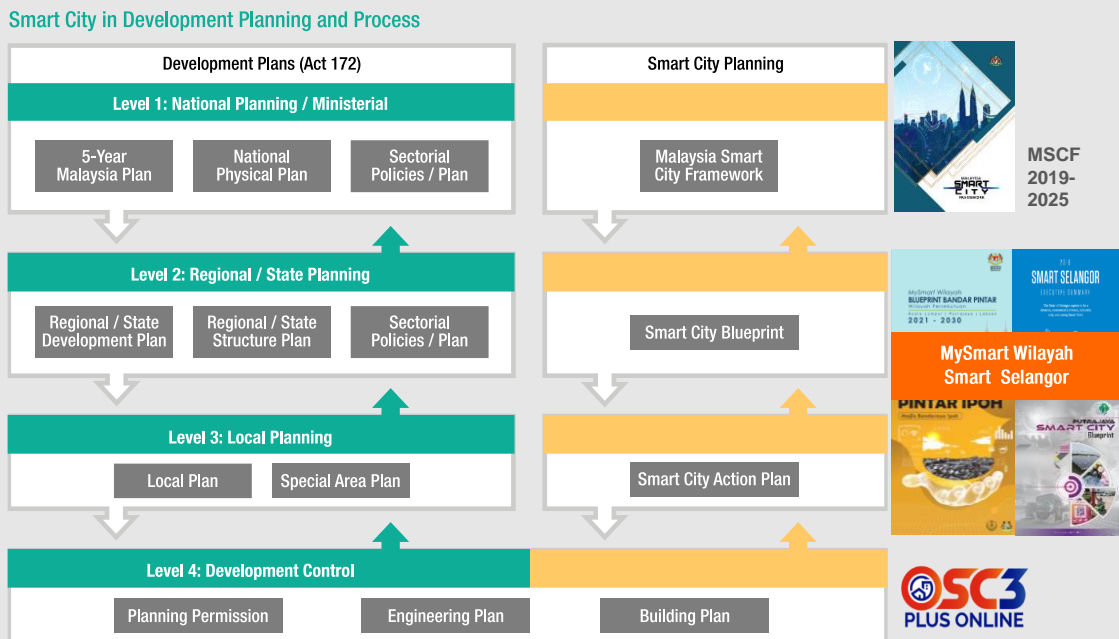
Mainstreaming Smart City Planning And Implementation At State And Local Level

In spearheading smart city development in Malaysia, PLANMalaysia under the Ministry of Housing and Local Government is an enabler to assist the Local Authorities in Malaysia towards the planning and development of smart cities. There are a few stages of the smart city planning and development process and these include four (4) main levels of process :

- Level 1:** The National Planning / Ministerial
- Level 2:** The Regional / State Planning
- Level 3:** The Local Planning
- Level 4:** Development Control

Smart city planning should be included under all four (4) levels of planning as stated under Town and Country Planning Act 1976 (Act 172). However, in cases that the development plan has been gazetted, smart city planning via the preparation on Smart City Blueprint at regional or state level, and Smart City Action Plan at the local level can be prepared to complement the existing development plan. The Regional / State Planning should take into consideration the potential benefits of emerging smart city solutions in the manner key development areas within the city are designed. The strategy helps direct the future of large-scale project across the city / district, provide engagement opportunities and integrate the planning process. Several states in Malaysia are moving towards smart city implementation through preparing of blueprint and action plan as a guide in holistic smart city planning.

Figure 8.6: Flow on the Malaysia Development Planning Process and its relation to Smart City Planning



Box 8.5: Smart Blueprints Prepared At State and Local Levels

Smart City at State Level

Several states in Malaysia has and are preparing smart blueprints and action plans and these include the Smart Melaka Blueprint 2035, Johor Smart City Blueprint, Negeri Sembilan Smart City Blueprint, and Perak Smart City Blueprint.

 <p>MySmart Wilayah</p>	 <p>Smart Selangor Action Plan</p>	 <p>Penang 2030</p>	 <p>Sarawak Digital Economy Strategy 2018-2022</p>	 <p>Smart City Iskandar Malaysia Framework</p>
<p>MySmart Wilayah 2030 focuses on boosting the quality of life through the use of technology and the implementation of smart initiatives to subsequently create a smart society through digitalisation, innovation and good moral values</p>	<p>Smart Selangor Action Plan 2025 (SSAP) updated the Smart Selangor Smart State programme with new programme domains, initiatives, targets and a clear roadmap for the year 2020 until 2025. These initiatives are also presented together with success indicators which are linked to globally recognized smart city indices for progress measurement until 2025</p>	<p>The Penang state government established Digital Penang in the midst of the pandemic to align diverse digitalisation efforts within the state apparatus, and initiated certain institutional reforms to improve policy-making processes and proper monitoring of project implementation.</p>	<p>Sarawak Digital Economy Strategy focusing on Sarawak New Economy Powered by Knowledge, Innovation and Digital Technology.</p>	<p>Smart City Iskandar Malaysia is an added-value-enabler, and an initiative aimed at providing ease of doing business, as well as to improving living quality, in Iskandar Malaysia. The framework focuses on 3 areas namely Economy, Environment and Social and promotes 6 dimensions namely Smart Economy, Smart Governance, Smart Environment, Smart Mobility, Smart People and Smart Living.</p>

Source: Smart City Unit, PLANMalaysia 2021

Smart City at The Local Level

While several cities has taken the initiatives to prepare their own local smart city blueprints to guide the city's transformation by adopting smart city programs, projects and initiatives.

	<p>Putrajaya Smart City Blueprint</p> <p>The objective of the Putrajaya Smart City Blueprint is to guide and provide recommendations to the Putrajaya Corporation and all related departments / agencies in Putrajaya for formulating policies, strategies and action plans in the implementation of Putrajaya Smart City.</p>	
	<p>Cyberjaya Smart & Low Carbon City Action Plan</p> <p>The preparation of Cyberjaya Smart & Low Carbon City 2025 (CSLC 2025) has been part of the recommendation being made from the output of the CO2 Baseline Data Report 2011. It has also been part of the response to the Government's initiatives in reducing the level of CO2 emission and achieving sustainable development amid facing modern and dynamic urban development processes.</p>	<p>Putrajaya Water Quality Management System acts as early detection of pollutants and assist in investigation to identify the pollution sources.</p>
	<p>Ipoh Smart City Action Plan</p> <p>Ipoh Smart City Action Plan targets seven domains – Smart Living, Smart Environment, Smart Governance, Smart People, Smart Digital Infrastructure, Smart Economy and Smart Mobility, as the solutions to 24 challenges and potentials identified for Ipoh City.</p>	
	<p>Kuching Smart City Masterplan (KSCMP)</p> <p>This masterplan will establish connectivity and provide better services for citizens through the development of a smart city digital infrastructure platform and essential shared smart city applications.</p>	<p>Sungai Segget River Revitalisation project involves the development of a Centralised Sewerage Treatment Plant (CSTP) and a Flood Mitigation System for Sungai Segget. The CSTP integrates two (world class) infrastructure system comprising of Sequencing Batch Reactor and SCADA monitoring system to achieve Class 11-B water quality</p>
	<p>Kuala Lumpur Smart City Master Plan 2021 – 2025</p> <p>Kuala Lumpur Smart City Master Plan 2021 – 2025 also sets out how DBKL plans to transform Kuala Lumpur into the smartest city in the country, and one of the smartest in the region and the world.</p>	

Smart City Way Forward & Future Focus Area

Smart cities are the new development trend observed in many countries around the world. Thus, the planning and development of smart cities in a planned, integrated and holistic manner in this country is vital to ensure that Malaysia is at par with the global urban development. Thus Malaysia is also focusing on several areas to ignites the smart city development, which includes:

Smart City Planning

The idea of 'Smart City' is about looking at cities from a new angle, developing cities with a new mind set based on technology advancement and extending on the perspective of digital cities. Building smart cities will not be something that happens overnight. It needs a strategic long-term planning and a concerted effort at the local level across agencies and communities, led by Local Government to ensure a comprehensive and systematic smart city planning. Local Government need to prepare strategic plan and action plans or embed them in local Plans. Local authorities have started to prepare the Smart City Blueprint or Action Plan and these blueprint/action plan will provide detail plans to guide its local implementation and monitoring mechanism on Smart City Development based on local challenges and uniqueness.

Localising Smart Cities in Development Plans

Development Plans play an important role to translate all smart solution initiatives to resolve local challenges. As a statutory document and went a systematic engagement & comprehensive process, the development plan be seen as vital roles in localizing smart city agenda. The smart city approach has been highlighted in several development plan such as Perak State Structure Plan 2040, Ipoh City Council Local Plan 2035, Labuan Special Area Plan 2030 (Smart Tourism) and etc. Structure Plan and Local Plan manuals are now being reviewed to ensure smart city focus is included and in coming years, there will be more development plans (Structure Plan, Local Plan and Special Area Plan) that applies smart city concept in their planning, based on People Centric Smart City.

Strengthen Communication Infrastructure Planning

Malaysia has entered a new phase of national development with the 12th Malaysia Plan (12MP) offering a strategic direction over the next decade. Connectivity and the communications infrastructure will be a key component that underpins the nation's growth aspirations to further increase its competitiveness. The National Digital Network (JENDELA) initiative was formulated to enable widespread connectivity for Malaysians nationwide. Malaysia has made good progress in ensuring nobody is left behind when it comes to access to communications services. Communication Infrastructure Planning ensures a more balanced growth, while ensuring good planning, accessibility, smart regulation to stay ahead of the curve with respect to technological change.

Development plan should be use as one of platform to strategies communication infrastructure planning and future development plan should be 'friendly' to this infrastructure. Close collaboration between KPKT and its various agencies with MCMC, Network Facilities Providers (NFP) and Network Service Provider (NSP) is needed to expedite this deployment of telecommunication infrastructure to serve best for the public.



PUTRAJAYA COMMAND CENTRE

The Putrajaya Command Centre serves as integrated operation centre that monitors the city safety, security, traffic flow, IT infrastructures and environmental sensors on 24/7. Established since 2004, The Centre has been upgraded with latest technologies on August 2018.

The Centre also links to mini command centre located at Putrajaya District Police Headquarter, Putrajaya District Fire and Rescue Department of Malaysia Station and Putrajaya Civil Defence Force and Putrajaya Hospital.

8.3 Low Carbon Cities

Cities are at the frontlines in the fight against climate change. Although cities occupy just 2% of total land, they contribute to 60% of global energy consumption and 70% of global greenhouse gas (GHG) emissions. It is thus imperative that cities implement low carbon strategies that allow it to grow sustainably while reducing its GHG emissions. The Malaysian Government has undertaken several actions that specifically support the growth of low carbon cities to help Malaysia meet its commitments under the Paris Agreement and realise Malaysia's ambition of becoming a carbon neutral country by 2050. These initiatives are led by the Ministry of Environment and Water (KASA) and include the Low Carbon Cities Framework (LCCF), the Low Carbon Cities 2030 Challenge and the National Low Carbon Cities Masterplan (NLCCM). The LCCF, NLCCM, Low Carbon Cities Challenge 2030 reinforce each other and in the long term aims to pave the way for an upscaling of GHG reduction measures in cities to create a nation that is low carbon and resource efficient.

Low Carbon Cities Framework

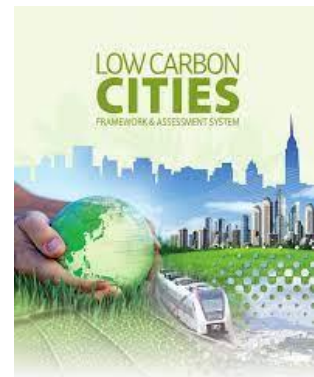
The Low Carbon Cities Framework (LCCF) was launched in 2011 and is a national framework and assessment system to guide and assess the development of cities and to support sustainable development in Malaysia. The framework was developed by the Ministry of Energy, Green Technology and Water (KeTTHA) and Malaysian Green Technology and Climate Change Center (MGTC). It serves as a guide for local authorities, developers, and universities to help cities in Malaysia identify pertinent areas that they could target to reduce Greenhouse gas (GHG) emissions.

The LCCF is a performance-based system that captures the actual environmental impact of development in terms of total carbon emission. It is divided into two main components – the Framework and the Assessment System. The Framework is a guide on reducing carbon emissions within cities and consists of 4 key elements, 15 performance criteria and 41 sub-criteria. The Assessment system is a carbon calculator to help users determine their baseline emissions and carbon reduction. The LCCF version 2.0 was released in 2017, with several revisions that included updated methodologies and initiatives in low carbon city development. MGTC, an agency under the purview of the Ministry of Environment and Water (KASA) is currently in the process of reviewing and updating LCCF version 2.0 to keep it in line with the recently launched National Low Carbon Cities Masterplan (NLCCM) and other relevant developments both locally and abroad.

Low Carbon Cities 2030 Challenge

The Low Carbon Cities 2030 Challenge was launched by the Ministry of Energy, Science, Technology and Climate Change (MESTECC) in 2019 as part of the Government's efforts to increase the implementation of the Low Carbon Cities Framework, accelerate the transformation of Malaysian cities into low carbon cities and reduce overall emissions in cities to support Malaysia's commitment to reduce GHG emissions intensity of GDP by 45% by 2030 relative to the emissions intensity of GDP in 2005. The Low Carbon Cities 2030 challenge is implemented by Malaysian Green Technology and Climate Change Centre (MGTC).

Local authorities, companies, universities, and organisations can participate in the programme as either a low carbon zone or a low carbon partner. These low carbon zones and partners will undertake measures to reduce emissions in the areas of energy, water, mobility, and waste, as well as maintain or increase carbon sequestration through green spaces in the city. Participants receive a Provisional Certificate for establishing carbon emissions baseline and a Diamond Recognition based on the percentage of carbon reduced, with the highest recognition given to organisations or cities that reduce carbon emissions by 45% or higher compared to baseline levels. Since its inception in 2019, an increasing number of cities throughout Malaysia have taken on the Challenge. As of December 2021, a total of 68 low carbon partners and 42 low carbon zones have been established.



The objectives of the Low Carbon Cities Framework are:

- To encourage and promote the concept of low carbon cities and townships in Malaysia;
- To increase the compatibility of cities and townships with their local natural system and
- To guide cities in making decisions towards greener solutions.



The aim of the LCC 2030 Challenge is to accelerate the transformation of Malaysia's urban developments into

Low Carbon Cities :
200 Low Carbon Zones
1000 Low Carbon Partners

National Low Carbon Cities Masterplan

The National Low Carbon Cities Masterplan was launched in July 2021 and is a national strategy to reduce greenhouse gas emissions in Malaysian cities. The NLCCM was developed under the Green Technology Application for the Development of Low Carbon Cities (GTALCC) initiative. The masterplan adopts a “3M” approach in delivering creating low carbon cities in Malaysia, which consists of measuring GHG emissions, managing low carbon development and mitigating GHG emissions. Under the NLCCM, 9 key directions and 24 key actions have been recommended to drive the transformation of Malaysian cities into low carbon cities. A total of 33 target cities, divided into 3 groups, have been selected under the masterplan. The target cities will have to implement actions to reduce GHG emissions in their administrative areas. Target cities classified in Group 1 will have to achieve carbon neutrality by 2050, while Group 2 and Group 3 cities are targeted to be carbon neutral by the years 2055 and 2060 respectively. Non-target cities that are keen to implement low carbon initiatives can also adopt the guidelines put forth under the NLCCM.

The NLCCM will involve close collaboration between various stakeholders across the local, state, and federal levels. At the time of writing, the masterplan is at the rollout stage. Malaysian Green Technology and Climate Change Corporation (MGTC) is the implementing agency for the NLCCM. As part of the rollout of the NLCCM in 2021, MGTC will be conducting engagement sessions with local authorities throughout Malaysia and key stakeholders in the NLCCM. The aim of the engagement sessions is to disseminate information about the NLCCM to stakeholders and help them understand its goals and key points, to clarify the roles and responsibilities of the stakeholders and to identify any potential issues that might affect the implementation of the NLCCM at this early stage.

Figure 8.6: Framework of National Low Carbon Cities Masterplan



Source : National Low Carbon Cities Masterplan



9.0

URBAN PLANNING AND URBAN
SPATIAL DEVELOPMENT

9.0

URBAN PLANNING AND URBAN SPATIAL DEVELOPMENT

9.1 Urban Planning and Mechanism for Managing Urban Spatial Development

As Malaysia looks towards the future, urbanization will play an increasingly important role as a transformative driver for sustainable growth. The country is the 5th most urbanized economy in East Asia after Singapore, Japan, the Republic of Korea, and Taiwan. The increase in the national urbanization rate to 77.2% today has put pressure on the country's capacity of infrastructure and utility facilities, public and community facilities, housing needs, and urban services.

Malaysia has targeted an urbanization rate of not more than 85% by 2040 in its NPP-4, with the projected total population of Malaysia expected to reach 41.5 million. The long-term goal of NPP-4 has taken into account the various challenges of national resilience such as population growth and migration, income inequality, climate change, natural resource depletion and environmental pollution. These challenges are expected to continue and take an extensive period to overcome. Therefore goal oriented strategies and actions were designed to ensure effective implementation of the plan.

12MP highlights upon challenges that remains important for Malaysia to address in view of urbanisation and rapid growth. Apart from the already mentioned in NPP-4, it raise the importance of economic density and conducive city environment that will contribute to economic, social and environmental sustainability. The significance of city level data, monitoring mechanisms as well as capacity and capabilities in city management are crucial for an efficient urban planning and development.

Urban planning and mechanisms for urban spatial management as part of the New Urban Agenda's comprehensive approaches are important contribution to address these challenges, which are dynamic and requires actions that is to be implemented at varied levels.

Strengthen the Function of Growth Areas

The focus of growth over the last few decades has still created imbalance between regions, urban and rural areas. The imbalance and gap of development has led to disparity between urban, sub-urban and rural. The NPP-4 has re-emphasised on identified strategic growth areas that need to be strengthened, namely in the four main conurbations i.e. National Conurbation (central area), Southern Conurbation, Northern Conurbation and the Eastern Conurbation, 11 Development Promotion Zones, and 24 Catalyst Centres.

Conurbations serves as major contributor to the country's economic development, where the agglomeration of centres, diversity in economic activities and sizable population catchments can contribute to more efficient flow of goods and services as well as effective use of infrastructure and amenities, further adding values to key economic sectors of the country. Development and investment are also planned to be generated and expanded in the Development Promotion Zone and Catalyst Centre that serves to generate growth as well as support and complement development in conurbations. It aims to ensure a more dynamic economic development and be able to stimulate urban growth in a more balanced manner. At the same time, Malaysia's development strategy has recognized the role of cities as the nexus for economic growth and this vision has been operationalised in the New Economic Model (NEM).

In addition, the country has diverse local resources that have the potential to drive rural economic development. A total of 21 Agropolitan Centres introduced in NPP-4 serves as integrated rural growth nodes for agro-based economic development that are hoped to support poverty eradication and increase the income of the sub-urban and rural population.

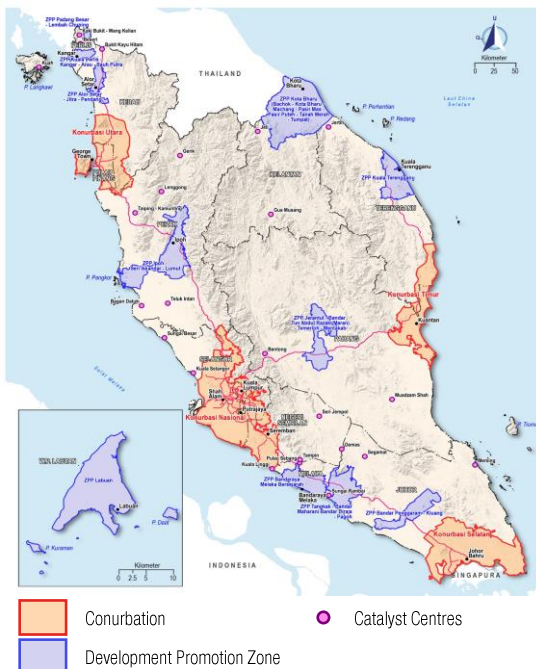
Strengthen The Function of Cities According to Their Urban Hierarchy

As mentioned in chapter 4, the National Urbanization Policy 2 (NUP2) has identified 314 cities and urban centres that were classified according to 5 urban hierarchies that reflects population sizes as well economic and functional importance. These factors has an important implication on economic development and constitute an integral ingredient for sustainable cities. Their economic densities can facilitate optimum use of land and facilitate the conservation of green areas that in turn will lead to better quality of urban life. This triple bottom line of green, social and economic sustainability will strengthen the function of cities.

This is the essence for city planning today where priority for financial allocation, new investments and competitive urban infrastructure besides basic provisions of housing, education, health, business, recreational, and social facilities, will relate to the city's scale, functionality and economic contribution.

NPP-4 has identified several cities that have the potential to be upgraded hierarchically. George Town and Johor Bahru - Iskandar Puteri have the potential to be upgraded as a Global City based on the criteria that have been outlined in NUP2. The criteria include population, international standard services, economic impact across region, availability of high-quality educational institution, as well as good transportation network.

Figure 9.1: The Conurbation, Promoted Development Zone and Catalyst Center in Peninsular Malaysia and Federal Territory of Labuan.

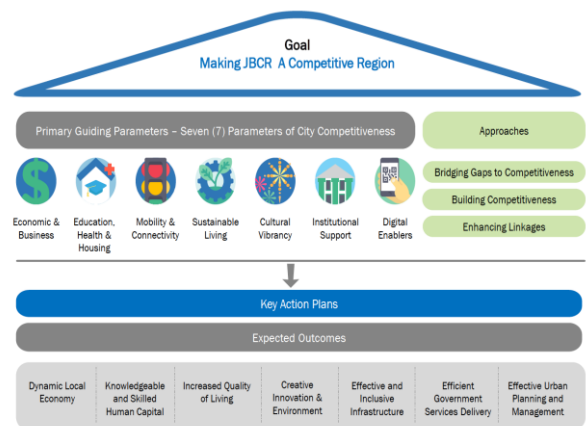


Source: National Physical Plan 4

Six (6) cities has been identified as competitive cities in Malaysia – Kuala Lumpur, Penang, Johor Bahru, Kuching, Kota Kinabalu and Kuantan. These cities have masterplans aimed at enhancing the major cities’ competitiveness by identifying key drivers of growth to maximise their contributions as growth catalyst. City’s competitiveness is also an important factor as cities globally today compete for better living environment with sound connectivity, quality and reliable infrastructure and amenities, as well as quality urban services. Hence Malaysian cities can also strive towards competitiveness as they embrace new solutions and technologies as well as focus on urban well-being to drive competitiveness.

While Malaysia’s cities feature strong growth especially the global, regional and state capitals, low poverty rates, and quality coverage of basic services and amenities, challenges still remain. One of the challenge hampering Malaysia’s cities is the highly centralized approach to urban management and service delivery, a system that impedes the local level, and obstructs service delivery and effective implementation of urban and spatial plans. Improving efficiency of public service delivery and policy implementation are two of the major reforms to be taken under the 12MP that would support the strengthening of city functions.

Figure 9.2: Johor Bharu Competitive Cities Framework



JBCR’s vision is to be a holistically competitive region where businesses and people will thrive and prosper through the creation of business-friendly environment and improvement of quality of living.

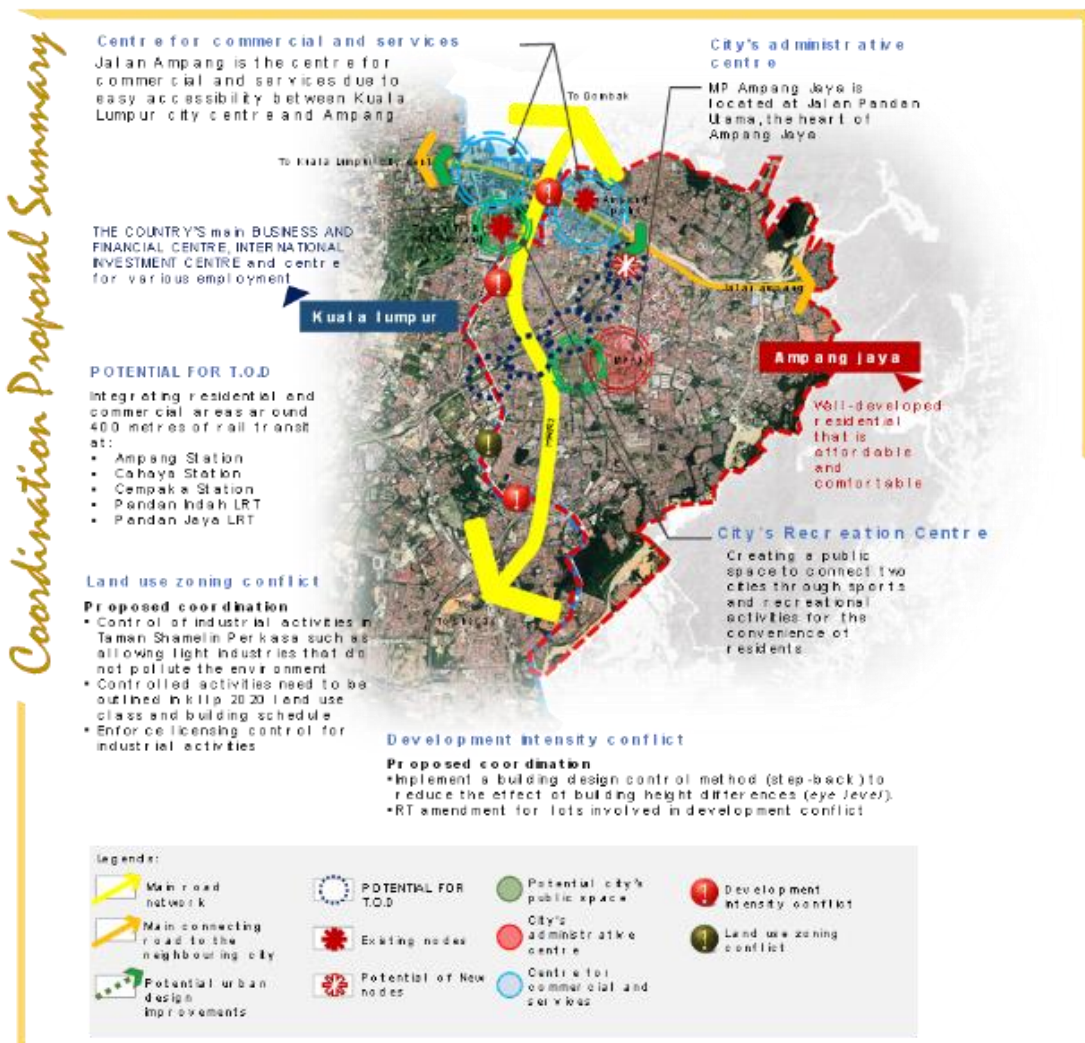
Planning and Development Coordination Plan for Adjacent Urban Centres

With the process of urbanisation and industrialisation, cities further spread their development effects to rural areas and drive rural development, gradually forming the “core-periphery”, “growth pole” and “circle layer” models. Relating to this, adoption of an appropriate urbanization model could promote urban and rural coordination development is important, thus the Planning and Development Coordination Plan for Adjacent Urban Centres under the different local authorities was prepared based on provision of NUP2. Its purpose are:

1. To strengthen and integrate cooperation between all related agencies in facilitating the implementation of actions between adjacent urban centres;
2. To provide coordinated measures to streamline development planning between the related urban centres;
3. To ensure that issues and strategic potentials of these adjacent urban centres be well managed and developed to benefit all parties.

NUP2 identified 39 urban centres that need coordination and management with adjacent cities and where special planning may be required. This study details 15 planning and management strategies, which included implementation methods and agencies involved. It also includes 28 Mutual Strategic Action Plan (MSAP), detailing the proposed urban growth boundaries as well as the proposed coordination and management mechanisms.

Figure 9.5: Example of Coordination And Management of Adjacent Cities – Ampang Jaya with Selayang and Kuala Lumpur.



Land Consumption Rate and Population

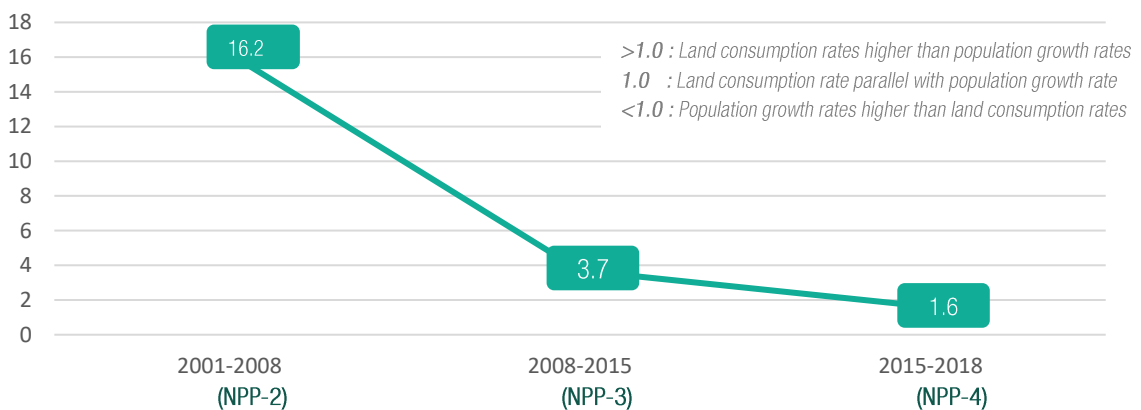
In measuring urbanisation by which land is utilised or consumed by urban activities, hence Indicator 11.3.1 of the Sustainable Development Goals (SDGs), refers to the ratio of Land Consumption Rate to Population Growth Rate as outlined to monitor and measure the sustainability of urban development. This indicator compares the rate of urban sprawl with the rate of population growth in the same spatial scale and time period.

Malaysia's land consumption rate is higher than population rate, this is seen in all 3 period of timeline of the national physical plans for Malaysia.

The ratio of land consumption rate to the population growth rate of Peninsular Malaysia in between period of 2015 – 2018 is at a ratio of 1.6. This shows that Peninsular Malaysia experienced a higher growth of construction saturation compared to population growth during the period.

This ratio is much lower than the ratios recorded in the period of 2001 – 2008 (16.2 ratio) and 2008 – 2015 (3.7 ratio). The high ratio recorded in the period 2001 to 2015 is due to the high focus given on physical development to drive the national economic growth. This include the opening up of large new townships and national infrastructure development that is needed at this time.

Figure 9.6: Ratio of Land Consumption Rate to Population Growth Rate in Peninsular Malaysia



Source: National Physical Plan 2, 3 and 4



9.2 Urban Renewal of Cities

Land use is central to many of the environmental and socio-economic issues facing society today. Optimal land use structure and development that devoid economic and social underdevelopment must be learned and practiced, and one approach in doing so is the practice of urban renewal. Urban renewal refers to activities to upgrade neighbourhoods and inner city areas that are in a state of distress or decay or where its current landuse is not economically utilised. Urban renewal also improves the urban fabric and image of the city, enhancing the property values as well as improving productivity and urban liveability.

There are four urban renewal approaches being practiced, namely urban redevelopment, urban regeneration, urban revitalisation, and urban conservation. Each specific approach aims the rejuvenation of towns, neighbourhoods and communities that were left behind due to demographic and economic change, by bringing back character and a sense of place to them.

Major cities in Malaysia such as Kuala Lumpur, Penang and Johor Bahru seem to be having problems towards urban decline especially in terms of transportation and travelling time due to traffic congestion, infrastructure, physical decay, urban poverty and planning issues. Some cities also face shortage of land for urban expansion such as Kuala Lumpur and Penang island. Hence the introduction of urban renewal programme allows stakeholders and the community to contribute to reinvent some of the decaying urban environment and create better sense of place to enhance the identity of the city.

Kuala Lumpur, Penang, Petaling Jaya are among the cities challenged with this issue. As growth continues, these cities has to continue to provide for the demand for homes, business premises, parks, amenities and infrastructure. These cities now adopt sustainable land use strategies by optimising use of land and buildings within their cities and by adopting appropriate incentives and mechanisms to support the redevelopment of unused, dilapidated or abandoned sites.

In NPP-4 several actions were outlined to address this challenge:

1. Identify areas that require urban renewal in the preparation of Structure Plan and Local Plan;
2. Encourage mix development activities for urban renewal area;
3. Urban Regeneration Implementation Guideline as guide for development and management for urban renewal; and
4. Propose incentives to developers and landowners to encourage urban renewal.

Kuala Lumpur

City of Kuala Lumpur in its Draft Structure Plan 2040, has set to use land in a more efficient and sustainable manner, where it has specifically identify 4 land development strategies :

- Urban Revitalisation to enhanced existing residential, commercial and industrial areas;
- Urban Redevelopment of uneconomic land and building;
- Infill Development; and
- Share use/Reuse land and building.

Business/Neighbourhood/Industrial Improvement Areas schemes are encouraged for areas that has the potential to revitalised its economic potential through enhancement program that include the local stakeholders in the process.

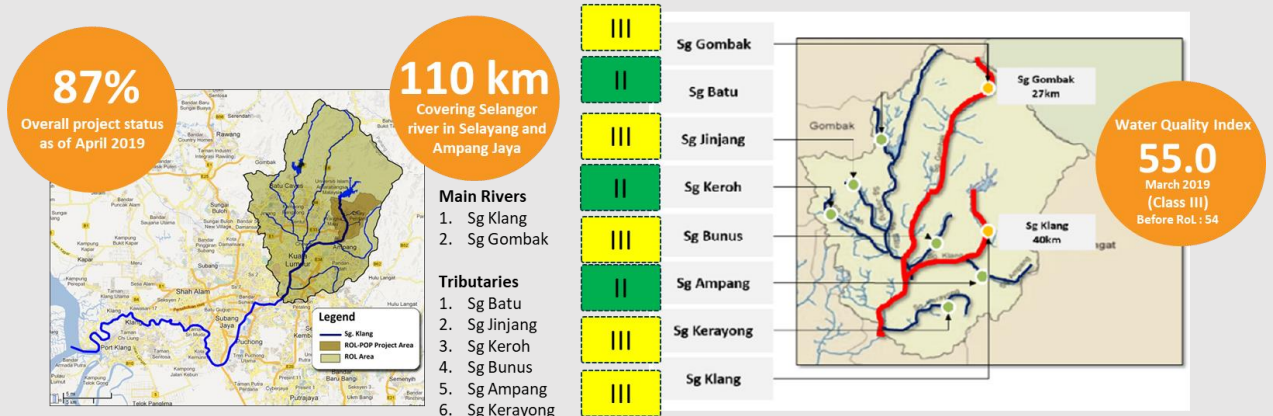
139 areas has been identified in Kuala Lumpur to be renewed by 2040 and these areas are land with uneconomic use, old industrial areas and areas that has the potential to be rejuvenated due to investments in transit infrastructure and river revitalisation program.

Several criteria for redevelopment of urban areas has been outlines to ensure that redevelopment will contribute to the city's vision and aspiration as a City for All:

- Mixed development with comprehensive uses such as residential, retail, office, business, public use areas;
- Development with emphasis on public interest spaces especially for for government owned sites;
- Adopt principles of inclusive, equitable and engage relevant stakeholders;
- Provision of mixed income housing - at least 30% of overall development, by giving priority to current residents of the site;
- Provision of affordable retail and office space to promote entrepreneurial activities;
- Reduction of parking standards for sites near transits;
- Provision of green space, open space that are inclusive and integrated with quality community facilities;
- Sustainable building designs and the use of technology to reduce impact on social, environment and urban management; and
- Preparation of social impact study for sites with existing communities and environmental impact studies for existing industrial sites.

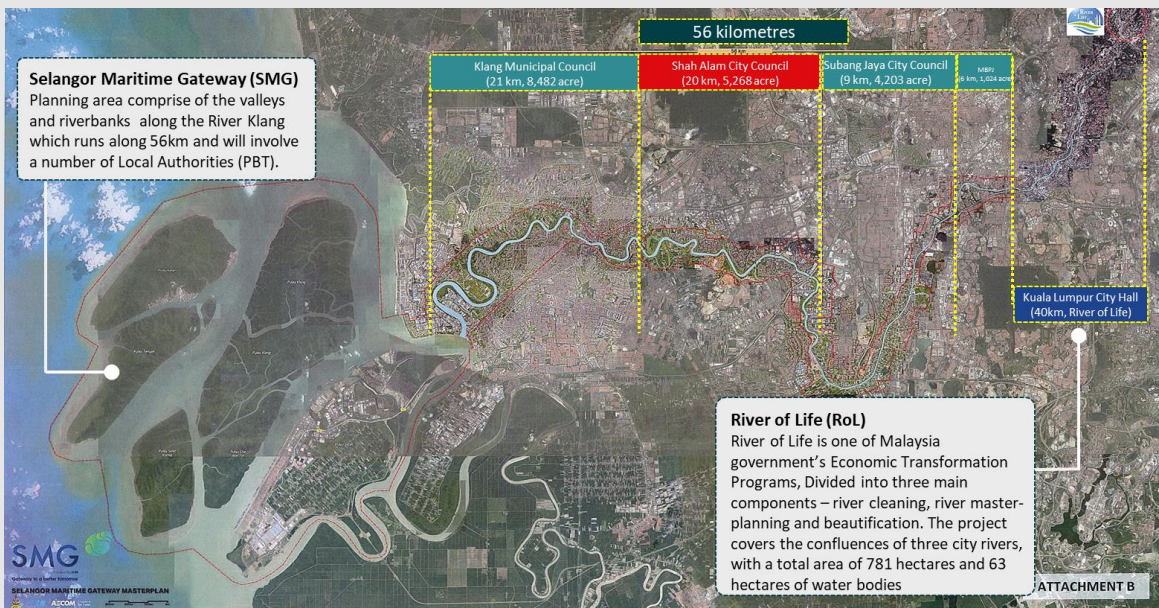
**Box 9.1:
River of Life, Kuala Lumpur**

Kuala Lumpur River of Life (RoL) is one of Malaysia's Economic Transformation Programmes, an initiative that combines high-impact projects and programmes to transform cities and enhance its economic performance. The goal is to transform the Klang and Gombak Rivers into vibrant and liveable waterfront areas with high economic value proposals and three main components of river cleaning, river beautification and land development. A key intended outcome of the RoL programme is to promote a sense of ownership towards the river and to initiate a long term and sustainable change in behaviour towards protecting the river. The programme included Public Outreach Programmes in order to foster partnerships between public and private sectors with the community.



River Cleaning

Clean and improve the 110km stretch along the Klang River basin from current Class III-V to Class IIB by 2020. This falls under the municipal areas of the Selayang Municipal Council (MPS), Ampang Jaya Municipal Council (MPAJ) and the Kuala Lumpur City Hall (DBKL).



River Beautification

River beautification works carried out along a 10.7km stretch along the Klang and Gombak river corridor, with significant landmarks in the area include the Dataran Merdeka, Bangunan Sultan Abdul Samad and Masjid Jamek.

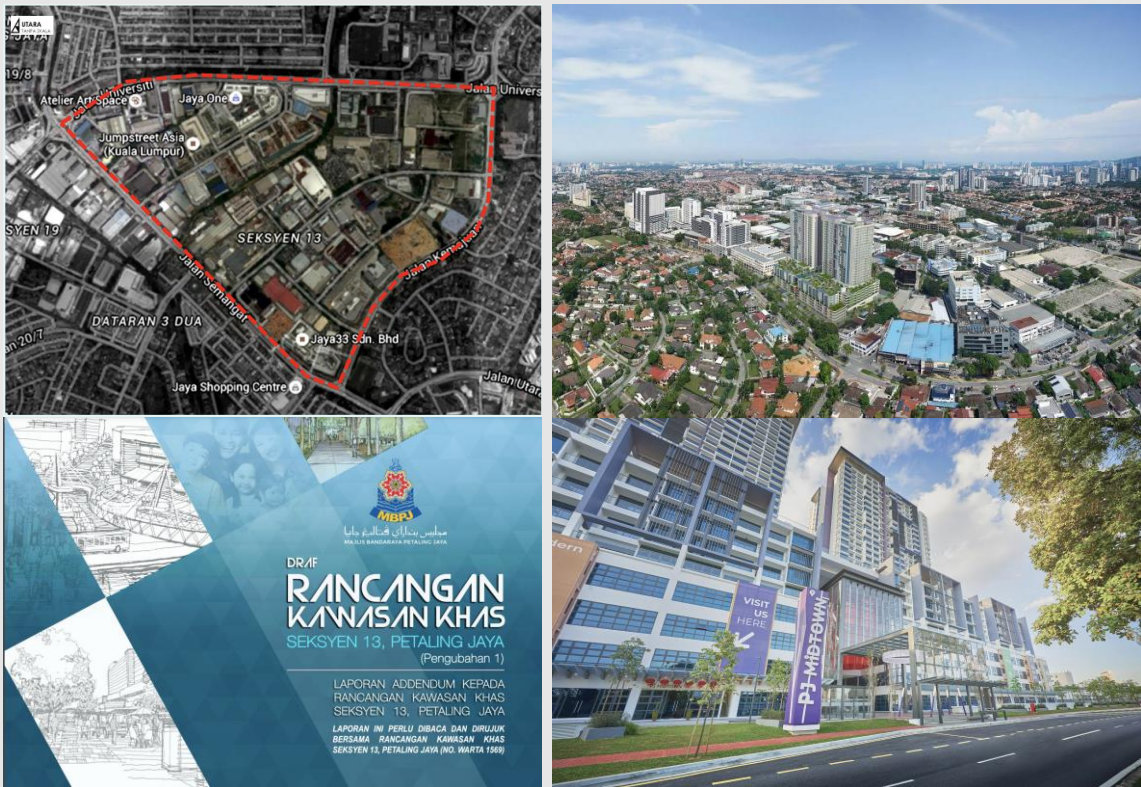
Land Development

Cleaning and beautification works spurred economic investments into the areas immediately surrounding the river corridor.

Box 9.2: Urban Regeneration Project in Section 13 Petaling Jaya, Selangor

Petaling Jaya, Selangor is the first planned satellite city in Malaysia to complement the growth of Kuala Lumpur in the 1950s. With urbanisation, Petaling Jaya or better known as PJ is a bustling city, strategically nestled between KL and other up-and-coming areas like Damansara, Puchong, Bangsar and Bandar Sunway. It became a city in June 2006 and now covers 97.2 sq km, making it one of Selangor's largest and oldest townships. Urban regeneration in PJ cover areas in section 13, 51A and 52 which is approximately 1,600 hectares.

A Special Area Plan or Rancangan Kawasan Khas was prepared for Section 13 under Section 16B(1), 16B(2) and 16B(3) of the Town and Country Planning Act 1976 (Act 172). It is stated that a Special Area Plan is a proposal for the designation of a special area for special and detailed treatment by development, redevelopment, improvement, conservation or management practice of the whole or part of such special area, and the nature of the treatment proposed.



An area covering 259 acres in Section 13, Petaling Jaya was brought to the public under the Special Area Plan. The area is predominantly an industrial area with some plots being inactive over the years. It's regeneration involves redevelopment of the industrial plots into commercial and mixed use activities as well as the enhancement of traffic and accessibility, drainage and public green spaces.



Planning Guidelines for Urban Renewal

Urban renewal goal is to transform an uneconomical, obsolete, derelict and bleak city towards a sustainable and prosperous city in terms of physical, economic, social and environment. The guideline prepared in Malaysia is to be used as a general guide in encouraging urban renewal, especially in existing settlement areas as well as being a catalyst (catalyst) in boosting renewal in urban areas. There are seven main objectives of Urban Renewal that have been set and it is in line with the global development agenda such as Sustainable Development Goals (SDGs) and also the New Urban Agenda (NUA) in boosting renewal in urban areas.

1. Improvement to the quality of environment and resilience in line with the National Urbanisation Policy;
2. Improvement to social well-being in line with the National Community Policy;
3. Improvement of Affordable Housing to support the implementation of the National Affordable Housing Policy;
4. Optimizing quality public infrastructure and facilities;
5. As a tool in controlling urban sprawl
6. Creation of new economic resources through new components of urban renewal
7. Create a redevelopment mechanism in collaboration or 'smart partnership' between the government, the private sector and the public

9.3 Conservation Management of Heritage and Culture

For the purpose of preserving and protecting heritage, the Ministry of Tourism, Arts and Culture Malaysia through the Department of National Heritage always strives to preserve national heritage through legal instruments under the National Heritage Act 2005 [Act 645].

The National Heritage Act 2005 [Act 645] is an Act formulated to preserve, conserve and protect the country's heritage treasures. Pursuant to Section 40, Act 645, the owner or owners of buildings must make a Planning Permission Application in advance to the Heritage Commissioner prior to any repair, renovation or upgrading works on buildings that have been gazetted as Heritage or National Heritage.

In addition to Act 645, there are more specific guidelines for protecting heritage buildings and sites. Among them are:

1. Heritage Building Conservation Guidelines 2017, which is a guide for the implementation of heritage building conservation work in Malaysia and ensure that all conservation efforts can be implemented in accordance with the requirements of Act 645; and many other urban regeneration projects.
2. Conservation Management Plan (CMP) and Special Area Plan (SAP). The Department of National Heritage always prioritise in preserving heritage sites in Malaysia, including in Melaka and Penang. Each site or building must comply with the CMP and SAP to maintain the Outstanding Universal Value for its integrity and authenticity. Therefore, the cooperation of all parties such as State Authorities, Local Authorities and site owners is needed.

The National Urbanisation Policy has a special focus on the conservation of historical buildings and natural heritage sites as part of the quest to achieve sustainability and improve the quality of urban life. These policies complemented the conservation of natural and built heritage act in the National Heritage Act 2005 under the jurisdiction of Ministry of Culture, Arts and Heritage.

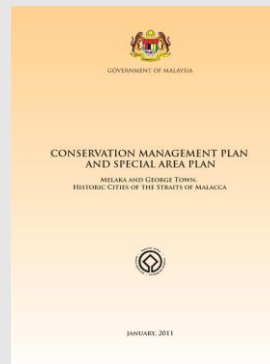
Monitoring is also carried out through the Development Coordination Committee for National Heritage and World Heritage Sites established under the National Heritage Department for review, advice and approval for planning permission other than monitoring by the Local Authority itself. For the years 2020 and 2021, a total of sixty-two (62) applications for Preservation and Conservation of Heritage Buildings works have been issued advice and comments by the Heritage Commissioner.

For the year 2020, there are two conservation and maintenance projects for the state of Melaka. Meanwhile, for the year 2021, there are two conservation and maintenance projects for the states of Melaka and Penang that have been carried out by the Department of National Heritage.

Box 9.3:

Melaka & George Town Historic Sites of the Straits of Malacca

UNESCO inscription 2008



A Conservation Management Plan was prepared to provide policy, detail design guide and management plan to conserve the two world heritage sites.

Role of the Historical Melaka City Council (MBMB) and the Penang Municipal Council (MPPP) in Conserving and Preserving Heritage Sites and Buildings

The Historical Melaka City Council (MBMB) and the Penang Municipal Council (MPPP) are two city councils that are responsible in conserving and preserving heritage sites and buildings. Both have established special units for heritage that play an important role in preparing policies for conservation, namely the Heritage unit in MPPP and the Conservation Unit in MBMB.

MBMB and MPPP also has established heritage zones located under their administration as one of the important measures in ensuring protection and conservation of buildings and heritage sites by providing guidelines and specific policies. MBMB has also prepared the Conservation Area Action Plan while MPPP has also prepared design guidelines for conservation areas within the George Town Interior Area. Each local authority has set up their procedures to evaluate conservation efforts in these two areas.



10.0

URBAN GOVERNANCE

10.0

URBAN GOVERNANCE

Urban governance refers to how government decides on the planning and management of urban areas. It involves a continuous process of the formulation for local development policy and its implementation, that contributes to local economic development, social wellbeing and good allocation of resources. With cities fast growing in Malaysia, sustainable urban development now depends on improved management of cities, bringing the transparency of decision-making process, social participation, openness, financial stability, accountability and working in partnership with interested stakeholders. The 12MP identifies weaknesses in managing urban development and this chapter explains on the roles of various levels of government and their role in implementing the New Urban Agenda.

10.1 Local Government and the 2030 Agenda

In Malaysia, local government or most often referred to as Local Authorities is the 3rd tier of government where the constitution of Malaysia makes provision for the main governing legislation of the Local Government Act 1976 (Act 171) for Peninsular Malaysia and the Local Authorities Ordinance 1996 and Local Government Ordinance 1961 for the states of Sabah and Sarawak respectively. Local government serve as an important institution to further the policies and to facilitate the implementation of relevant strategies and programmes of the federal and state governments. It is generally under the exclusive purview of the state governments as provided in the Constitution of Malaysia (para 4 and 5). Hence the State has wide legislative powers to control the local authority directly or indirectly and to ensure its proper functioning by virtue of the provisions in the federal constitution which make local government a state matter.

Thus, Local Government in Malaysia has strong relationships with both State and Federal, whereby Federal government may advise and give financial assistance to ensure development of the local authority areas. Ministry of Housing and Local Government plays an important role in coordinating and standardising the practices of local governments across the country, through the National Council for Local Government which is established at the federal level under article 95A of the Constitution. The NCLG is the consultative body where the representatives from the states and federal governments could meet to discuss matters relating to local government system in the country.

Urban governance is the sum of the many ways individuals and institutions, public and private, plan and manage the common affairs of the city. It is a continuing process through which conflicting or diverse interests may be accommodated and cooperative action can be taken. It includes formal institutions as well as informal arrangements and the social capital of citizens.

UN-Habitat

There are 155 local government in Malaysia currently which falls under 3 categories i.e. the City Councils, Municipal Council and District Council. Their range of responsibility reflect their size and capacity and generally local government has the responsibility for town planning, provision of basic facilities and infrastructure, monitoring development, public health, waste management, business licensing, maintaining peace, urban beautification and encouraging local economy. City and municipal council provides revenue collection activity and facilitate sustainable town planning to provide a safe and comfortable environment for community. However, matters with regards to town and country planning are on the concurrent legislative list between federal and state. This means that both Federal and State Governments may perform this function.

Systems For Community Involvement

Section 10 of the Local Government Act 1976 makes provision for the appointment of councillors to the local authority from amongst the residents of the local authority area.

Local authorities also have the power to form resident representative councils as a way to increase involvement of the community in local government decision making. Local Agenda 21 ('LA21') is a partnership programme between local authorities, NGOs and communities. Through LA21, local communities work with local authorities to identify and analyse local issues, and formulate and implement action plans to address them. LA21 adopts a simultaneous 'top-down' and 'bottom-up' approach whereby local communities are also involved from the initial planning stage.

155 Local Authorities

- 19 City Council
- 39 Municipal Council
- 92 District Council
- 5 Modified Local Authorities

City councils govern large urban centres, typically state administrative centres or capitals, with populations above 500,000 and annual revenue greater than RM100m.

Municipal councils are in urban areas, possibly state capitals, with populations greater than 100,000 and annual revenues above RM20m.

District councils are rural with populations of less than 100,000, low population density and annual revenue of less than RM20m



Enhancing Service Delivery

The Ministry of Housing and Local Government have implemented several programs to enhance service delivery through standardization of services. ICT usage is widely used and e-PBT – an electronic system is developed to bring local government closer to the community. The system encompasses accounts, taxation, electronic submission for development applications and complaints.

PBTPay

On 12 May 2020, the Ministry of Housing and Local Government launched the PBTPay portal, which allows taxpayers to revise and pay assessment tax to local governments online. PBTPay enables the public to adjust to a new normal in which taxpayers no longer need to pay over the counter at local authorities or make payments after working hours, which helps to reduce the risk of contamination and overcrowding at the counter, particularly during the COVID-19 outbreak.

In future, the portal's capabilities will be extended to other modules such as licenses and other departmental systems through the use of an integrated payment method. As of 25 December 2021, 92 local authorities had adopted PBTPay, with 747,515 users and 96,521 transactions totaling RM61.5 million in revenue. PBTPay was also named the Malaysian e-Payments Excellence Awards 2020 Leadership in e-Payments winner for the public sector.

One Stop Centre – OSC 3.0 Plus

A One-Stop Centre to facilitate application for development has been established via the OSC 3.0 Plus Online System. Developers or Principal Submitting Persons are not required to submit documents over the counter at local authorities. Instead, documents submission, drawing plans, payments for development charges as well as application fees for planning permission and checking approval status are all handled online. Drawing plans are distributed online to technical agencies and vice versa, with feedback and comments from technical agencies sent back to OSC via the online system. As of 25 December 2021, all 98 local authorities in Peninsular Malaysia have Go-Live in the OSC 3.0 Plus from 5 October 2020. The Ministry of Housing and Local Government will continue to enhance the efficiency of local authorities through this initiative to deliver efficient, effective, and quick services to the public.

10.2 Role of Local Planning Authority

The local governments also functions as a Local Planning Authority, where the Town and Country Planning Act 1976 (Act 172) spells out the planning powers of local authorities. This includes preparation of local development plans and coordinating, managing and controlling development process at the local level. For areas that are not within the boundaries of a local authority, the State Director of State Town and Country Planning is the local planning authority. Among the key functions of the local planning authority are:-

- To regulate, control and plan the development and use of land and buildings; and
- To prepare a draft local plan that will address matters with regards to physical development, protection of environment and natural topography, improvement of landscape, urban design, traffic management, infrastructure, social amenities etc

However, the highest planning authority in a State is the State Authority. Whereby the State Authority is responsible for general policies in respect of planning for the development and use of all land and buildings. It may issue directives and policies which must be complied with by the local authorities. At the second tier is the State Planning Committee (SPC), also with power to issue directives which the local planning authority must comply. It advises the State Government on planning matters and is the approving authority for Structure Plans and Local Plans.

In ensuring good urban governance in view of the various roles and jurisdictions, public interest is provided by the town and country planning act, where public participation is an important agenda in development plan making. Local planning authorities today are placing great emphasis on public awareness, public views and inputs and public's role in its successful implementation.



Kuala Lumpur City Hall managing traffic from its ITIS –Integrated Traffic Intelligent System centre.

10.3 Shared Responsibility – Regional Authorities and Special Committees

In the 12th Malaysia Plan, one of the initiatives identified in promoting effective urban planning and governance is to improve coordination and governance mechanisms. This requires better coordination and cooperation among agencies at Federal, state and local levels to enable effective planning and implementation of development. In this regard, the role of all Regional Economic Corridor (REC) Authorities needs to be enhanced to ensure better coordination at Federal, state and local levels. RECs covers both urban and rural areas of their operational areas which also covers more than one district or states, and this is important in ensuring that all development planning and implementation plans of the respective RECs need to be aligned to the policies, strategies and challenges at national, state and local levels.

These development plans of RECs are shared and endorsed at various levels. At Federal level, planning, implementation and monitoring of the respective RECs development strategies and programmes were deliberated at Board of Directors meeting chaired by the Prime Minister of Malaysia in the attendance of respective Chief Minister, key ministers and ministry representatives from Prime Minister's Department, Finance Ministry and Economic Planning Unit. Meanwhile, at state level, similar governance structure is adopted where the Chief Minister chairs periodic implementation and coordination meetings to discuss and review specific project's implementation, issues to be addressed as well as targets or key performance indicators established for each RECs.

At the working level, Economic Planning Unit through periodic meetings of REC Coordination and Monitoring Committee, chaired by the Minister in the Prime Minister's Department (Economy) coordinates and monitors the progress of plans by REC. This is to ensure balanced regional development, particularly to bridge the development gap between states and regions. This includes urban and rural development planning of each RECs, inter- and intra-region as well as across states. Focus will be given to accelerate economic growth of each region for the benefit of the people through quality investments, which in turn creates employment, entrepreneurship opportunities, better infrastructure and amenities that contributes to the well-being of the people.

The RECs role is crucial in addressing the challenges of imbalanced regional development and urban-rural development gap that may impede sustainable growth for the nation. Among measures that 12MP has outline are optimizing regional economic potentials, developing sustainable cities and transforming rural areas to bridge the development gap. This will stimulate economic growth in regions as well as improve liveability in urban and rural areas in line with Goal 6, 7, 8, 9, 10 and 11 of the 2030 Agenda.

Iskandar Regional Development Authority

The first REC establish in Malaysia is Iskandar Regional Development Authority (IRDA), a federal government statutory body under the Malaysian Prime Minister's Office tasked with the responsibility to plan, promote and facilitate policies and strategies in relation to development of the Iskandar Malaysia economic region, while having regard to the general framework of national and Johor State policies.

Located on the southernmost tip of Peninsular Malaysia, Iskandar Malaysia covers 3 districts in State of Johor that is under the jurisdiction of 5 local authorities. Identified as an economic region, its planning and direction is to transform the region economically and socially while protecting and enhancing its environment. Its Comprehensive Development Plan sets its strategic thrusts and key directions on the Circle of Sustainability, a holistic and resilient ecosystem anchored on the interrelated core elements of Wealth Generation, Wealth Sharing and Inclusiveness, and Resource Optimization and Low carbon. The Circle of Sustainability represents IRDA commitment to striking a balance between ecology and economy and drives growth and investments in this direction.

IRDA has thus put in place the Green Economy Guidelines (GEG) to pursue green growth in the planning, development and management of this rapidly growing economic region. GEG covers the 9 economic promoted sectors and provides investors with clear guidelines on IM's strategic environmental and economic policy direction. This is to ensure that economic growth does not compromise environmental and social responsibility for the region to address growing concerns on climate change and sustainability.

It has also establish Iskandar Malaysia Social Index (IMSI) that has 12 components and 91 indicators to measure the desired 5 social development end state – social economy mobility, equitable wealth distribution, caring community, racial harmony and quality of life. This is part of IM effort to monitor its progress and impacts of its policies and strategies.

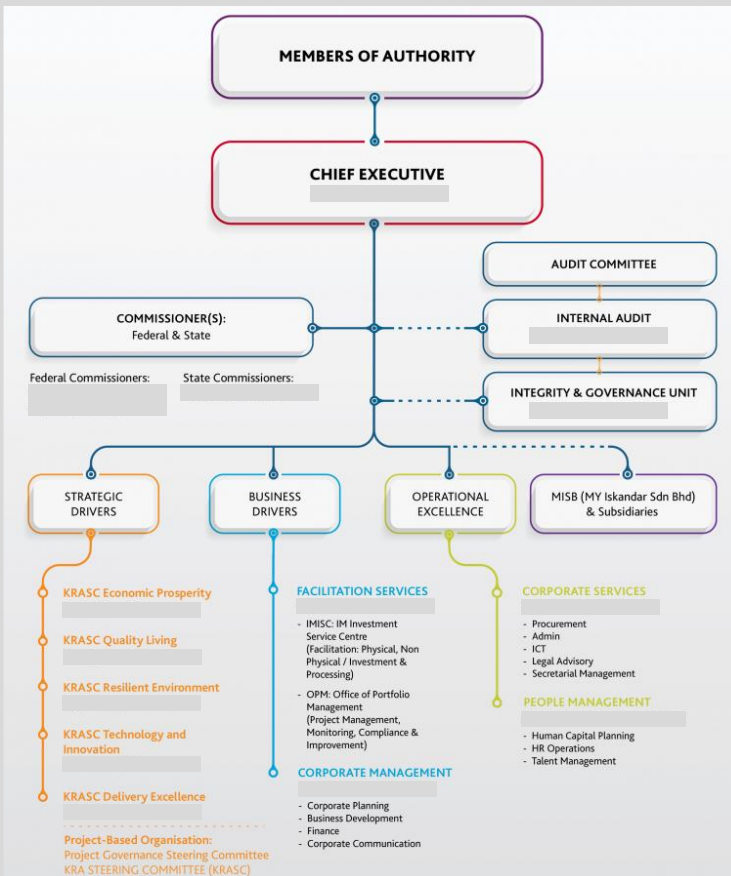
Box 10.1:
About Iskandar Malaysia Region and IRDA's governance structure



Iskandar Malaysia total land area covers approximately 2300 sq.km. of area at the southern most part of Peninsular Malaysia. It encompasses 3 districts and is under the jurisdiction of 5 local authorities.



Sustainable developments in Iskandar Malaysia take into consideration the existing needs and also future concerns arising from the rapid development that is taking place. The focus on sustainability guides the planning and execution of Iskandar Malaysia's plans to ensure of a holistic balance of the three elements.



Iskandar Regional Development Authority Governance Structure

IRDA employs a board like structure called the Members of Authority (MoA) that is co-chaired by the Malaysian Prime Minister and the Johor Chief Minister. The MoA are assisted by an Executive Committee, which comprises nine members appointed by the Members of Authority.

IRDA's day-to-day administration is entrusted to the Chief Executive, who is also the Secretary to the Authority. IRDA carries out its mandate aligned to five Key Results Areas (KRA), for which IRDA has Steering Committees for each KRA to plan, implement and monitor initiatives that will help to achieve its overall objective. The 5 KRAs are align to the 2030 Agenda and NUA. And they are:

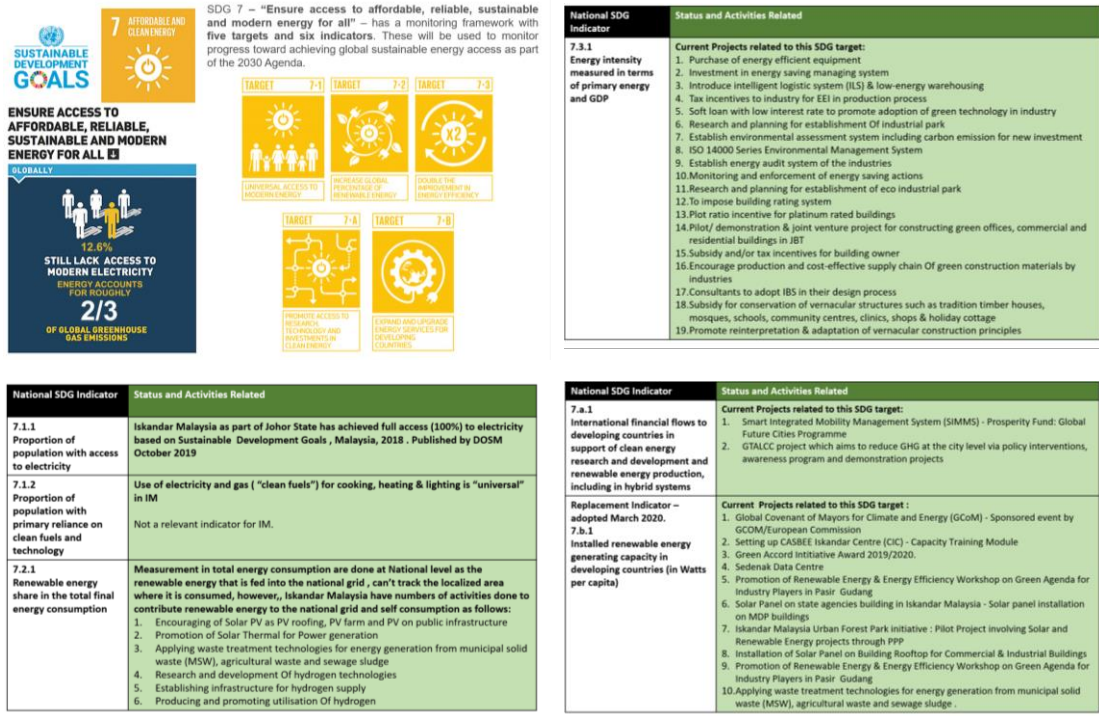
- Economic Prosperity
- Quality Living
- Resilient Environment
- Technology and Innovation
- Delivery Excellence

For effective communication with both Federal and State, Commissioners are appointed for both functions. This allows for vertical and horizontal integration of policies and coordination of works with both federal and states.

Source: Iskandar Regional Development Authority

IRDA Act 664 allows for internal establishment of committees and task force teams to resolve problems and agendas that are seen as a new directive by the State and Federal Government. For example, when the SDGs compliance was required, the IMUO team was tasked to work alongside the United Nations Development Programme (UNDP) in the form of developing a localized SDG compliance computation. This was taken further by focusing on the SDG-7 and leveraging on ACT 664’s ability to pull data required from every local and state government bodies / agency to finalize the computation of SDG 7 compliance for Iskandar Malaysia.

Figure 10.1: Examples of IRDA’s key result area and on Localising SDGs



Source: Iskandar Regional Development Authority



10.4 Inclusive Process in Urban Planning

Public Participation in Plan Making

In Malaysia, public participation and involvement in planning and development is provided in its town planning system and legal frameworks. This has been mentioned in earlier part of the report. Where a major part of the participation is during plan making that is for the structure plan and local plan. Today such awareness on the importance of public views and opinions has led to ensuring a more inclusive process from the early preparations of these documents. Public's interest is most found at the local plan level, where use of land and buildings and planning priorities are being debated and discussed more intensively. This does reflect a level of maturity in the plan making process, as these views leads to clarifications and further deliberations before common understanding is reached among all parties.

Appeal Board

Besides the opportunity to be involved in development plan making, the public are also given the opportunity to be heard in the decision-making process of planning control. This is done through the appeal board, where by its set up and running is stipulated in Part VI of Act 172. Appeal board is established at state level to provide the opportunity for a person who is affected by the local authority's decision on planning matters, to be heard and make representation. In return, it also gives the local authority a chance to defend its decision.

The types of cases that can be heard by an appeal board include planning permission refusal; planning permission conditions; compensation amount under Act 172 and tree preservation order. During the sitting, both the affected person and the local planning authority will be called in to give testimonies in front of a panel, which members could include former judges, town planners and learned professionals appointed by the state government. The appeal board presents opportunity for the public to participate in development decision-making and for the local authority to promote transparency, accountability and good governance.

Figure 10.2: Public Participation in Local Development Process



Source: PLANMalaysia

Gender Responsive Participatory Budgeting

Malaysia has always stressed the importance of incorporating gender perspectives into its development planning and allocation of resources. Since early 2000, with the setting up of the Ministry of Women and Family Development, that has a key role in taking forward the gender equality commitments of the Federal Constitutions and international agreements such as the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), one of the few United Nations' conventions signed by the Malaysian federal government. The Gender-Responsive Budget (GRB) work at that time was focused at national budgets and was endorsed by the cabinet of 2002 to bring the gender budget works forward. This resulted in pilot projects that focused gender projects in education, health, human resources and rural community facilities.

In 2012, Penang became the first state in Malaysia to adopt GRB as part of its local government programme. It did this through a smart partnership between the Penang State government, the two municipal councils (Penang Island City Council (MBPP) and Seberang Perai Municipal Council (MPSP)) and the implementing agency, the Penang Women's Development Corporation (PWDC).

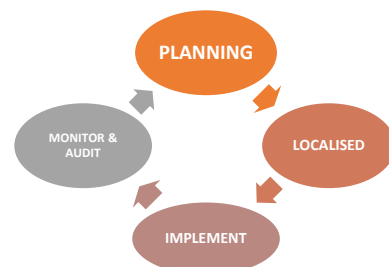
In 2014 the programme was renamed Gender Responsive and Participatory Budgeting (GRPB) due to the importance of engaging the community actively in the policy and budget process. There was already significant experience of Gender Responsive (Participatory) Budgeting from around the world, which was adapted and implemented in Penang and slowly across Malaysia too.

This is particularly in the context of the establishment of Outcome-Based Budgeting (OBB) as the standard budgeting process for all levels of government throughout the country. Drawing on this experience, we are now in a position to identify the different aspects and benefits of GRPB. We can chart approaches and steps involved in the planning, design and implementation of community-based GRPB processes and projects relating to the provision of public facilities. And importantly, we can also identify the steps necessary if we are to successfully institutionalise GRPB.

GRPB has encouraged constructive partnerships between the state government, the two local councils in Penang, and women and men from communities across the state. It has brought together service users and service providers in a way that encourages sharing and mutual decision-making, including on budgets. It has delivered more responsive and more effective projects with and for local people based on principles of good governance.

GRPB is all about community and participation. To get the community involved, there is a need to share with the community as early as possible the plans and the expectations. Involvement by the community are from the early stages and in all the other steps: mapping, prioritising needs, plan and implement responses and identify measures for success.

Database is important to best ensure equitable budgeting at city level, hence GRPB has been used where mapping and gender analysis will be determine at the beginning of the project. GRPB is not a separate budget, nor does it require additional funds, but instead it focuses on gender equity in the redistribution of funds within the fiscal space



GRPB as intervention in Budget Cycle



Source: PWDC





11.0

MEASURING PROGRESS

11.0

MEASURING PROGRESS

Malaysia is a rapidly growing country with rising urbanisation rate and development in most of its major cities. Various policies and blueprints have been enacted and prepared to spur economic growth aided by balanced social and physical development policies. Development plans are in place and have also been implemented in line with efforts to meet identified targets.

As describe in the various earlier chapters, Malaysia's commitment to implement the New Urban Agenda includes various plans, programs and mechanism put in place by various levels of governments. Hence there is a need to monitor the progress of policies, strategies and plans prepared to guide sustainable development. And to ensure of its effectiveness, measuring its impacts is crucial to allow for improvements in the future. In this chapter, we share several methods and tools used to measure sustainability in context of urban planning and development. It is definitely a dynamic process as urban development is complex and fast changing in Malaysia and many challenges are still faced in achieving the sustainable agenda.

11.1 Malaysia Urban Observatory (MUO)

The Malaysia Urban Observatory (MUO) is currently being developed as a urban management system at the national level that integrates various big data platforms to perform analytical data functions. The development of MUO is to assure that the urban data management system is comprehensive, inclusive and effective in order to achieve sustainable development for the community.

In the Twelfth Malaysia Plan Document 2021-2025, strategy B1-Strengthening Urban Development Planning stated that the Malaysia Urban Observatory (MUO) as a multidimensional big data analytics system that shall act as an integrated policy tool for better planning and decision-making. The MUO will enhance urban data collection and data openness as well as promote data sharing among multiple stakeholders for spatial planning at all levels of government.

The MUO is developed as an independent entity that operates within the governance structure of the Ministry of Housing and Local Government under the auspices of PLANMalaysia (Department of Town and Country Planning). The Department will be directly linked to Local Planning Authorities, various other agencies and parties identified as key stakeholders to its object. The Department will also collaborate with global organisations to establish strategic partnerships for various supporting activities under the MUO.

The MUO will also establish multiple sustainable pathways to assess the impact of development on social wellbeing, culture, the economy and environment. This assessment applies a variety of methods, models and tools through network sharing of data and information that is accurate, available and beneficial. This will set the future development pattern of the country in line with the global emphasis on the Sustainable Development Goals (SDGs) and New Urban Agenda (NUA). Where the MUO will also develop a platform to monitor the progress of Malaysia's policies and plans that has been aligned to the SDGs and New Urban Agenda. Planned to be developed by 2023, initial data collection has started where data and information gathering has begun.

Ultimately, the main goal is to develop MUO as a platform of big data analytics in spatial planning by integration of data and information. Where respective agencies and department may update their data or information in the platform to be shared and use by other people who need data for their research and planning. Therefore, MUO platform would in the future be the best platform for agencies, department, stakeholders, researchers and public to refer for them to make decision making in order for the benefits of the economics, social, environment and people for inclusive development for now and the future.

Box 11.1
The Malaysia Urban Observatory (MUO)

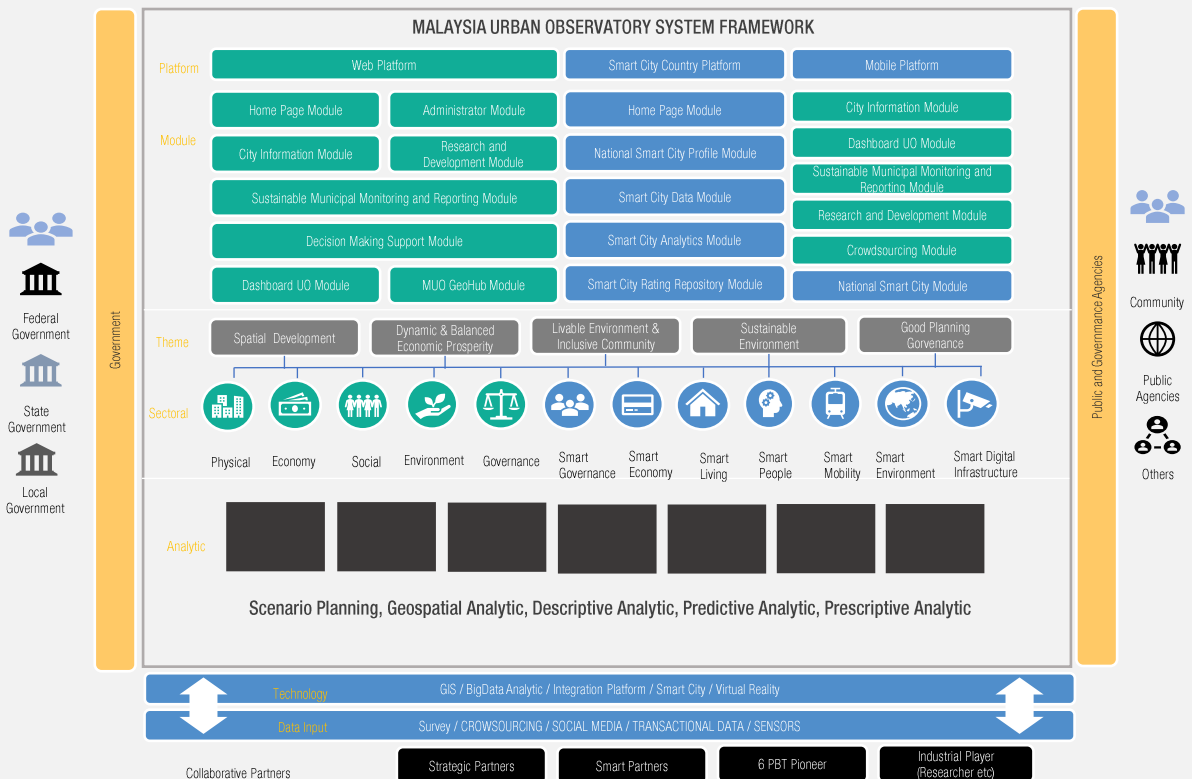
Objectives of Malaysia Urban Observatory

There are 5 key objectives to the setting up of the MUO that integrates several policy documents that requires coordination and monitoring.

- 01** To create sustainable urban monitoring in support management process and planning development at state and local levels.
- 02** To monitor urban and rural sustainability based on international and national sustainability agendas
- 03** To develop data and information center to facilitate data collection at state and local levels.
- 04** To develop National Smart City Platform
- 05** To create a hub for information sharing by online between urban and rural.

Framework of the Malaysia Urban Observatory

MUO has 3 platforms : Web Platform, National Smart City Platform and Mobile Platform. Each platform has different modules and sub-modules which indicate the functions. Web platforms consists of 8 modules and one of the modules is monitoring and reporting on urban sustainable development. New Urban Agenda (NUA) is one of the reports will use this platform to update all indicators and actions been taken by respective agencies or department.



11.2 Monitoring the Implementation of National Urbanisation Policy

The New Urban Agenda key thrusts has been well defined in the Second National Urbanisation Policy (NUP2) 2015-2025, where this document is now also being monitored of its effective implementation. Evaluation is undertaken on the level of achievement of the policies and actions by the relevant Ministries, agencies and key development stakeholders.

The evaluation and monitoring is undertaken in three (3) phases to meet the 3 targeted timeline of 2018, 2020 and 2025. The scope of monitoring is not only limited to the status of policy implementation but to identify issues related to the implementation of NUP2. Findings of the progressive evaluation will be the basis for policy review which is expected to begin in 2023. Evaluation and monitoring are carried out in 2 methods, namely Form Survey and Application System for Monitoring the Implementation of NUP2. Survey forms are distributed to all 13 implementing agencies while the NUP2 Implementation Monitoring Application System are completed by selected Local Authorities. It is found that till 2020, the achievement by implementing agencies, local authorities and related agencies (Federal and State) that have been identified in NUP2 is in a well and satisfactorily position.

Short term evaluation and monitoring involves 38 actions, medium term - 64 actions and long term – 11 actions out of a total of 113 Actions specified in NUP2 for Peninsular Malaysia and the Federal Territories Labuan. In 2018, the result of Short Term monitoring has found that 39.5% or 15 action reached the level of Very Satisfactory, 44.7% or 17 actions obtained Satisfactory level, while the remaining six (6) or 15.8% actions reach Unsatisfactory levels. Summary of this monitoring shows that the overall achievement implementation of NUP2 for Short Term Action is 84.2%.

Meanwhile, in 2020, the result of medium-term monitoring achievements involves 64 actions out of total 113 actions. In total out of 64 actions, 32.81% or 21 actions reached the level of Very Satisfactory, 40.63% or 26 actions reached Satisfactory level while the remaining seventeen (17) or 26.56% actions reach Unsatisfactory levels. Summary of this monitoring shows that the overall achievement implementation of NUP2 for Medium Short Term Action is at 73.44%.

Figure 11.1 : Evaluation and Monitoring of Short Term

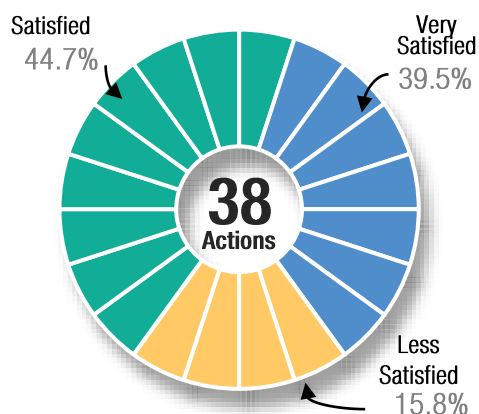
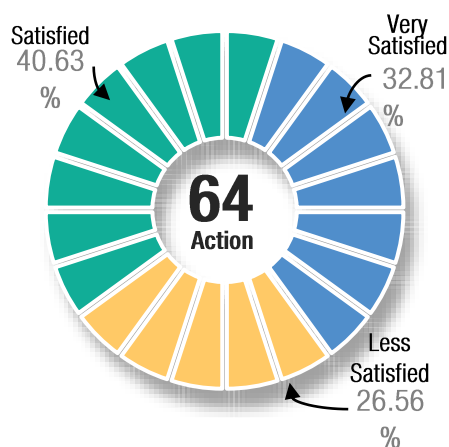


Figure 11.2 : Evaluation and Monitoring of Medium Term



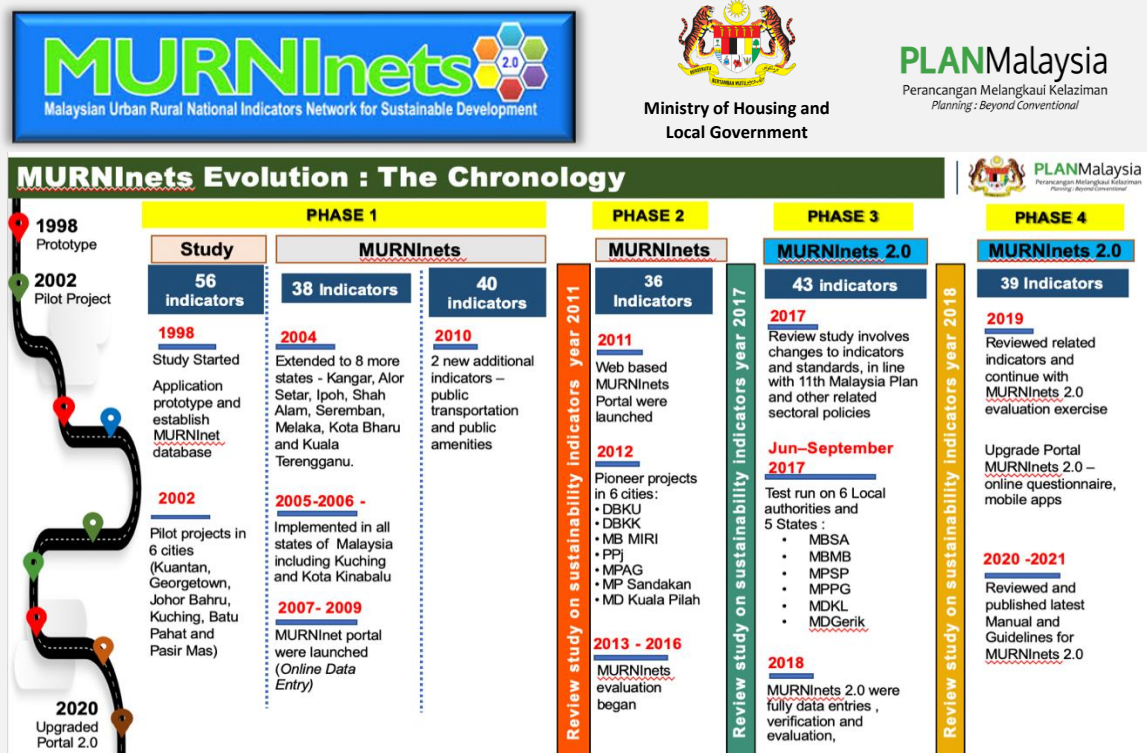
11.3 Malaysia Urban-Rural National Indicators Network for Sustainable Development

The Malaysia Urban-Rural National Indicators Network for Sustainable Development or MURNInets developed by the Ministry of Housing and Local Governance through PLANMalaysia (Department of Town and Country Planning Peninsular Malaysia) as a basis to determine level of sustainability and well-being of communities in line with national vision documents and development plans.

The objectives of MURNInets is to determine the sustainable level of cities in the country based on a set of indicators; to identify the strength and weakness of every city based on the indicator's performance; to propose improvement and measures as well as identify opportunities to raise sustainability level; and to establish MURNInets 2.0 as a tool to measure the performance of local authorities.

Established in 1998, the system has been enhanced and upgraded and to date, MURNInets 2.0 has 100% participation from all 102 participating local authorities in Peninsular Malaysia. It has also undergone four (4) phases thus far and in 2002, a systematic and comprehensive set of urban sustainability indicators to measure, evaluate and monitor the level of urban and rural sustainability in Malaysia was developed. To date it has assisted local authorities in information collection, data monitoring and become an assessment tool that helps city managers and administrators to monitor, plan, and manage the governance of cities efficiently and effectively.

Figure 11.3: The Chronology of MURNInets Evolution



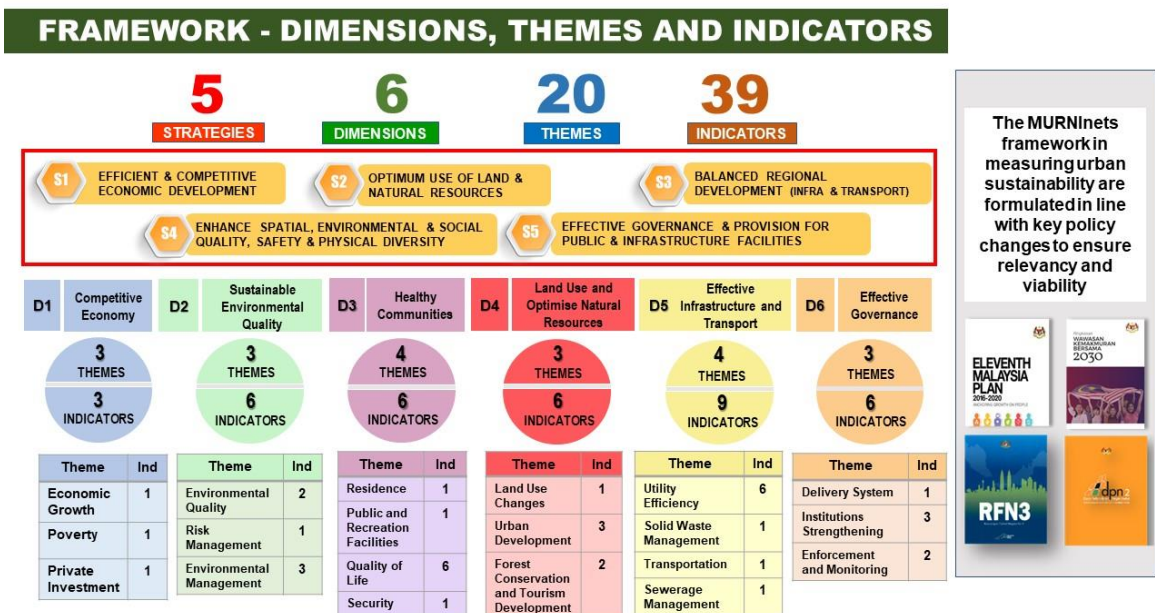
MURNInets framework contains five (5) Strategies, six (6) Dimensions, 20 Themes and 39 Indicators that was based on key national development policies which include policies related to economic, social and physical development such as the Five-Year Malaysia Plan, National Physical Plan, National Urbanisation Policy and other relevant policies.

In 2021, a total of 102 local authorities have been assessed. From the total, 69 Local Authorities (68%) are at a sustainable level and managed to achieve sustainability level of more than 80 percent. Meanwhile, 33 Local Authorities (32%) achieved moderately sustainable status with the achievement of a sustainability level between 50 to 79 percent.

The results of the MURNInets analysis are able to help local authorities and State Governments identify shortcomings and weaknesses that affect the level of sustainability of a city. State Governments and Local Authorities can also formulate action plans to improve development activities and services as well as governance in a Local Authority's area.

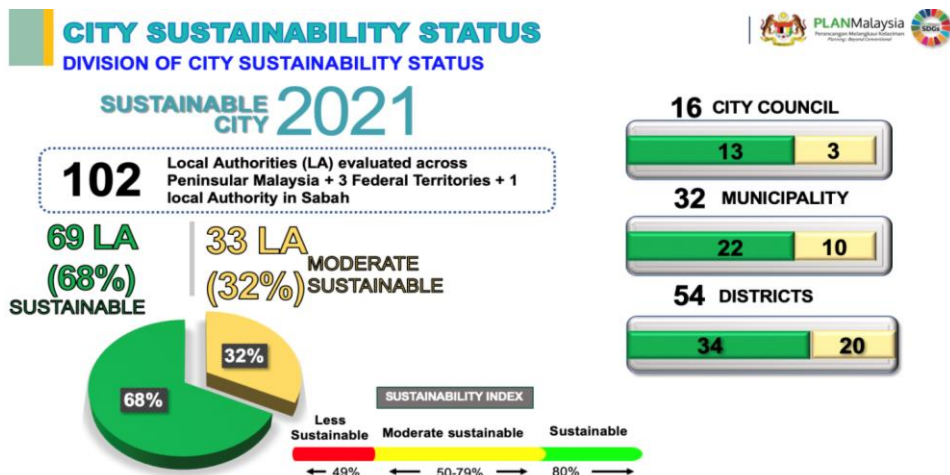
It is Ministry of Housing and Local Government's hope that this sustainable urban measurement program will succeed in attracting the participation of all local authorities in Malaysia, including Local Authorities from Sabah and Sarawak. This is because the MURNInets program will be able to help the country in achieving the Sustainable Development Goals (SDGs).

Figure 11.4: MURNInets Frammework



The MURNInets framework in measuring urban sustainability are formulated in line with key policy changes to ensure relevancy and viability

Figure 11.5 City Sustainability Status 2021



Source: PLANMalaysia

11.4 Iskandar Malaysia Urban Observatory

The Iskandar Malaysia Urban Observatory (IMUO) is part of Malaysia Urban Observatory (MUO) initiatives that calls for regions and cities to also establish their own urban observatories. This was also identified as Big Move 5 in the second Comprehensive Development Plan, 2014 – 2025 for Iskandar Malaysia (“CDPii”). It plays a crucial role to achieve Iskandar Malaysia’s vision to become a sustainable, inclusive and smart regional corridor through evidence based spatial planning and policy making.

The IMUO main function is a central data repository and processing center, capable of generating foresight reports and a provider of technical services. It is also set to become a knowledge hub benchmarked to international standards, aimed at improving a region-wide urban knowledge on Iskandar Malaysia. This will done by strengthening co-sharing data initiatives with Local Authorities within Iskandar Malaysia.

The development phase of the IMUO was from 2016 – 2018. The framework document was developed in 2016, followed by development of IMUO Business Plan, a review of the Data Landscape in Iskandar Malaysia and IMUO’s Data Management Policy. IMUO is not just an ideal platform to foster data co sharing collaborations with data providers, its capacity will enable it to be the focal point for regular and continuous collation & analysis of data from a range of stakeholders for the stakeholders.

IMUO is under the Technology & Innovation Key Result Areas of Iskandar Malaysia, and is guided by five (5) strategies:

- Encourage technology adoption and innovation to improve productivity and elevate community livelihood and business competitiveness;
- Propel the development of technology in Iskandar Malaysia;
- Instil innovation culture towards commercialisation and internationalisation supported by a strong IP ecosystem;
- Increase participation of local talents and industry; and
- Increase information transparency, accessibility and accountability.

It is envisioned that with the data and analysis done by IMUO, decisions about urban planning and development made by IRDA and related stakeholders is backed by authoritative and evidence-based data. This will also help shape better policies going forward.

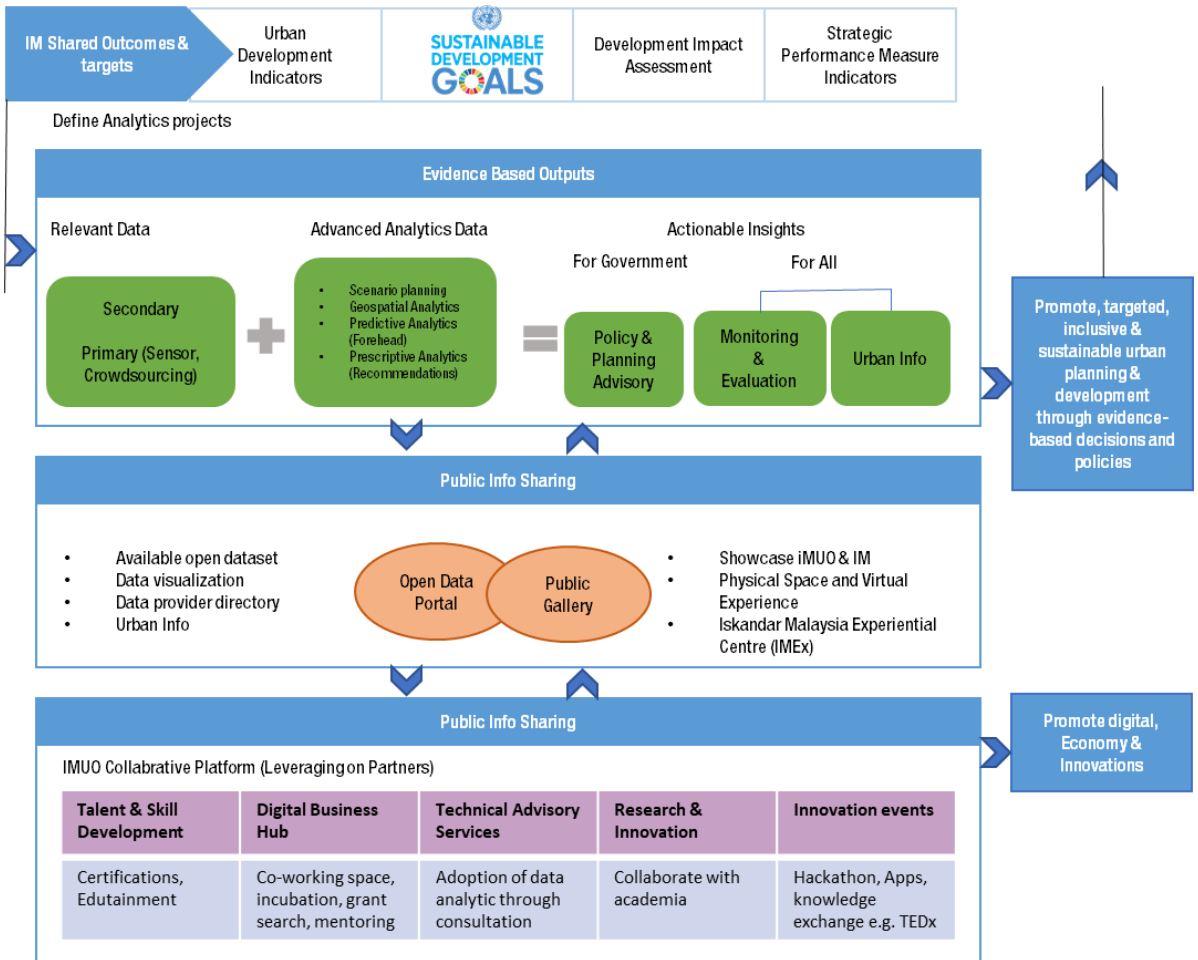
Iskandar Regional Development Authority (IRDA) is also cooperating with the United Nations Development Programme (UNDP) to enhance the IMUO Framework, which has been aligned with the National Physical Plan. The IMUO Framework is also being used as the basis for other Urban Observatories that are being planned at the state and federal level.

MURNInets play a vital role in IRDA’s journey to localised the Sustainable Development Goals (“SDG”) in Iskandar Malaysia as these data are already available at the 5 local authorities within IM. Hence the MURNInets data collected and submitted annually by every local authorities and local township council is being used to compute SDG compliance as part of its localization efforts.

Key milestones of IMUO includes:

- Quality and pollution hotspots in Sungai Skudai. This encouraged multi-sectoral agency cooperation with enforcement and monitoring agencies using the tool for the common objective of improving river water quality;
- Futuristic Iskandar Malaysia Advisory Council (FIMAC) Initiative – a platform that gathers key stakeholders involved in futuristic city initiatives such as smart city, sustainable city and healthy city;
- Traffic analysis using data from the Waze app which can then be used to understand and further analyze traffic patterns, and then further leveraged to model traffic conditions for future planning. The data can also be used to help the Iskandar Malaysia Bus Rapid Transit team to design a better public transport network; and
- Data from the tracking of foreign visitors coming in and out of Johor can be shared with key tourism related partners to aid their targeted marketing campaigns.

Figure 11.6 Iskandar Malaysia Urban Observatory Framework



Source : Iskandar Malaysia

Figure 11.7 IMUO – River Management & Monitoring Tool (RMMT)

One of the case study of the IMUO is to determine the pollution level of areas near river catchment. Sungai Skudai is the Pilot City.

