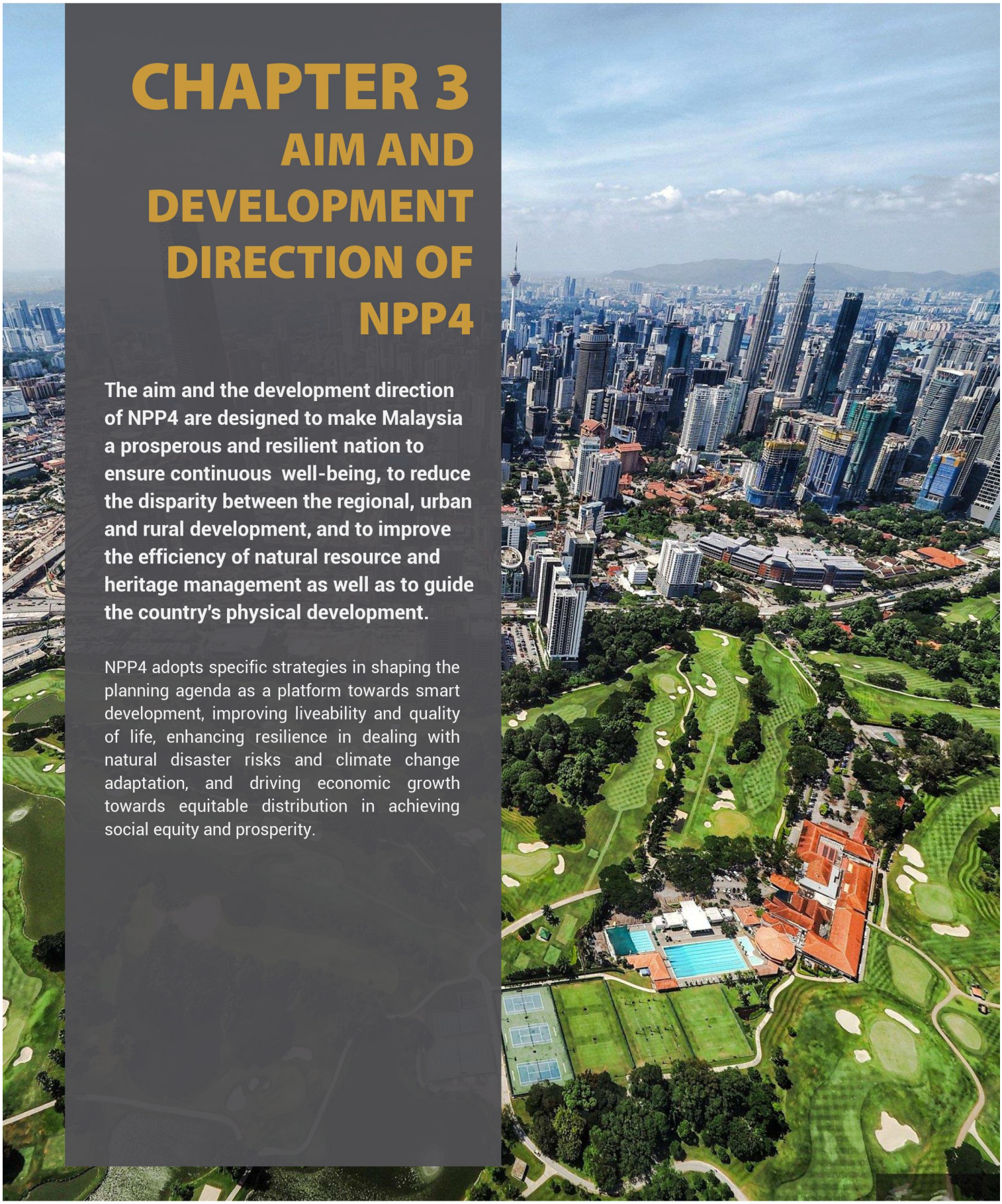


CHAPTER 3
AIM AND DEVELOPMENT DIRECTION OF NPP4

The aim and the development direction of NPP4 are designed to make Malaysia a prosperous and resilient nation to ensure continuous well-being, to reduce the disparity between the regional, urban and rural development, and to improve the efficiency of natural resource and heritage management as well as to guide the country's physical development.

NPP4 adopts specific strategies in shaping the planning agenda as a platform towards smart development, improving liveability and quality of life, enhancing resilience in dealing with natural disaster risks and climate change adaptation, and driving economic growth towards equitable distribution in achieving social equity and prosperity.

Formulating the Aim and Direction of NPP4

The formulation of the aim and development direction of NPP4 was based on five main principles: comprehensiveness, competitiveness, catalyst, sustainability and community. Aspirations of the previous NPPs were also taken into account as additional inputs in the formulation process to ensure continuity, where necessary, between NPP4 and its previous iterations.

In setting the direction of the nation's development, NPP4 introduces the strategic planning concept of **Comprehensive Spatial Ecosystem** encompassing a combination of development concepts to **optimise polycentric spaces inside major growth centres and monocentric spaces outside of major growth centres.** This concept is also supported by **integrated connectivity networks to enhance interconnections between regions.**

NPP4 also gives paramount emphasis on the national planning aspirations, including equitable distribution of growth and development between regions to ensure prosperity and well-being can be achieved. The adoption of Comprehensive Spatial Ecosystem strategic planning concept will ensure impactful physical planning approach that will significantly support the socio-economic growth and development of the country in line with the projected population of 32.6 million people (Peninsula Malaysia & F.T. Labuan) and the expected urbanisation rate of not more than 85% by 2040.

NPP4 Aim

The aim of NPP4 is to make Malaysia a **Prosperous, Resilient and Liveable Nation** to ensure continuous Well-Being of the country and the people /achieve a Prosperous, Resilient and Sejahtera Malaysia. Findings from analyses and reviews of other development plans including the 11MP, Shared Prosperity Vision 2030 and related strategic policies, indicate that this aim will inspire and shape the physical planning and development of the country towards becoming a developed, harmonious and prosperous nation. The definition of Prosperous, Resilient and Liveable in the context of RFN4 are as follows:

NPP4 AIM

MALAYSIA PROSPEROUS, RESILIENT AND LIVEABLE NATION

PROSPEROUS, RESILIENT & LIVEABLE NATION

01 PROSPEROUS

Development that is self-sufficient which provides comprehensive infrastructure, strengthens the economic performance of the regions, increases the opportunities for community involvement in development and decision-making processes, enhances the use of clean and innovative energy sources and promotes sustainable urban development, and is also equitable in nature by ensuring that the distribution of wealth and benefits are shared and enjoyed by all levels of society.

02 RESILIENT

Development that has the capacity to meet the challenges of uncertainty and transformations due to the changes in the economic structure, the effects of climate change, the impacts of natural disasters, the shifting patterns of physical and social development, and at the same time has the ability to recover quickly to maintain performance either at similar level or better.

"Resilience, of the social and ecological systems is a fundamental measure of sustainable development. The capacities of the systems and respond to change and to create lasting well-being for people and place are some features that closely define resilience."

Source: Brief for GSDR 2015, Resilience Framework For Measuring Development By Anshul S Bhamra, Development Alternatives, United Nations

03 LIVEABLE

Development that produces a quality and harmonious environment as a result of effective balanced development strategy that is centred on the physical, economic, social and environmental pillars, leading to a progressive effect on the productivity and society as a whole.

"Although there is no specific definition of well-being, the term is generally associated with a standard and quality of life that encompasses economic, social, physical and psychological aspects that benefit society.."

Source: MP11 (2015 – 2020)

NPP4 Main Principles

The aim of NPP4 was formulated based on **five (5) main principles**. These principles also formed the basis for the formation of the concept and integrated with the strategic spatial planning plan. In the context of NPP4, these principles are interpreted as follows:

MAIN PRINCIPLES

01 COMPREHENSIVENESS

Planning that develops the country comprehensively and integrates the short-, medium- and long-term development directions. Comprehensive planning leads to development that strengthens inter-regional relations through equitable economic distribution, and provision of integrated connectivity networks and adequate infrastructure and social facilities, in a sustainable environment.

02 COMPETITIVENESS

Planning that is committed to achieve the country's aspirations towards being more competitive and balanced in terms of physical, economic and human development at the global, national and regional levels with equitable distribution of opportunities.

03 CATALYST

Planning that leverages on local potential to spur area development in shaping and strengthening the country's competitiveness and liveability.

04 SUSTAINABILITY

Planning that is determined to preserve and conserve the country's natural resources and assets, and to provide a clean, safe and sustainable environment for improved quality of life of the people.

05 COMMUNITY

Planning that addresses community empowerment and well-being by creating platforms for inclusive and responsive planning which are accessible by all members of the community. Community empowerment is also enhanced through strategic collaborations between stakeholders and through comprehensive spatial planning that ensure community access to quality educational, housing and infrastructure facilities.

NPP4 Strategic Planning Concept

To ensure balance between land use development, socio-economic growth, and environmental sustainability, the strategic planning concept of NPP4, which is **Comprehensive Spatial Ecosystem (CSES)**, features **four (4) main aspects** as shown in **Figure 3-1.** The combination of these four (4) main aspects gives focus towards a **comprehensive and integrated development planning to form a balanced and harmonious planning ecosystem**.

Figure 3-2 depicts four (4) key features that form the CSES concept plan for Peninsular Malaysia and F.T. Labuan (**Refer CSES Plan in Plan 3-1 and Plan 3-2**). Details of each of these features are elaborated in the context of the planning requirements in NPP4 planned areas.

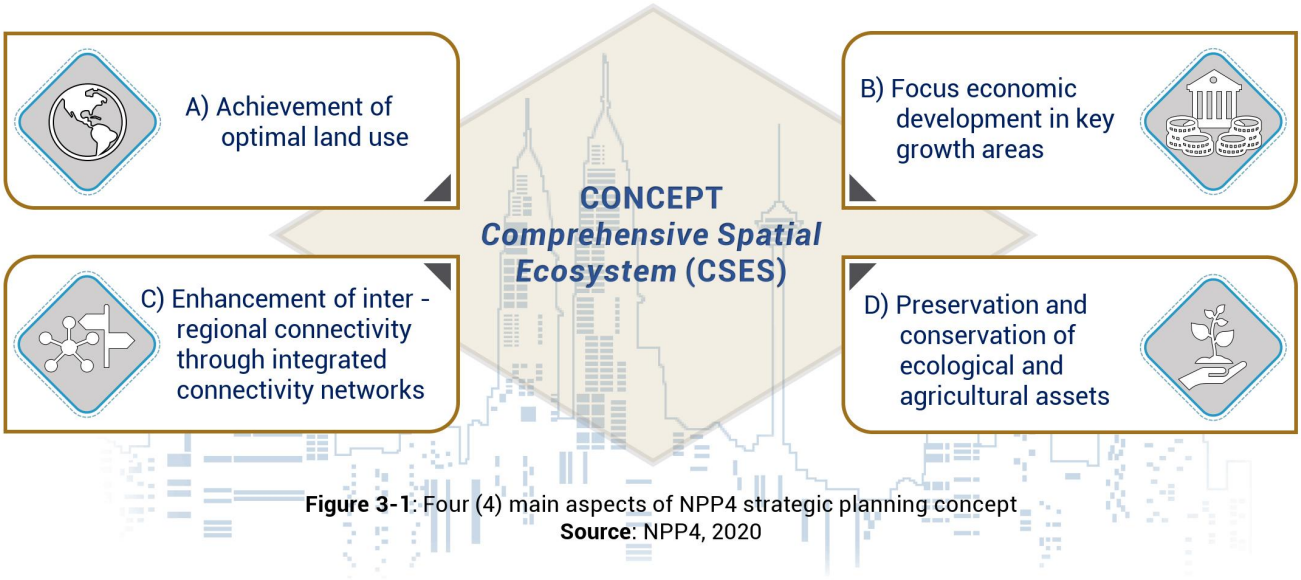


Figure 3-1: Four (4) main aspects of NPP4 strategic planning concept
Source: NPP4, 2020

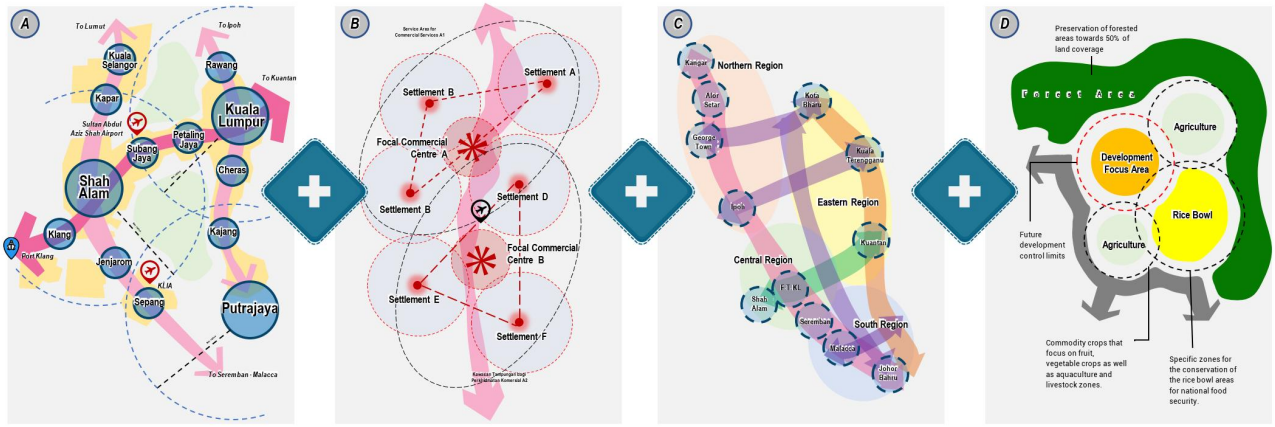


Figure 3-2: A combination of four main aspects of CSES concept formation
Source: NPP4, 2020

A) Achievement of Optimal Land Use

Having optimal land use ensures that land is used effectively, efficiently and suitably. This includes the use of land in manners that is not wasteful and in sync with the needs of the population. Therefore, to ensure optimal use of land, NPP4 targets a land use rate that is in line with the population growth rate of 1.0 for Peninsular Malaysia and F.T. Labuan by 2040. It is expected that by 2040 the built-up land use for Peninsular Malaysia will grow to 11.4% and for F.T. Labuan to 57.1%.

Additionally, development will be focussed in the identified growth areas, namely the Conurbations, the Promoted Development Zones (DPZs) and the Catalyst Centres (refer to the concept sketch of the optimal land development pattern in Figure 3-3). These growth areas are the focus of economic activities and play significant roles in shaping the development of their surrounding areas. New development in these growth areas should be prioritised to brownfield plots and potential urban renewal zones.

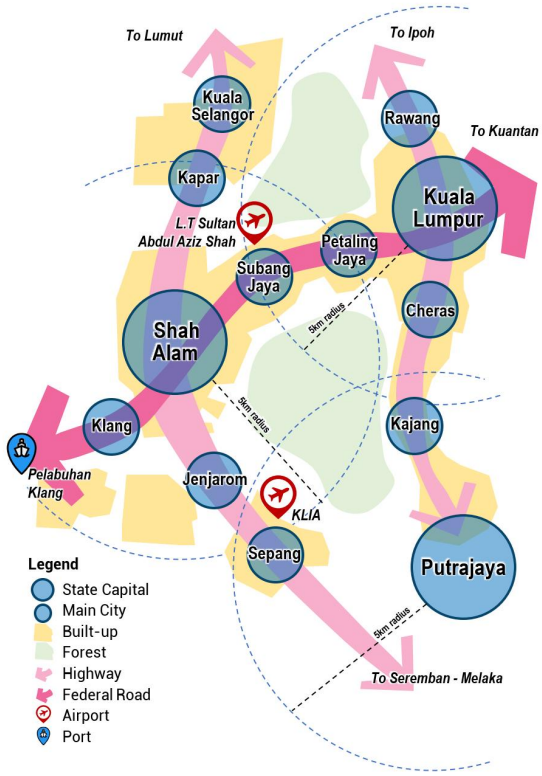


Figure 3-3: Conceptual Sketch of Optimal Land Development Pattern for NPP4
Source: NPP4, 2020

A well-planned and controlled development can ensure a more balanced distribution of land use and prevent uncontrolled large-scale conversion of agricultural and forest areas into urban development. Land use trend analysis shows that by 2018, Peninsular Malaysia has experienced a 10% reduction in the amount of agriculture land compared to 2001. It is therefore important that more strategic and effective planning strategies are implemented to protect and conserve forest and agricultural areas, especially those that are critical to the food production in the country.

NPP4 retains paddy fields as the country's important food producing areas.

B) Focus Economic Development In Key Growth Areas

The main growth areas identified by NPP4 are **Conurbation, Promoted Development Zone (PDZ), Catalyst Centre and Agropolitan Centre.**

- **Conurbation:** Primary Conurbation and Secondary Conurbation that exist as a result of agglomeration in major cities, have land use activities that generate high economic returns and population in migration, with efficient transit, communication and infrastructure systems.
- **PDZ:** Settlement centre with strong linkages for economic, social and administrative activities, strategic links with other major cities, employment and population centres, with adequate municipal facilities.
- **Catalyst Centre**: Settlement centre with the potential to drive urban growth in the surrounding areas based on the strengths of existing development.
- **Agropolitan Centre**: Major agricultural service centre with the potential to generate local economic growth through a chain of downstream activities, agricultural marketing and trading centres, local training centres as well as the provision of related facilities.

To ensure balanced development, NPP4 adopts polycentric and monocentric development concepts in the planning of growth areas, based on the suitability of the areas. The adoption of these concepts is in line with **Article 51 of the New Urban Agenda (NUA)** which encourages the use of this concepts to strengthen planning as well as improve resource efficiency, urban resilience and environmental sustainability.

Polycentric Development Concept:
The relationship of activities from the aspect of socio-economic and physical importance occurs within the Conurbation or PDZ.

Monocentric Development Concept:
The relationship of activities that take place between several cities or towns in the Catalyst Centre and the Agropolitan Centre

BRIEF FACTS

THE ROLE OF PRIMARY CONURBATION AND SECONDARY CONURBATION

Primary Conurbation:
Focus on strengthening and enhancing the added value of the country economic sector; and

Secondary Conurbation:
Focus on strengthening and enhancing the added value of the regional economic sector.

Source: NPP4, 2020

The polycentric development concept leverages and strengthens the relationships between cities or centres in Conurbations and PDZs in order to promote a spill-over effects to the wider region of areas. Each city or centre is a node on its own such as economic node and transport node (transport terminals, airports and ports), and this creates interconnectivity and interdependency between them that influences movement of population between the cities/centres. (**Figure 3-4).**

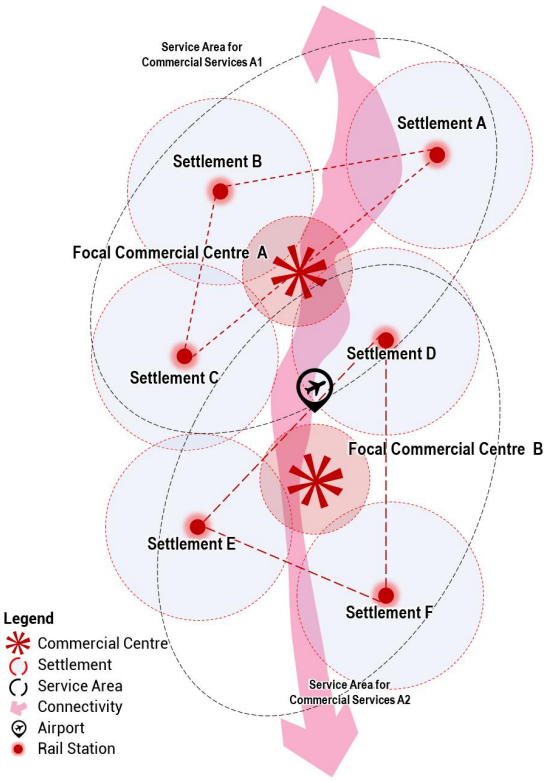


Figure 3-4: Conceptual sketch showing the interconnectivity and interdependence of commercial and settlement activities
Source: NPP4, 2020

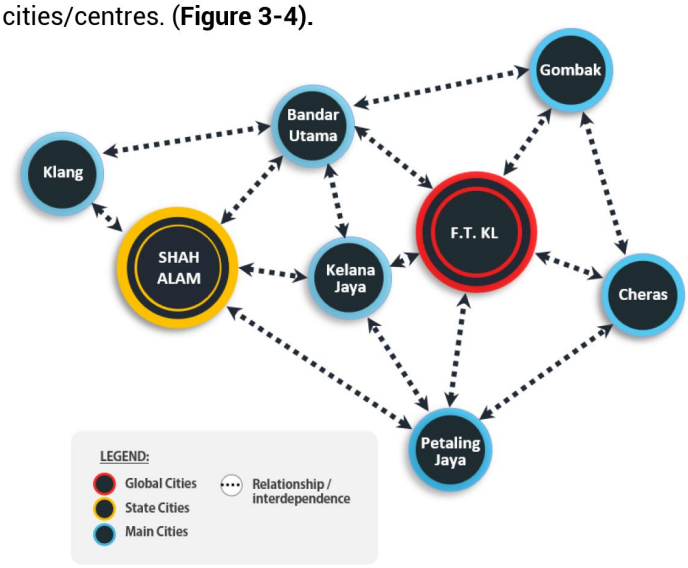


Figure 3-5: Example of polycentric development concept (F.T. KL and Shah Alam)
Source: NPP4, 2020

Figure 3-5 shows an overview of the polycentric development concept in developed conurbations where there is an interdependence of activities between several cities such as Global Cities, Regional Cities, State Cities and Main Cities in the Federal Territory of Kuala Lumpur and the State of Selangor. The movement of people between the network of cities for various purposes such as for employment, housing, education and other facilities causes the spread of development to the surrounding areas, as well as shape the urbanisation process of the area.

Meanwhile, the monocentric development concept relies on the relationships between several cities or towns in the Catalyst Centre and the Agropolitan Centre. The movement of population that takes place between these cities or towns corresponds to the functions and hierarchies of the cities and towns, which are to provide business or administrative services for smaller and less-developed areas.

Figure 3-6 shows an example of monocentric relationship between Catalyst Centre (Gua Musang) and nearby towns such as Jerek, Blau, Bertam Baharu, Felda Perasu and Merapoh.

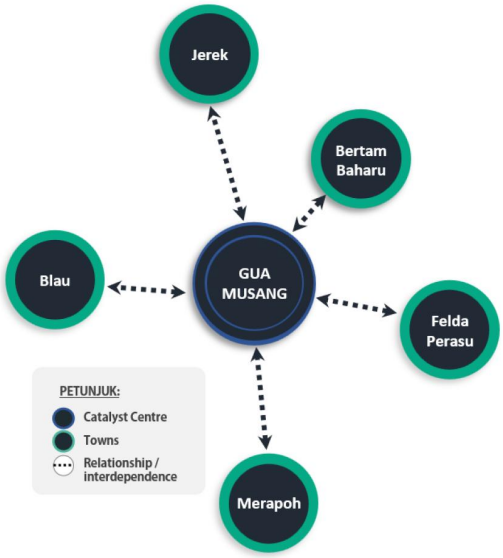


Figure 3-6: Example of monocentric development concept (Gua Musang Catalyst Centre)
Source: NPP4, 2020

C) Enhancement of Inter-Regional Connectivity Through Integrated Connectivity Networks

Connectivity between regions through physical networks is one of the most important components in shaping the development of an area. Infrastructure upgrades (transport, communication, etc.) can significantly enhance area connectivity leading to improved mobility of people, goods and services, and promote growth.

Improved mobility will attract greater investment, hence creating more employment and other economic opportunities for the people. It also enables growth to be spread more equitably to other areas, thus mitigating the problems of congestion and overcrowding of an area, eventually creating a better quality of living environment.

The importance of good connectivity for area development is evident in the West Coast of Peninsular Malaysia, which has a well-developed network of transport links, making it the focus area for urban and economic development as well as population growth. Accordingly, NPP4 emphasises a more comprehensive physical network between regions to balance the spread of urban development, economic growth and population (**Figure 3-7**).

5 Main Corridors In the Strategic Plan Comprehensive Spatial Ecosystem:

1. *Highly Strategic Developed Linkage*
2. *Highly Strategic Developing Linkage*
3. *Strategic East West Linkage*
4. *Potential Linkages*
5. *Local Connectors*

To enhance connectivity between regions in Peninsular Malaysia, **five (5) linkages** have been identified:

01 *Highly Strategic Developed Linkage*

It is an existing and matured corridor on the West Coast of Peninsular Malaysia (Main Link). The rapid development in the area is supported by economic activities and growth in the Primary Conurbation, Secondary Conurbations and PDZs along the West Coast. Strong land and air transport links also contribute towards rapid development, creating economic opportunities and facilitating access to inter-state communications.

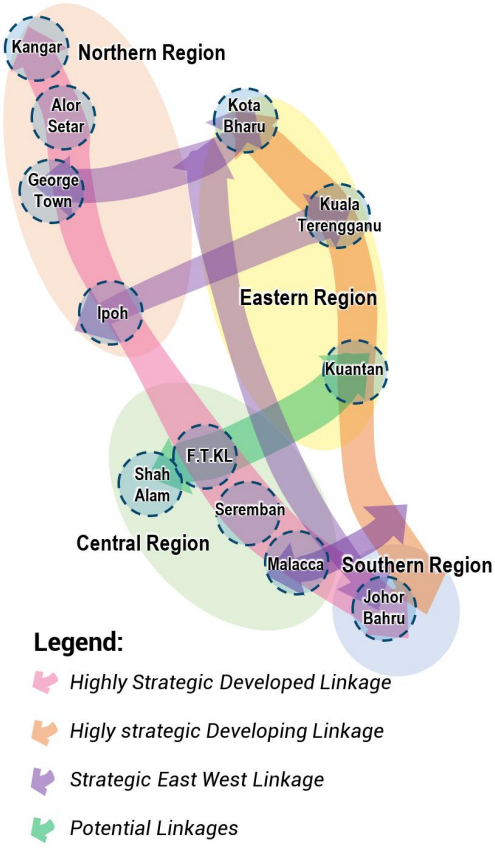


Figure 3-7: Conceptual Sketch of the Enhancement of Inter-regional Connectivity in Peninsular Malaysia
Source: NPP4, 2020

02 Highly Strategic Developing Linkage

It is an existing corridor that is still developing on the East Coast of Peninsular Malaysia (Secondary Link). The infrastructure network around the area has the potential to be upgraded to generate more economic and employment opportunities for the local community in the region. Upgraded road and rail networks will benefit the Eastern Region tremendously as well as will increase accessibility from the Main Conurbation, especially the Klang Valley, to the East Coast.

03 Strategic East West Linkage

There is a need for key strategic linkage to connect the West Coast and the East Coast of Peninsular Malaysia. Therefore, the Strategic East West Linkage takes advantage of its strategic location at the primary nodes of the Primary Conurbation and Secondary Conurbation. Such link will potentially increase accessibility and could unlock development spill-overs along the linkage.

04 Potential Linkages

These linkages will further strengthen the relationship between the states in the North-South Region, North-East Region and complement the Highly Strategic Developed Linkage, Highly Strategic Developing Linkage, and Strategic East West Linkages.

While the Potential North-South Linkage will be the link between the Northern and Southern Regions strategic growth areas, its implementation is more focused towards the upgrading of existing roads as well as the adding of new transport networks at potential nodes. The planning and implementation of these linkages must consider the use of suitable technologies to ensure they do not jeopardise the existing forest ecology and other environmentally sensitive ecosystems of the area. It is expected that the implementation of these linkages will begin after 2040.

05 Local Connectors

Play important roles in complementing and enhancing communication capabilities at the local level. In addition to providing connections to Catalyst Centres and Agropolitan Centres, they also support the functions of the Highly Strategic Developed Linkage, Highly Strategic Developing Linkages and Potential Linkages in ensuring a more strategic and comprehensive communication and transport systems, as well as in promoting a more equitable distribution of development opportunities.

For F.T. Labuan, two linkages are identified to enhance connectivity between the islands in the Territory:

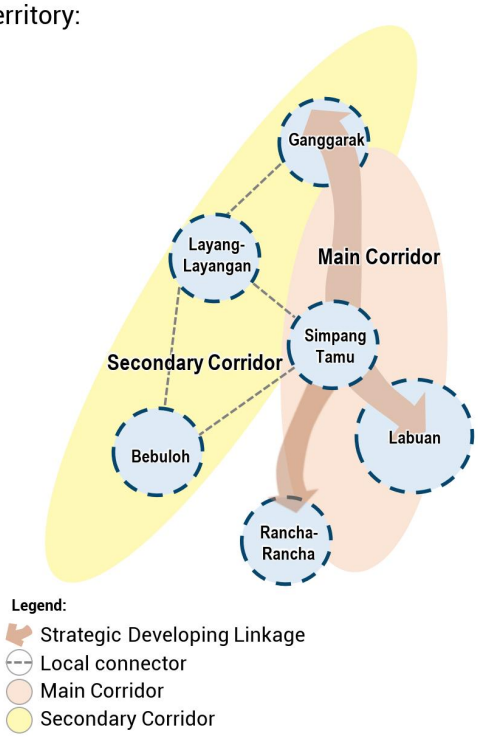
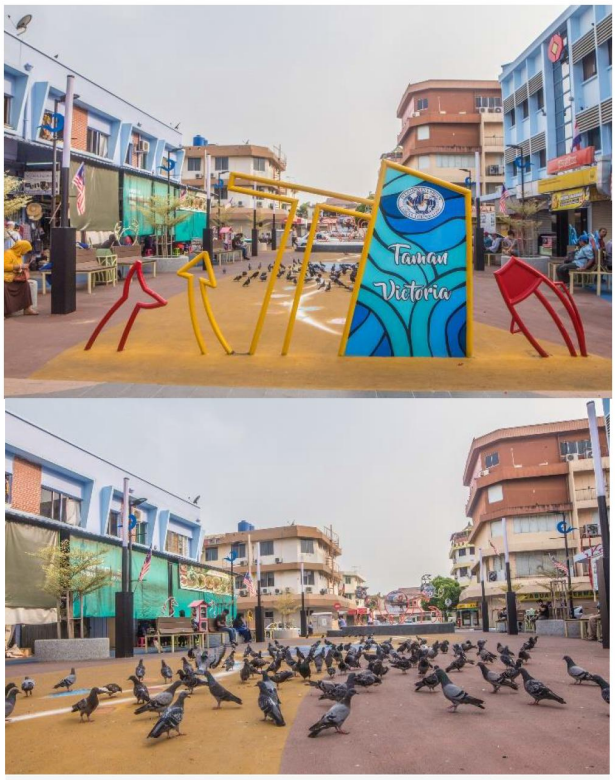


Figure 3-8: Conceptual Sketch of the Enhancement of Inter-regional Connectivity in F.T. Labuan
Source: NPP4, 2020



Victoria Park in F.T. Labuan City Centre

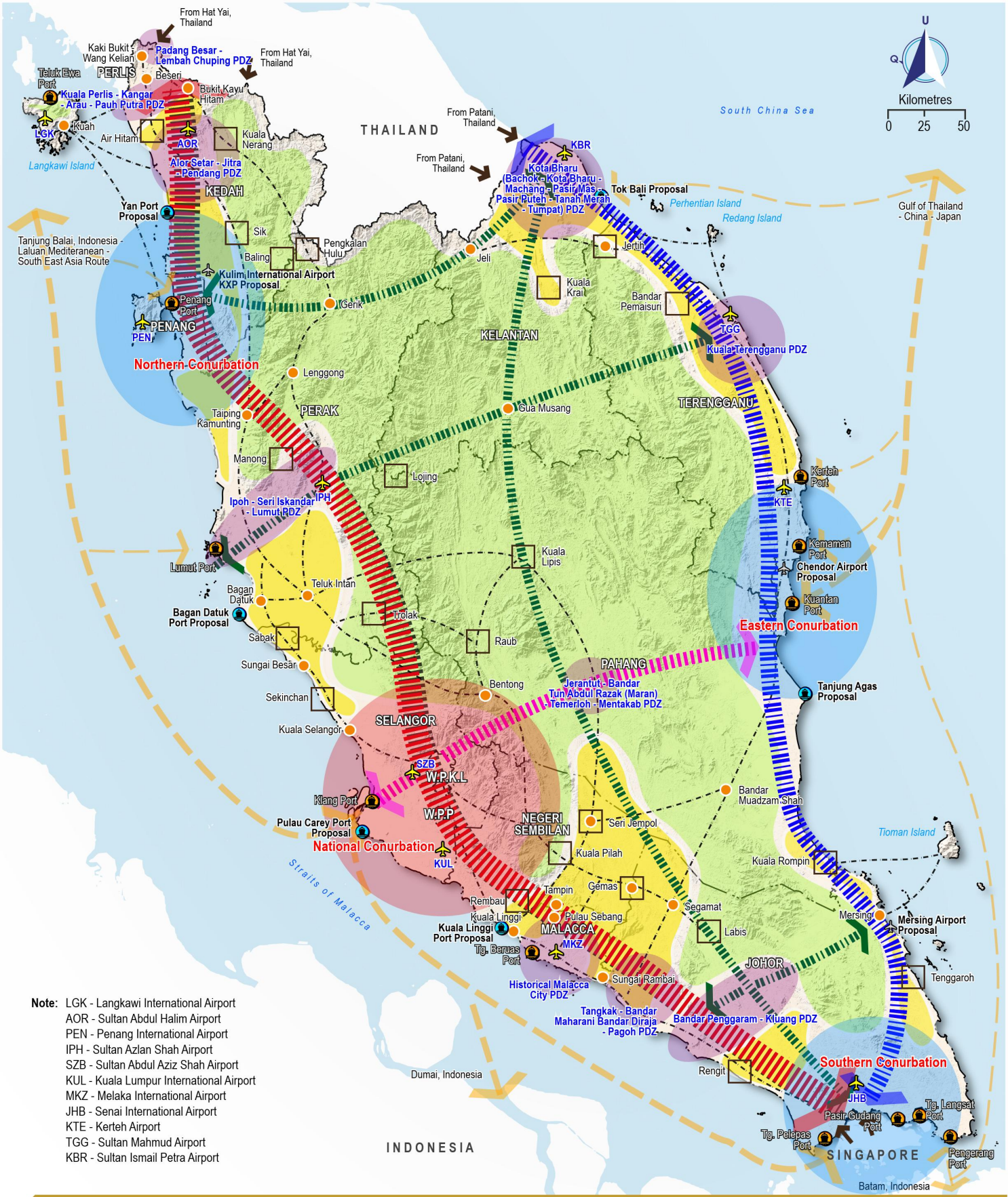
01 *Strategic Developing Linkage*

A Strategic Developing Linkage is proposed to connect Ganggarak and Rancha-Rancha to strengthen the connectivity between the areas and to boost the economy and development in the Primary Corridor and Secondary Corridor of F.T. Labuan. At the same time, the connectivity between F.T. Labuan and the state of Sabah is to be further enhanced through the proposed Labuan - Sabah Bridge.

02 *Local Connectors*

Local connectors are proposed to complement the Strategic Developing Linkage in enhancing the strategic connections between Bandar Wilayah (Bandar Labuan) and Bandar Tempatan (Ganggarak, Layang-Layangan, Simpang Tamu and Bebuloh) as well as to become the connectors to the Primary Corridor and Secondary Corridor.

The lakes and the forest in **Royal Belum State Park**, Perak.



Note: LGK - Langkawi International Airport
AOR - Sultan Abdul Halim Airport
PEN - Penang International Airport
IPH - Sultan Azlan Shah Airport
SZB - Sultan Abdul Aziz Shah Airport
KUL - Kuala Lumpur International Airport
MKZ - Melaka International Airport
JHB - Senai International Airport
KTE - Kerteh Airport
TGG - Sultan Mahmud Airport
KBR - Sultan Ismail Petra Airport

MAP 3-1: COMPREHENSIVE SPATIAL ECOSYSTEM (CSES) CONCEPT PLAN FOR PENINSULAR MALAYSIA

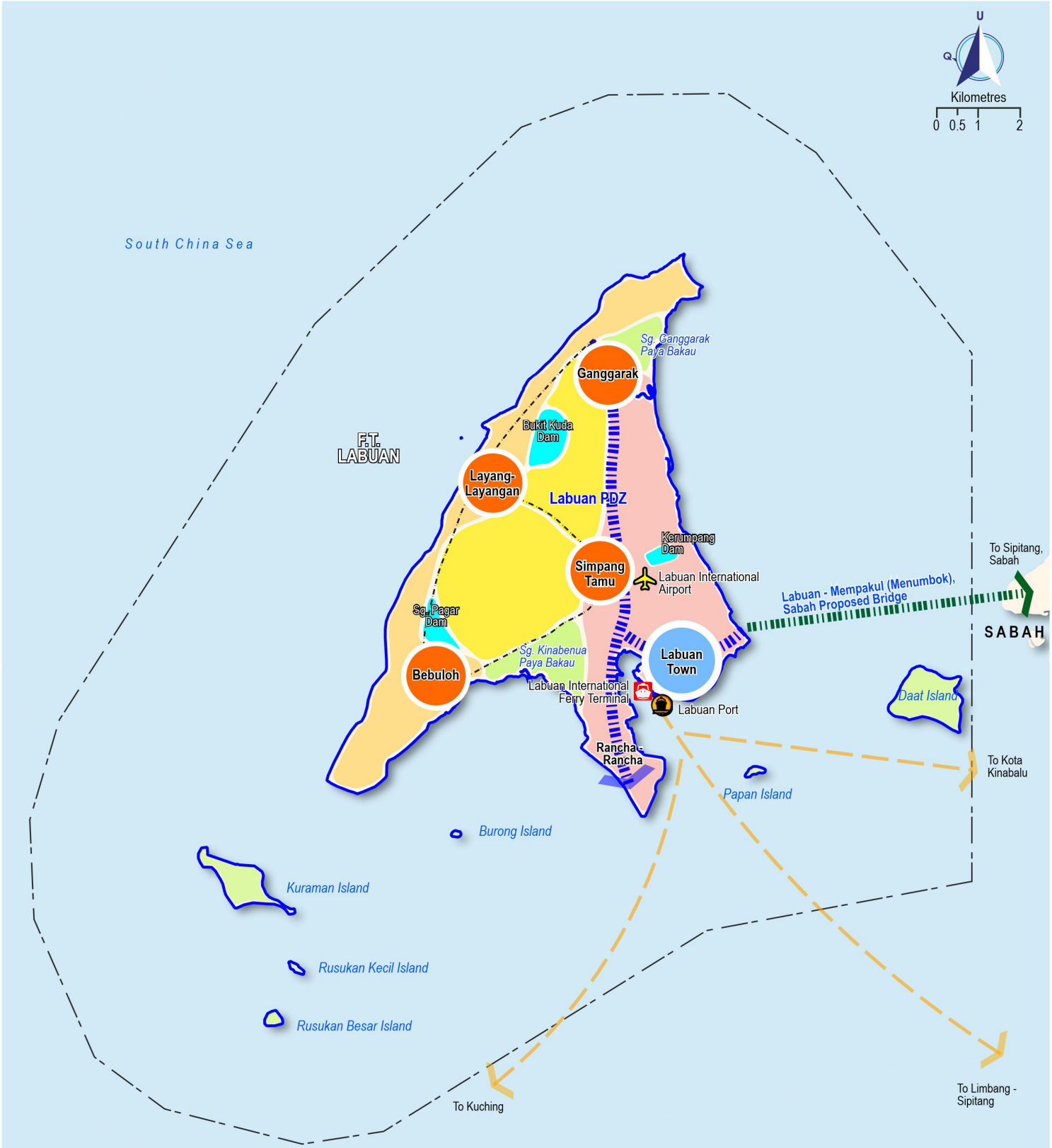
Growth Area
- Main Conurbation
- Secondary Conurbation
- Promoted Development Zone
- Catalyst Centre
- Agropolitan Centre

Corridors
- Highly Strategic Developed Linkage
- Highly Strategic Developing Linkage
- Strategic East West Linkage
- Potential Linkages
- Local Connectors

National Gateway
- Water Gateway
- Land Gateway
- Airport
- Port

Others
- Proposed Airport
- Proposed Port
- Built-up
- Agricultural Asset
- Ecological Asset
- State Boundary

Source:
• National Physical Plan 4, 2020



MAP 3-2: COMPREHENSIVE SPATIAL ECOSYSTEM (CSES) CONCEPT PLAN FOR F.T OF LABUAN

Growth Area
- Promoted Development Zone
- Main Corridor
- Secondary Corridor

Corridor
- Strategic Developing Linkage
- *Local Connectors*

F.T. Labuan Gateway
- Water Gateway
- Labuan - Mempakul (Menumbok), Sabah Proposed Bridge
- Airport
- Port
- International Ferry Terminal

Urban Hierarchy
- Regional City
- Local City

Others
- Agricultural Asset
- Ecological Asset
- Water Body
- Federal Territory of Labuan State Boundary

Source:
- National Physical Plan 4, 2020

NPP4 Spatial Planning Strategic Framework

NPP4 Spatial Planning Strategic Framework details out the land use and growth areas, transport and infrastructure networks, spatial sustainability and resource management. The recommendations and commitments made are translated into **three (3) Spatial Planning Plans (SMP**) namely:

- **SMP 1:** Spatial Planning Plan for Peninsular Malaysia and F.T. Labuan
- **SMP 2:** Resource Management Plan for Peninsular Malaysia and F.T. Labuan
- **SMP 3:** Natural Disaster Risk Area Management Plan for Peninsular Malaysia and F.T. Labuan

Spatial Planning Strategic Framework
SMP 1

Spatial Planning Plan for Peninsular Malaysia and F.T. Labuan

A comprehensive strategic framework plan is essential to ensure effective translation and implementation of the transformation and direction of national spatial planning. SMP 1 is produced to provide detail guidance on the direction of spatial planning patterns based on the strategies and actions formulated in NPP4. **Plan 3-3** shows the Growth Centres in Peninsular Malaysia and F.T. Labuan.

SMP 1-A *Growth Area: Conurbation*

The current economic potential and development spill-overs have formed four (4) conurbations comprising the National Conurbation (Primary Conurbation), and the Northern Conurbation, Eastern Conurbation and Southern Conurbation (Secondary Conurbations) with the criteria and characteristics as listed below.

The definitions and roles of primary conurbation and secondary conurbation are provided on **page 3-7** and were taken into account formulation of the strategic planning concept of NPP4.

NPP4 Growth Areas

- **4** Conurbations
- **11** Promoted Development Zones (PDZs)
  - 9 Current Existing Centres
  - 2 Proposed Centres
- **24** Catalyst Centres
- **23** Agropolitan Centres

Conurbation Criteria and Characteristics

1. Major urban agglomeration.
2. Polycentric development pattern.
3. Main contributor to the national economy.
4. Population exceeds 1 million people.
5. High employment density (high number of jobs and GDP per capita).
6. Land use activities generate high economic returns.
7. Efficient and effective transit, communication and infrastructure systems.
8. Located within 90 minutes (for Primary Conurbation) and 60 minutes (Secondary Conurbation) travel time to employment centres.

Source NPP4, 2020

List of Conurbations:

1) National Cornubation

- The forefront of the national economy through **existing corridors - F.T. Kuala Lumpur, F.T. Putrajaya and part of the State of Selangor (Shah Alam - Klang - Port Klang - Ampang Jaya - Petaling Jaya - Subang Jaya - Kajang - Sepang) as well as the opening of new corridors in the northern part of Bestari Jaya - Ijok - Puncak Alam - Bandar Bukit Beruntung - Serendah - Batang Kali - Kuala Kubu Bharu - Tanjung Malim and in the southern area covering parts of Malaysia Vision Valley (MVV) (Seremban and Port Dickson Districts, Negeri Sembilan)** with a travel time of 90 minutes and proposed infrastructure development such as the construction of the West Coast Expressway and high speed rail networks namely the East Coast Rail Link (ECRL) and High Speed Rail (HSR).

- Drives economic development by focusing on business and industrial activities supported by the provision of efficient transport facilities such as Kuala Lumpur International Airport (KLIA) and Port Klang. The National Conurbation is also the country's main gateway.

2) Northern Conurbation

- Drives the Northern Region economy and covering the whole of Penang and **new corridors opening in parts of Kedah (covering Kulim - Sungai Petani - Bandar Baharu - Yan) and North Perak (Parit Buntar - Bagan Serai - Alor Pongsu and Selama)** with a travel time of 60 minutes. This conurbation is supported by an efficient and effective transport system such as the North - South Highway, rail services, Penang International Airport and Penang Port. The development of Kulim International Airport (KXP) and High Speed Rail (HSR) are the main catalysts for growth and the enabling factors in the expansion of the conurbation limits, which will turn the Northern Conurbation into the country's second gateway.

3) Southern Conurbation

- Drives the Southern Region economy through conurbation that includes Johor Bahru - Senai - Skudai - Kulai - Pasir Gudang - Tanjung Pelepas - Pontian - Kota Tinggi - Desaru - Pengerang as well as the **opening of new corridors up to Bandar Tenggara** within 60 minutes travel time. This conurbation is supported by an efficient and effective transport system such as the North - South Highway, rail services, Senai International Airport and four (4) major ports namely Tanjung Pelepas Port, Pasir Gudang Port, Tanjung Langsat Port and Pengerang Port. Proposed infrastructure development such as the construction of the West Coast Expressway and High Speed Rail (HSR) expand the conurbation limits and spur further economic growth and urban development in the conurbation.

- The conurbation also benefits from its location, which is next to Singapore, by receiving spill-over economic impact especially to areas around Johor Bahru.

4) Eastern Conurbation

- Drives the economy in the Eastern Region through conurbation that includes Kuantan - Pekan - Gambang as well as the **opening of a new corridor in the southern parts of Terengganu (Chukai - Kerteh)** within 60 minutes travel time. This conurbation is supported by an efficient and effective transport system such as the East Coast Highway, rail services, Kerteh Airport and three (3) main ports namely Kuantan Port, Kemaman Port and Kerteh Port. Proposed infrastructure development such as the construction of East Coast Highway 3, Proposed Chendor Airport and East Coast Rail Link (ECRL) increase the potential for conurbation expansion and become the catalyst for development through industrial activities and ports with efficient accessibility systems. They also strengthen the conurbation's role as a gateway to the Eastern Region.

- Specific planning approach is required to manage future expansion of the conurbation area to ensure protection of environmental ecosystems and sustainable resource management.

SMP 1-B *Growth Area: Promoted Development Zone (PDZ)*

Based on their land use patterns, **11 PDZs** have been identified by NPP4 including two (2) newly proposed zones, which are **PDZ Jerantut - Bandar Tun Razak (Maran) - Temerloh - Mentakab and PDZ Tangkak - Bandar Maharani Bandar Diraja - Pagoh. Several areas have also** been consolidated based on the existing development potential of the areas.

Criteria and Characteristics of Promoted Development Zone (PDZ)

1. Settlement centres that have strong linkages in terms of economic, social and administrative activities.
2. Polycentric development pattern.
3. Population exceeds 100,000 people.
4. Major employment centres.
5. Adequate and viable municipal facilities.
6. Distinctive function and potential in generating the local economy.
7. Strategic transport links with other major cities.
8. Located within 40 - 60 minutes travel time to employment centres.

List of 11 PDZs

1) PDZ Kuala Perlis - Kangar - Arau - Pauh Putra

- The main catalyst for Perlis development will be the opening of new corridors up to Pauh Putra which are supported by infrastructure such as the proposed Northern Corridor Highway (NCH), high-speed rail lines and ferry services to Langkawi.

2) PDZ Padang Besar - Lembah Chuping

- The land gateway from Thailand, has distinctive function and economy in trade, industry, logistics and border tourism activities.

3) PDZ Alor Setar - Jitra - Pendang

- It is the centre of state administration, heritage, and agriculture, and is the main node in driving economic activity.

4) PDZ Ipoh - Seri Iskandar - Lumut

- The main administrative and service centre supported by tourism development zones, institutions and maritime industry. The proposed High Speed Rail (HSR) and West Coast Expressway (WCE) can strengthen the role of the PDZ as well as stimulate economic development.

5) PDZ Kota Bharu (Bachok - Kota Bharu - Machang - Pasir Mas - Pasir Puteh - Tanah Merah - Tumpat)

- Redefined boundaries due to the rapid expansion of development to the south. The main activities are more focused on administrative centres, economic activities, services and tourism centres and are supported by the proposed East Coast Rail Link (ECRL).

6) PDZ Kuala Terengganu

- The state administrative centre, as well as centre for economic activities, tourism, fisheries and marine. The proposed Kuala Terengganu City Centre (KTCC) growth area as the main catalyst, in addition to the existing supporting infrastructure, namely the East Coast Rail Link (ECRL).

7) PDZ Jerantut - Bandar Tun Razak (Maran) - Temerloh - Mentakab

- This PDZ is a connecting corridor located in the centre of Peninsular Malaysia and focuses on timber industry activities, ecotourism and modern agriculture, and is supported by the availability of infrastructure such as the East Coast Highway.

8) PDZ Bandaraya Melaka Bersejarah

- This PDZ is a state administrative centre that is a catalyst in driving economic development that includes heritage and cultural tourism activities, and is supported by the proposed High-Speed Rail (HSR), Express Rail Link 2 (ERL 2) and West Coast Expressway (WCE).

9) PDZ Tangkak - Bandar Maharani Bandar Diraja - Pagoh

- This PDZ is a new economic region for the northern part of Johor to accommodate the overflow of development in the Pagoh Economic Special Zone (PESZ), the strengthening of the furniture industry for Muar and Tangkak Districts. The PDZ also focuses on higher education and research, heritage tourism and agriculture which form sustainable economic connectivity and is supported by the proposed West Coast Expressway (WCE).

10) PDZ Bandar Penggaram - Kluang

- Its location in the central part of Johor allows the PDZ to be directly accessible from the northern, southern, eastern and western parts of Johor and is supported by infrastructure including the proposed High Speed Rail (HSR) and the proposed Southern Central Road (SCR). The main focus is on manufacturing, textile and apparel, food processing and agricultural tourism sectors.

11) PDZ Labuan

- This PDZ is the administrative centre of F.T. Labuan which focuses on tourism activities, services and ports that support the logistics hub for the region. The strengthening of the road network between the regions through the proposed route along the Labuan coast (Ganggarak - Tanjung Aru) and the Labuan - Sabah Bridge will be a catalyst for local economic growth.

SMP 1-C *Growth Area: Catalyst Centre*

The identification of Catalyst Centres was based on their potentials in driving urban growth in the surrounding areas through the strength of their current physical, economic, and social development. Their roles in boosting the growth of the local economy will create various employment and economic opportunities that can improve the quality of life and well-being of the local community.

NPP4 recommends **24 Catalyst Centres** based on the following criteria:

Criteria and Characteristics of Catalyst Centre

1. Located outside Conurbation and Promoted Development Zone (PDZ).
2. Monocentric development pattern.
3. Population exceeds 10,000 people.
4. Distinctive function and importance in the development of the local economy.
5. Strong and useable local resources.
6. Strong relationship to its area of influence.
7. Municipal service centre.
8. Located within 30 minutes travel time to employment centres.

Kuala Kubu Bharu as a Catalyst Centre that supports local economic activities in the Hulu Selangor District

List of 24 Catalyst Centres:

Perlis:
1. Beseri
2. Kaki Bukit – Wang Kelian

Kedah:
1. Kuah
2. Bukit Kayu Hitam

Perak:
1. Taiping – Kamunting
2. Lenggong
3. Gerik
4. Teluk Intan
5. Bagan Datuk

Kelantan:
1. Jeli
2. Gua Musang

Terengganu:
1. Jertih

Pahang:
1. Bentong
2. Bandar Muadzam Shah

Selangor:
1. Kuala Selangor
2. Sungai Besar

Negeri Sembilan:
1. Tampin
2. Gemas
3. Seri Jempol

Malacca::
1. Kuala Linggi
2. Pulau Sebang
3. Sungai Rambai

Johor:
1. Segamat
2. Mersing

SMP 1-D *Growth Area: Agropolitan Centre*

Paddy cultivation as one of the main agricultural activities in Baling District in line with its function as an Agropolitan Centre.

An Agropolitan Centre is a rural settlement centre that has the potential to enhance agricultural development of the area with higher value chain activities. This will strengthen the agriculture sector and its contribution to the country's economic growth as well as increase the income and the quality of life of the rural communities.

NPP4 proposes **23 Agropolitan Centres** that would enable the rural community to participate in the rural socio-economic transformation agenda.

Criteria and Characteristics of Agropolitan Centre

1. Town or rural settlement centre located in agropolitan areas / districts.
2. Serves as a major agricultural service centre.
3. Potential to be an agricultural marketing and trading centre.
4. Potential to provide local agricultural training centres and district agricultural produce processing centres.
5. Able to generate local economic growth.
6. Located outside Conurbation and PDZ.

List of 23 Agropolitan Centres:

Kedah:
1. *Kuala Nerang
2. Sik
3. *Baling
4. *Air Hitam

Perak:
1. *Pengkalan Hulu
2. Manong
3. Trolak

Kelantan:
1. Kuala Krai
2. Lojing

Terengganu:
1. Bandar Pemaisuri
2. Jertih (**)

Pahang:
1. Raub
2. Kuala Lipis
3. Kuala Rompin

Selangor:
1. Sekinchan
2. Sabak

Negeri Sembilan:
1. Gemas(**)
2. Seri Jempol (**)
3. Rembau
4. *Kuala Pilah

Johor:
1. *Tenggaroh
2. *Rengit
3. *Labis

** New Agropolitan Centre identified in NPP4*

(**) Serves as a Catalyst Centre and Agropolitan Centre

MAP 3-3: GROWTH AREA IN PENINSULAR MALAYSIA AND F.T OF LABUAN

Growth Area
- Conurbation
- Promoted Development Zone
- Catalyst Centre
- Agropolitan Centre

Others
- State Capital
- State Boundary

Source:
- National Physical Plan 4, 2020

SMP 1-E *Overall Land Use Development Pattern*

In line with the New Urban Agenda (NUA), NPP4 is committed to providing a land use planning that emphasises on planned urbanisation through renewal, regeneration, retrofitting, and infill development, with principles such as equity, efficiency and sustainability of land use are embedded in the planning strategies.

- In overall, NPP4 encourages the application of mixed-use development and multi-use development as well as transit-oriented development (TOD), especially in growth centres. However, NPP4 also recognises the use of air space and underground space for vertical development as a new alternative development approach towards optimal use of land.
- High accessibility through land transport networks (highways and rails), air transport (airports) and water transport (ports) can enhance the connectivity between growth nodes within and outside the country.
- NPP4 aims to increase forest cover by up to 50% of Peninsular Malaysia total land area. Most of the forest are found in the hilly areas of the Eastern Region that makes up the Central Forest Spine (refer to **Plan 3-4**).
- Agriculture areas, which form the second largest land use in Peninsular Malaysia, will continue to be preserved, with focus on agro-food products by taking into account the increase in current productivity and self sufficiency level.
- 45.3% of the total F.T. Labuan land area are made up of built-up land use, making it the main land use of the island. Built-up areas are concentrated at the main focus nodes such as in Bandar Labuan, around Labuan Airport, and along the main road network and the coastal lines.

An example of mixed-use development in Jitra, Kedah that combines major land uses such as housing, recreation and agriculture

MAP 3-4 : CURRENT LAND USE IN PENINSULAR MALAYSIA AND F.T OF LABUAN

Land Use
- Current Built-up
- Proposed Built-up
- Forest
- Water Bodies
- Paddy Fields
- Agriculture

Transportation
- Airport
- Port

Note:
LGK - Langkawi International Airport
AOR - Sultan Abdul Halim Airport
PEN - Penang International Airport
IPH - Sultan Azlan Shah Airport
SZB - Sultan Abdul Aziz Shah Airport
KUL - Kuala Lumpur International Airport
MKZ - Melaka International Airport

Others
- State Capital
- Reclaimed Area
- State Boundary

JHB - Senai International Airport
KTE - Kerteh Airport
TGG - Sultan Mahmud Airport
KBR - Sultan Ismail Petra Airport
LBU - Labuan International Airport

Source:
- Ministry of Transport, 2018
- Malaysia Highway Authority, 2018
- I-Plan, PLANMalaysia, 2018
- Peninsular Malaysia Forestry Department, 2018
- National Physical Plan 4, 2020

Transport connectivity is one of the main considerations in promoting regional integration. The National Transport Policy 2019-2030 states that the transport sector in Malaysia has grown rapidly at more than 5% since 2004. In 2017, its contribution to the country's GDP stood at 3.6%. Accordingly, NPP4, through its spatial planning strategic framework, supports the enhancement of transport networks to strengthen connectivity between key growth nodes, and between urban and rural areas.

The rapid development in Kuala Lumpur city centre is also equipped with quality connectivity network facilities.

The proposals on transport network enhancement by NPP4 are based on the analyses and planning requirements as described in **Strategy PD 3.1, Thrust 1.** Meanwhile, **Plan 3-5** shows the locations of new highway projects as proposed by the Highway Network Development Plan 2030 Report (HNDP 2030). The construction of these highways is expected to further improve the transport infrastructure and mobility within the country.

1. **East Coast Highway 3 (LPT3) (Terengganu - Kelantan)**
2. **Extension from East Coast Highway 4 (LPT4) to connect Pahang to Johor**
3. **Highway to connect Eastern Region - Northern Region**
4. **Connection from Central Spine Road (CSR) Highway in Simpang Pelangai, Pahang to Ulu Tiram, Johor via Southern Central Road (SCR)**
5. **West Coast Expressway (WCE) connection to the south (Johor) and north (Perlis) via the Northern Corridor Highway (NCH)**
6. **Labuan - Sabah Bridge**

Additionally, several new roads and highways for each state as well as cross-state highways (refer to **Plan 3-5**) are also proposed under Strategy PD 3.1 in line with the objective of providing inclusive mobility that meets the demands of the people. The information below summarises the number of NPP4 highway proposals by region.

21 Number of proposed new roads / highways (across states)

24 Number of proposed new roads / highways in the Northern Region (Perlis, Kedah, Penang and Perak)

16 Number of proposed new roads / highways in the Eastern Region (Kelantan, Terengganu and Pahang)

25 Number of proposed new roads / highways in the Central Region (Selangor, F.T. Kuala Lumpur and Putrajaya, Malacca and Negeri Sembilan)

4 Number of proposed new roads / highways in the Southern Region (Johor)

2 Number of proposed new roads / highways in F.T. Labuan

***Nota**: The full list of proposed roads and highways is provided in Strategy PD 3.1 (Thrust 1).*

Inter-city and intra-city rail transport services are also proposed to be enhanced and to be in line with the needs of the population and urbanisation rate as well as to support the mobility of passengers and goods. The details of the proposed rail link enhancement are described in Action PD3.2A and Action PD3.3A. The core proposals are summarised below:

Proposed high-speed rail lines

1. Kuala Lumpur to Johor Bahru (HSR 1) and then to Singapore (HSR 1A)
2. Port Klang to Kota Bharu (ECRL 1), and to Thailand via Rantau Panjang (ECRL 1A)
3. KLIA to Melaka (ERL 2)
4. Kuala Lumpur to Kangar (HSR 2), and to Thailand (HSR 2A)
5. Kuantan to Johor Bahru (ECRL 2)
6. Penang to Kota Bharu (ECRL 3)

Proposed rail lines in cities

National Conurbation

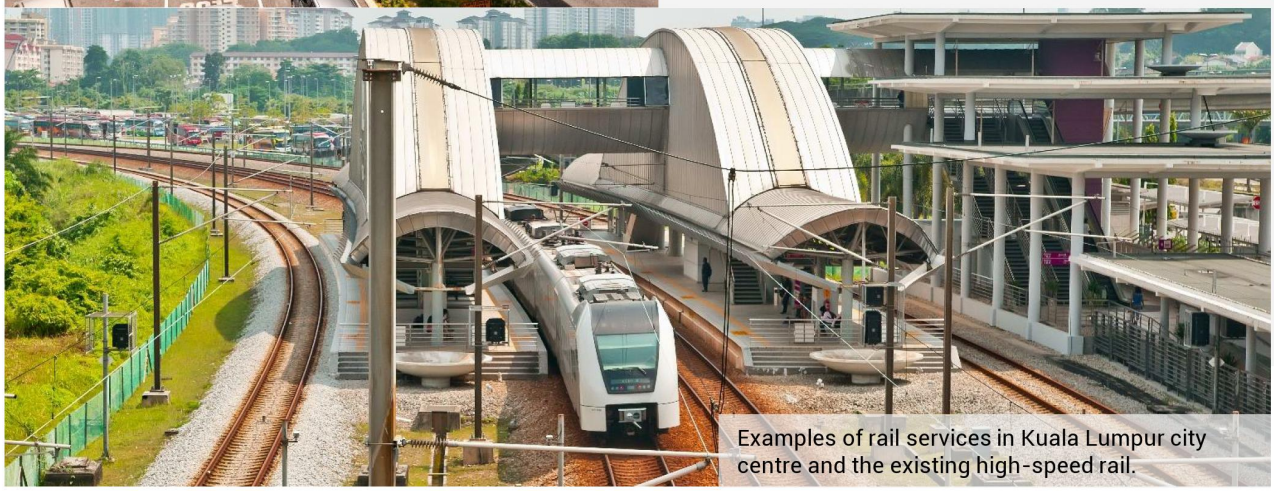
1. Klang Valley Circle Line
2. North Klang Valley and South Klang Valley Lines
3. Klang Valley Outer Ring

Northern Conurbation

1. Bayan Lepas LRT Line (First Phase)
2. Bayan Lepas LRT Line (Second Phase)
3. George Town - Butterworth Rail Line
4. Air Itam Rail Line
5. Tanjung Tokong Rail Line
6. Raja Uda - Bukit Mertajam BRT Line
7. Permatang Tinggi - Batu Kawan BRT Line

Southern Conurbation

1. Rapid Transit System Johor Bahru - Singapore (RTS)
2. Iskandar Malaysia BRT Line (Tebrau, Skudai & Iskandar Puteri)
3. Iskandar Puteri BRT connection to Singapore (Tuas MRT Station)



Examples of rail services in Kuala Lumpur city centre and the existing high-speed rail.

Note: LGK - Langkawi International Airport
AOR - Sultan Abdul Halim Airport
PEN - Penang International Airport
IPH - Sultan Azlan Shah Airport
SZB - Sultan Abdul Aziz Shah Airport
KUL - Kuala Lumpur International Airport
MKZ - Melaka International Airport
JHB - Senai International Airport
KTE - Kerteh Airport
TGG - Sultan Mahmud Airport
KBR - Sultan Ismail Petra Airport
LBU - Labuan International Airport

MAP 3-5: CONNECTIVITY AND TRANSPORTATION NETWORK IN PENINSULAR MALAYSIA AND F.T OF LABUAN

Land Transport
- Highway
- Federal Road
- State Road
- Proposed Highway
- Existing Rail Line
- Proposed High Speed Rail Line
- Proposed Inter City Rail Line

Air Transport (Airport)
- Category 1
- Category 2
- Category 3
- Category 4

Water Transport (Port)
- Level 1
- Level 2
- Level 3

Others
- State Capital
- State Boundary
- Water Body

Source:
- Ministry of Transport, 2018
- Malaysia Highway Authority, 2018
- National Physical Plan 4, 2020

Note: LGK - Langkawi International Airport
AOR - Sultan Abdul Halim Airport
PEN - Penang International Airport
IPH - Sultan Azlan Shah Airport
SZB - Sultan Abdul Aziz Shah Airport
KUL - Kuala Lumpur International Airport
MKZ - Melaka International Airport
JHB - Senai International Airport
KTE - Kerteh Airport
TGG - Sultan Mahmud Airport
KBR - Sultan Ismail Petra Airport
LBU - Labuan International Airport

MAP 3-6 : SMP 1: SPATIAL PLANNING PLAN FOR PENINSULAR MALAYSIA

Growth Area
- Connurbation
- Promoted Development Zone
- Catalyst Centre
- Agropolitan Centre

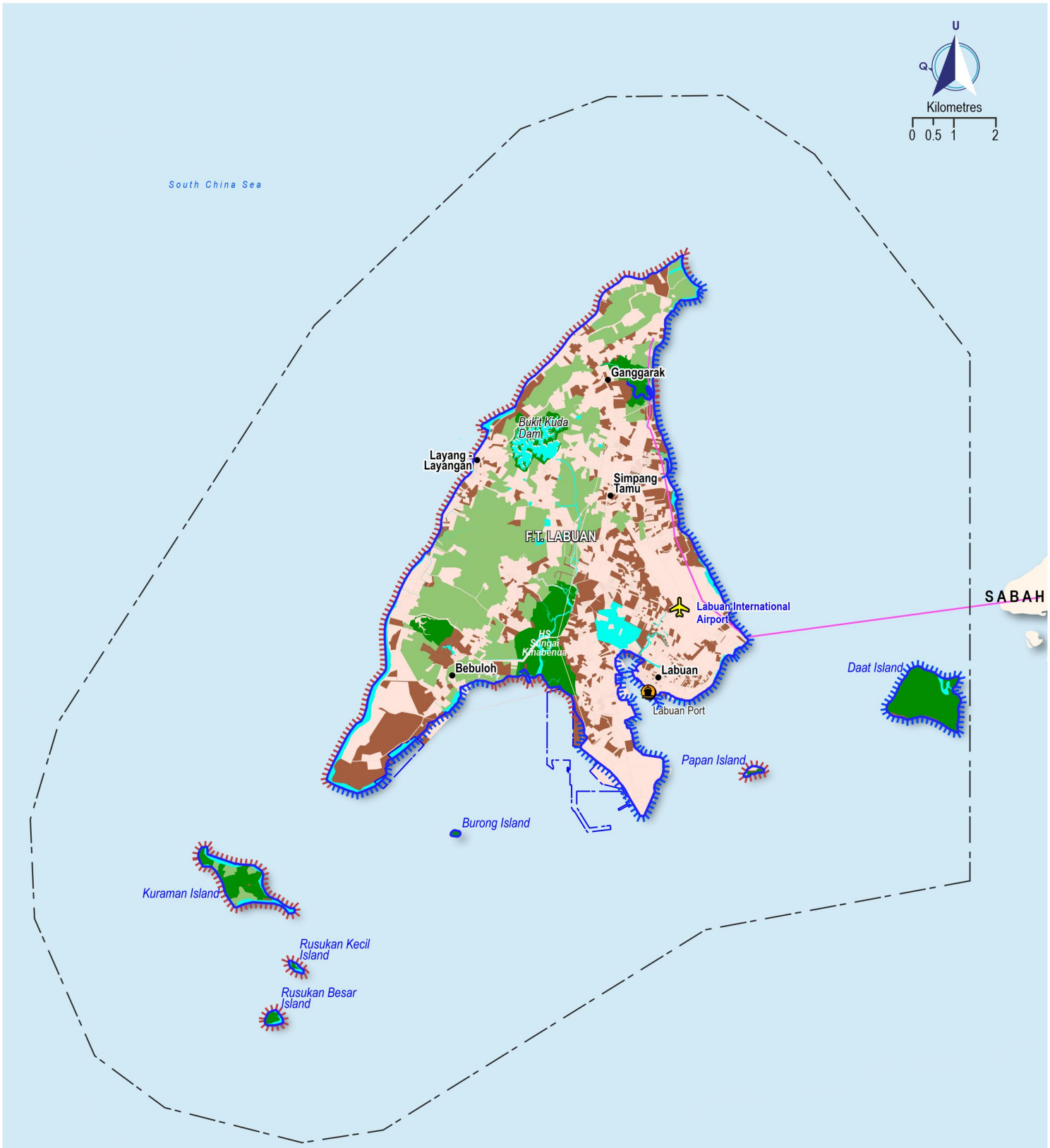
Land Use
- Current Built-up
- Proposed Built-up
- Forest
- Paddy Fields
- Agriculture
- Water Bodies

Coastal Development and Protection Area
- Coastal Development Zone
- Coastal Protection Zone

Land, Air and Water Transport
- Proposed Highway
- Proposed High Speed Rail Line
- Proposed Inter City Rail Line
- Airport
- Proposed Airport
- Proposed Amphibious Airport
- Port
- Proposed Port

Others
- State Capital
- 3 Nautical Mile Boundary
- Reclaimed Area
- State Boundary

Source:
- Ministry of Transport, 2018
- Malaysia Highway Authority, 2018
- I-Plan. PLANMalaysia, 2018
- Peninsular Malaysia Forestry Department, 2018
- National Physical Plan 4, 2020



MAP 3-7 : SMP 1: SPATIAL PLANNING PLAN FOR F.T OF LABUAN

Growth Area
- Promoted Development Zone

Land Use
- Current Built-up
- Proposed Built-up
- Forest
- Agriculture
- Water Bodies

Coastal Development and Protection Zone
- Coastal Development Zone
- Coastal Protection Zone

Land, Air and Water Transport
- Proposed Coastal Road (Ganggarak - Tg. Aru) & Labuan - Mempakul (Menumbok), Sabah Proposed Bridge
- Airport
- Port

Others
- Main Town
- Reclaimed Area
- Labuan Federal Territory Boundary

Source:
- Labuan Development Blueprint 2030
- National Physical Plan 4, 2020

Spatial Planning Strategic Framework
SMP 2

Resource Management Plan for Peninsular Malaysia and F.T. Labuan

The protection and the management of the country's resources are further strengthened by NPP4 in line with the country's sustainable development aspirations. These are divided into **five (5) main categories** (refer to **Plan 3-8 to 3-11**) which consist of:

Resource Management

Consists of the following categories:

- ✓ Natural Resources
- ✓ Water Resources
- ✓ Energy Resources
- ✓ Food Resources
- ✓ Heritage Resources

SMP 2-A *Natural Resources*

The management, preservation and conservation of natural assets involve the following:

1. Permanent Forest Reserves (HSK).
2. Ecological Corridor - covering areas of ecological and biodiversity importance, the Central Forest Spine (CFS), wildlife protection reserves and natural heritage sites of endangered CFS ecological corridor network that requires conservation and preservation approaches based on the strategies outlined in the CFS Ecological Network Master Plan 2020.

The following are the CFS ecological corridors that must be preserved to maintain forest integrity and connectivity in Peninsular Malaysia:

Kedah
- K-PL1: HS Ulu Muda – HS Gunung Inas
- K-SL1: HS Ulu Muda – HS Bukit Saiong – HS Pedu – HS Chebar
- K-SL2: HS Ulu Muda – HS Rimba Telui
- K-SL3: HS Gunung Bongsu – HS Gunung Inas

Perak
- A-PL1: HS Temenggor – HS Aman Jaya – HS Belum
- A-PL2: HS Padang Chong – HS Sungai Kuak – HS Lapang Ninering
- A-PL3: HS Belukar Semang – HS Kenderong – HS Bintang Hijau
- A-PL4: HS Bintang Hijau (Larut dan Matang) – HS Bintang Hijau (Hulu Perak)
- A-PL5: HS Bukit Larut – HS Bubu
- A-SL1: HS Bintang Hijau – HS Pepalut – HS Piah
- A-SL2: HS Bujang Melaka – HS Bukit Tapah – HS Bukit Kinta
- A-SL3: HS Bubu – Hutan Paya Laut Matang

Kelantan
- D-PL1: HS Lojing – HS Sungai Brok – HS Sungai Betis
- D-PL2: Taman Negara – HS Lebir
- D-PL3: HS Gunung Basor (Tasik Pergau) – HS Jeli – HS Sg. Sator – HS Sokotarku
- D-SL1: HS Lebir – HS Relai – HS Ulu Temiang – HS Jentiang – HS Serasa – Taman Negeri Gunung Stong
- D-SL2: Taman Negara – HS Chiku
- D-SL3: HS Chabang Tongkat – HS Ulu Sat

Pahang
- C-PL1: HS Tanum (Greater Taman Negara) – HS Sg. Yu (Banjaran Utama)
- C-PL2: HS Ulu Jelai – HS Bukit Bujang – HS Hulu Lemoi
- C-PL3: HS Lesong – HS Resak
- C-PL4: HS Bukit Ibam – HS Sg. Marong – HS Sg Lesong
- C-PL5: HS Ibam (Rompin) – HS Kedondong – HS Pekan and HS Nenasi
- C-PL6: Rizab RAMSAR Bera – HS Ibam
- C-SL1: Rizab Hidupan Liar Krau – HS Bencah – HS Som – HS Yong
- C-SL2: HS Lepar – HS Berkelah
- C-SL3: HS Chini – HS Lepar

Terengganu
- T-PL1: Taman Negara Tasik Kenyir – HS Tembat
- T-PL2: HS Jerangau – HS Jerangau
- T-SL1: HS Bukit Bauk – HS Rasau Kertih – HS Besul – HS Jerangau
- T-SL2: HS Hulu Nerus – HS Hulu Setiu – Taman Negeri Wetlands

Johor
- J-PL1: HS Labis – HS Semberong Tambahan – HS Lenggor – HS Mersing
- J-PL2: HS Panti – HS Ulu Sedili
- J-PL3 : HS Panti – HS Seluyut
- J-SL1: HS Panti – HS Kuala Sedili

Selangor
- B-SL1: HS Raja Musa – HS Bukit Tarek – HS Gading
- B-SL2: HS Hulu Langat – HS Sungai Lalang

Negeri Sembilan
- N-SL1: HS Triang – HS Kenaboi
- N-SL2: HS Angsi – HS Berembun
- N-SL3: HS Kenaboi – HS Kenaboi

3. Increase forest cover to 50% of total land area by 2040 based on the enhanced ESA framework. This is to be achieved through the gazettement of new HSK areas amounting to 91,130 hectares consisting of government-owned forest land in Kedah, Perak, Pahang, Perlis, Penang, Selangor and Johor to ensure the sustainability of the national forest ecosystem.

SMP 2-B *Water Resources*

The sustainable protection and management of water resources to ensure clean and quality water supply involving:

1. Dam catchment areas by ensuring proper management of water catchment areas in 66 dam catchments.
2. Water intake catchment areas (river basins) by targeting Class 1 river basins for nature conservation use.
3. River networks through the management and strengthening of IRBM mechanism in 189 major river basins.
4. Groundwater sources (as alternative source of water).

SMP 2-C *Energy Resources*

The protection and management of energy-generating areas in line with the country's carbon emission reduction and green development targets, involving:

1. Dam and river basin catchments, which are the sources for hydro and mini-hydro power generation.
2. Oil palm plantation areas, which generates biomass.
3. Landfills for biogass power generation.
4. Increase utilisation of sustainable energy sources through solar energy generation in areas with high solar radiation exposure such as in residential, commercial and industrial areas.

SMP 2-D *Food Resources*

The systematic management of food producing areas to ensure the country's food security involving:

1. National Rice Bowl *(Jelapang Padi Negara);*
2. Permanent Food Production Park (TKPM)
3. Permanent Ruminant Food Production Park (TKPR)
4. Paddy fields outside National Rice Bowl areas;
5. Aquaculture Industrial Zone (ZIA)

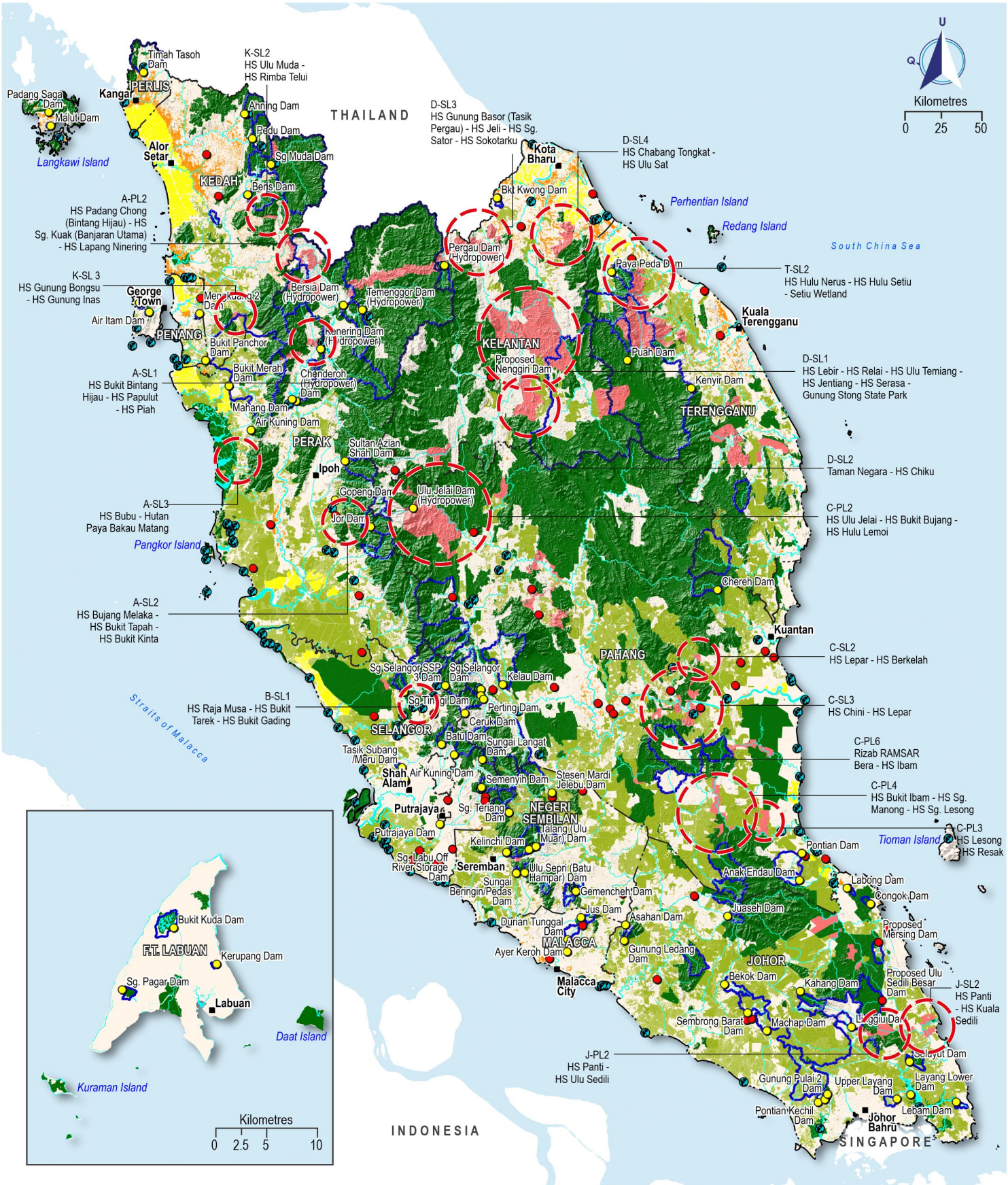
SMP 2-E *Heritage Resources*

The preservation and management of heritage assets which include:

1. Cultural heritage sites including archaeological heritage sites, buildings, monuments/sites of cultural heritage significance;
2. Natural heritage sites which include any natural site of outstanding universal value.
3. Natural heritage sites are more concentrated in the highlands and forest areas such as the Forest Research Institute of Malaysia (FRIM), Perdana Botanical Garden, Permatang Kuarza, Taiping Lake Garden, Kuala Koh National Park, Royal Belum State Park, Tanjung Piai National Park and Gunung Ledang National Park.
4. Preservation of turtle landing sites which are mostly located on the coastlines of Terengganu, Pahang, Melaka, Perak, Penang and Kedah.
5. Formation of network of coastal and marine protected areas through the establishment and gazettement of 5 marine protected areas:

    - Iskandar Royal Marine Conservation Area (RIMCA), Johor
    - Terengganu Marine Parks and Setiu Wetlands
    - Pangkor Island and the Sembilan Islands, Perak
    - Northern Archipelago (Kedah and Perlis)
    - Matang Mangrove Forest, Perak

    The protection of coastal and marine zones allows for:
    - Control of shore line development
    - Protection of under water heritage sites
    - Preservation of natural assets



MAP 3-8: RESOURCE MANAGEMENT (NATURAL, WATER, ENERGY AND FOOD) PLAN FOR PENINSULAR MALAYSIA

Natural Resources
- Forest Reserve
- CFS Ecological Link
- Threatened CFS Ecological Link

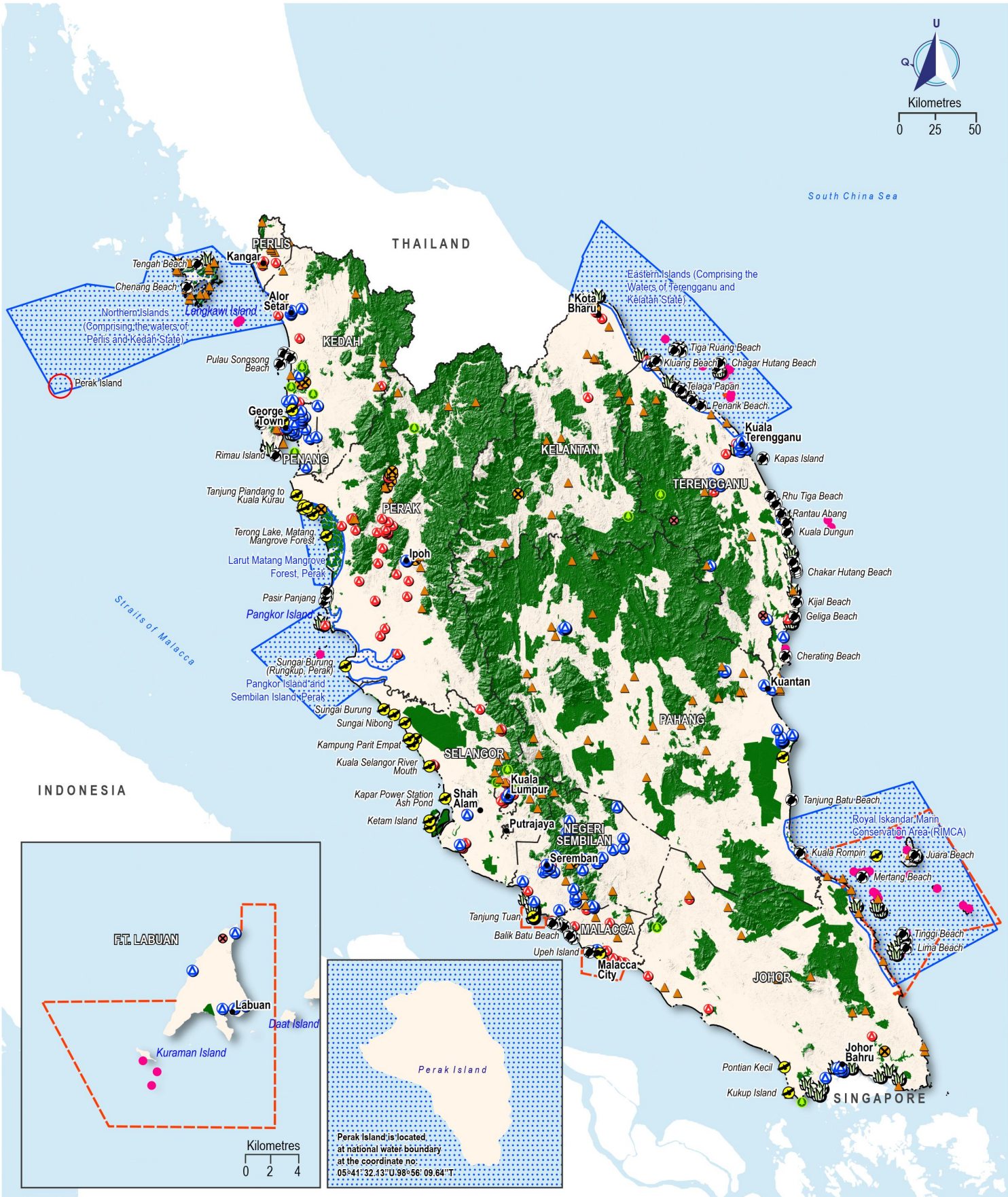
Water Resources
- Dam Reservoir
- Water Bodies

Energy Resources
- River
- Dam Location (Hydro Power and Mini Hydro)
- Oil Palm Plantation

Food Resources
- National Rice Bowl (Paddy Field)
- Paddy Field Outside National Rice Bowl
- Permanent Food Production Park (TKPM)
- Aquaculture Industrial Zone

Others
- State Capital
- State Boundary

Source:
- Peninsular Malaysia Forestry Department, 2018
- Agriculture Department, 2018
- CFS Ecological Link Master Plan, 2020
- State Structure Plan
- National Physical Plan 4, 2020



MAP 3-9: HERITAGE MANAGEMENT (NATURAL AND CULTURAL HERITAGE RESOURCES) FOR PENINSULAR MALAYSIA AND F.T OF LABUAN

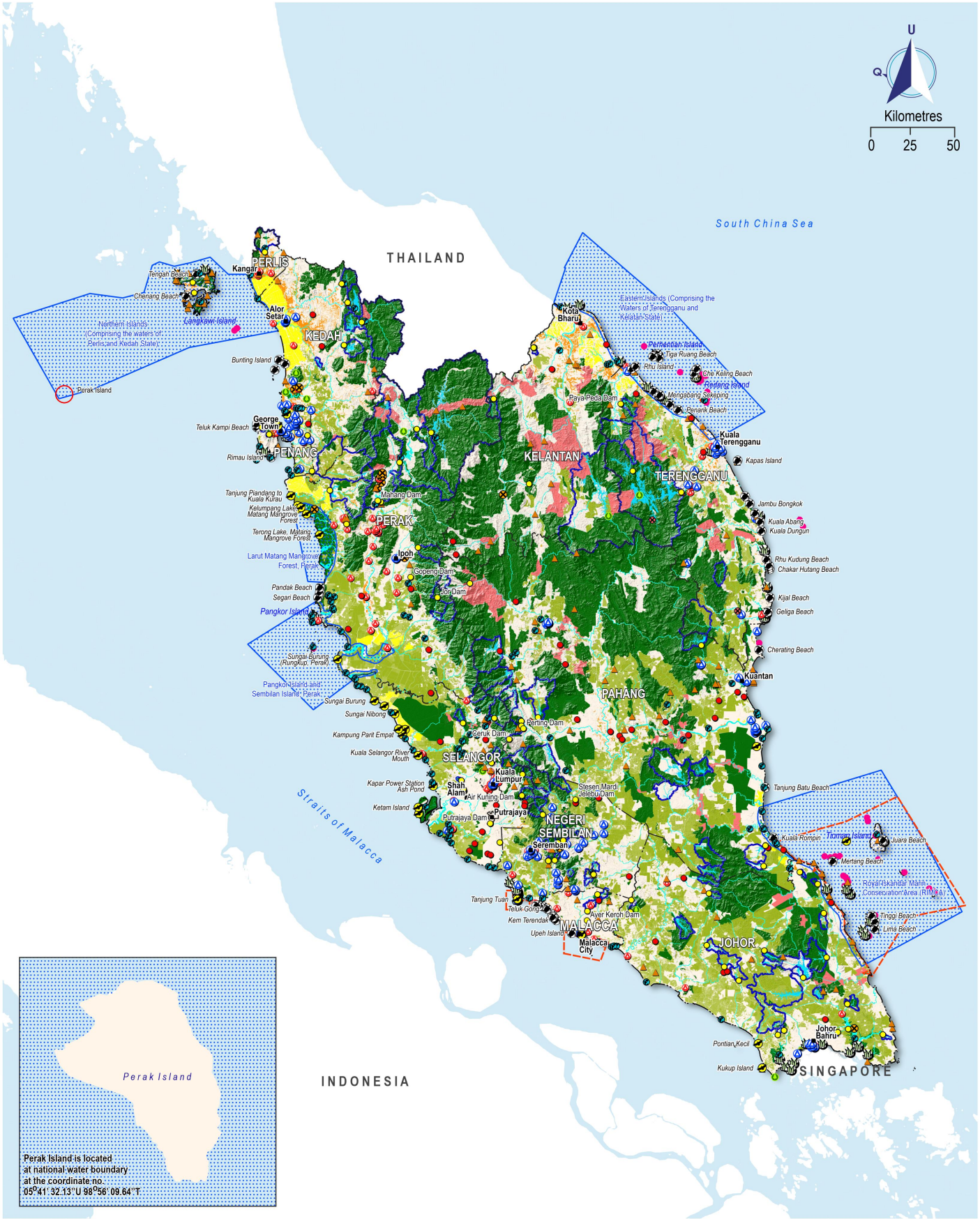
Natural Resources
- Forest Reserve

Natural Heritage Resources
- Natural Heritage Site
- Turtle Landing Location
- Important Bird Area
- Seaweed Areas
- Coral Reef Areas
- Gazette Waters Zone
- Proposed Marin Protection Area
- Proposed Natural Heritage Geological Area

Cultural Heritage Resources
- Archeological Heritage Site
- Building/Monument/Heritage Site
- Proposed Archeological Heritage Site
- Proposed Building/Monument/Site

Others
- State Capital
- State Boundary

Source:
- Peninsular Malaysia Forestry Department, 2018
- Department of Marine Park, 2018
- National Heritage Department, 2019
- State Structure Plan
- National Physical Plan 4, 2020



MAP 3-10: SMP 2: STRATEGIC RESOURCE MANAGEMENT FRAMEWORK PLAN FOR PENINSULAR MALAYSIA

Natural Resources
- Forest Reserve
- CFS Ecological Link

Natural Heritage Resources
- Natural Heritage Site
- Turtle Landing Location
- Important Bird Area
- Seaweed Areas
- Coral Reef Areas

- Gazette Waters Zone
- Proposed Marin Protection Area
- Proposed Natural Heritage Geological Area

Water Resources
- Dam Reservoir
- Water Bodies

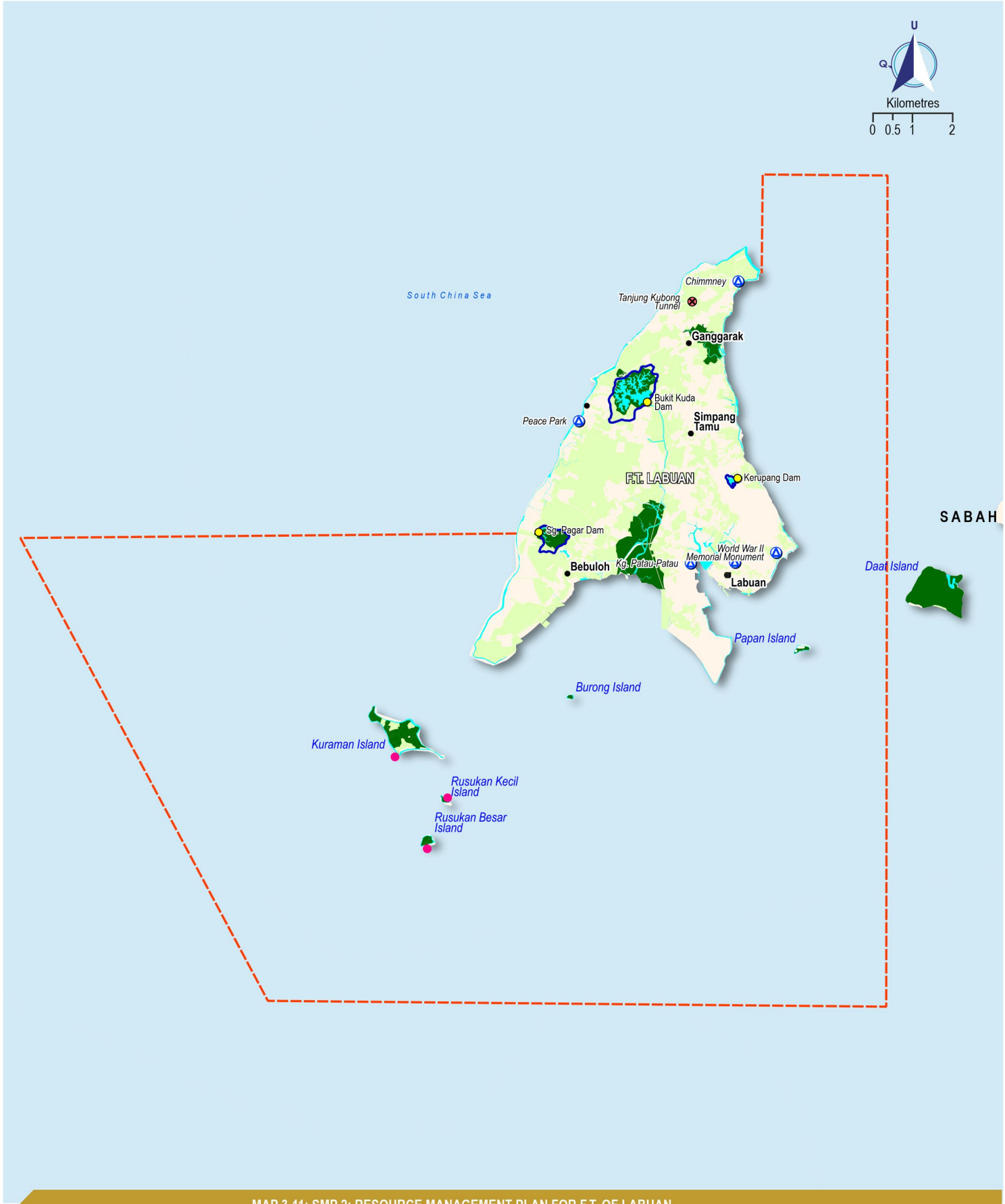
Energy Resources
- River
- Dam Location (Hydro Power and Mini Hydro)
- Oil Palm Plantation

Food Resources
- National Rice Bowl (Paddy Field)
- Paddy Field Outside National Rice Bowl
- Permanent Food Production Park (TKPM)
- Aquaculture Industrial Zone

Cultural Heritage Resources
- Archeological Heritage Site
- Building/Monument/Heritage Site
- Proposed Archeological Heritage Site
- Proposed Building/Monument/Site

Others
- State Capital
- State Boundary

Source:
- Peninsular Malaysia Forestry Department, 2018
- Agriculture Department, 2018
- Department of Marine Park, 2018
- National Heritage Department, 2019
- CFS Ecological Link Master Plan, 2020
- State Structure Plan
- National Physical Plan 4, 2020



MAP 3-11: SMP 2: RESOURCE MANAGEMENT PLAN FOR F.T. OF LABUAN

Natural Resources
- Forest Reserve

Water Resources
- Dam Reservoir
- Water Body

Energy Resources
- River
- Dam Location (Hydro Power and Mini Hydro)

Natural Heritage Resources
- Coral Reef Areas
- Gazette Waters Zone

Cultural Heritage Resources
- Proposed Archeological Heritage Site
- Building/Monument/Heritage Site

Others
- Main Town
- Agriculture

Source:
- National Heritage Department, 2019
- Labuan Development Blueprint, 2030
- National Physical Plan 4, 2020

Spatial Planning Strategic Framework
SMP 3

Natural Disaster Risk Area Management Plan for Peninsular Malaysia and F.T. Labuan

To ensure the safety and security of the nation, NPP4 embeds natural disaster risk minimisation and management as follows:

Disaster Risk Area Management

Consists of the following categories:

1. **Landslide Risk**
2. **Flood Risk**
3. **Earthquake and Tsunami Risk**
4. **Coastal Erosion Risk**
5. **Sea Level Rise Risk**
6. **Drought Risk**
7. **Forest and Peatland Fire Risk**

SMP 3-A *Landslide Risk*

The control of development types and intensity at areas prone to landslide risk including:

1. Areas with steep slope (slope over 25°).
2. Highlands (over 1,000 meters).
3. A total of 17 landslide risk areas, namely:

Kedah:
1. Kuah
2. Kodiang

Pulau Pinang:
3. George Town
4. Balik Pulau

Perak:
4. Ipoh
5. Kampar

Lembah Klang:
6. Selangor (Ampang, Hulu Langat, Rawang, Serendah, Subang & Shah Alam)
7. Kuala Lumpur

Negeri Sembilan:
8. Seremban

Johor:
9. Pekan Nenas

Pahang:
10. Cameron Highlands
11. Genting Highlands
12. Bentong
13. Kuala Lipis

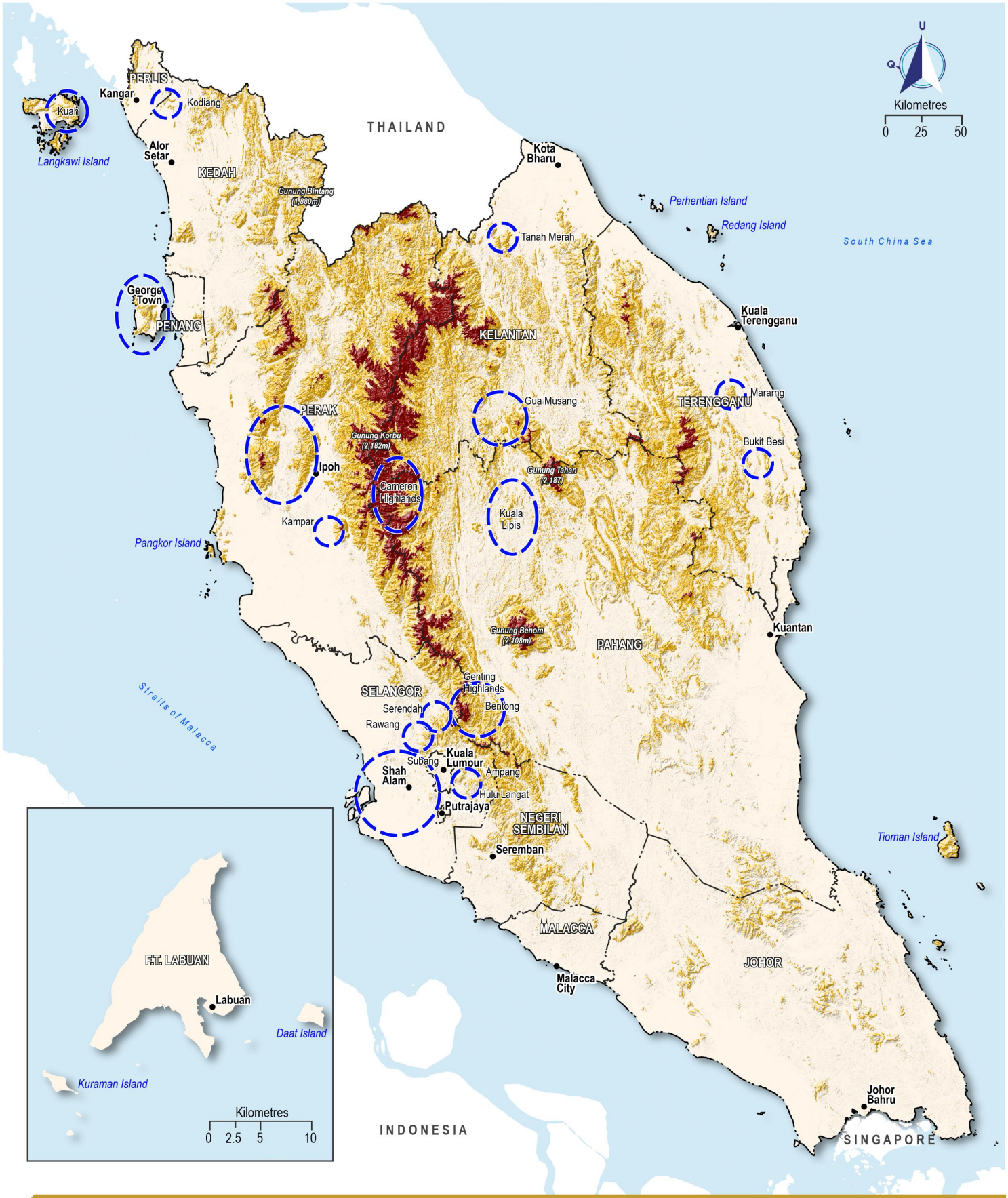
Terengganu:
14. Bukit Besi
15. Marang

Kelantan:
16. Tanah Merah
17. Gua Musang

SMP 3-B *Flood Risk*

The management of flood risk considers the following:

1. The East Coast of Peninsular Malaysia faces higher flood risk compared to the West Coast due to its position facing the South China Sea.
2. Flood risk in the West Coast is concentrated to dense urban areas as well as major river basins such as the Perak River.
3. Flood risk for F.T. Labuan must also be given attention due to the island being in area which is prone to disaster risk.
4. Flood management must include :
    - Flood risk area mapping;
    - Application of 'Sponge City' concept to mitigate flash floods; and
    - Integrate 'Living with Flood' concept in urban development in flood prone areas.



MAP 3-12: LANDSLIDE RISK AREAS IN PENINSULAR MALAYSIA AND F.T OF LABUAN

Landslide Risk Areas

- Landslide Location
- Landslide Risk (Slope >25°)
- Highland (> 1,000m)
- Low Risk

Others

- State Capital
- State Boundary

Source:

- National Slope Master Plan, 2009-2030
- Shuttle Radar Topography Mission, 2018
- National Physical Plan 4, 2020

SMP 3-C *Earthquake and Tsunami Risk*

Tsunami Risk

1. Tsunami risk is more profound to the West Coast of Peninsular Malaysia, especially in Perlis, Kedah, Penang, Perak and Selangor due to proximity to the volcanic ring in North Sumatra (Aceh and the Andaman Sea).
2. The entire F.T. Labuan is vulnerable to tsunami risk.

SMP 3-D *Coastal Erosion Risk*

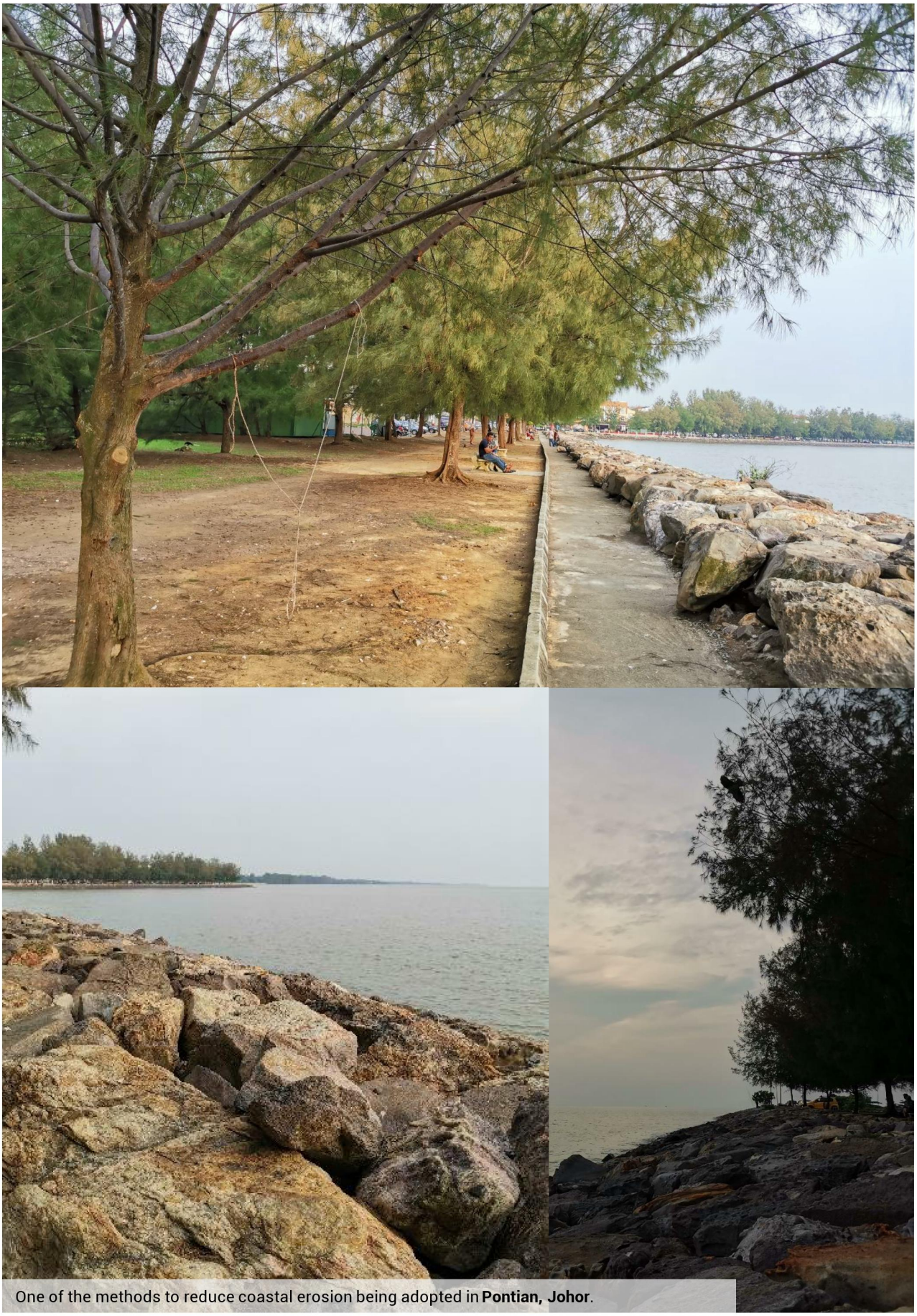
Sea currents and waves can affect the coastlines and pose erosion risk. NPP4 adopts the 2nd National Coastal Zone Physical Plan (RFZPPN2) as the main coastal planning and development control framework in the management of areas with coastal erosion risk. In line with RFZPPN2, development control and risk management of coastal areas are based on the following categories:

- **Category I** (Critical)
- **Category II** (Significant)
- **Category III** (Less Serious / Acceptable)

- **Category I (Critical)**
  - Rapid coastline retreat (exceeding 4 meters/year).
  - High population density.
  - Presence of commercial / industrial activities.
  - Substantial infrastructure services and public facilities.

- **Category II (Significant)**
  - Moderate coastline retreat (between 1 to 4 meters/year).
  - Low population density.
  - Presence of agricultural activities.
  - Modest infrastructure services and public facilities.

- **Category III (Less Serious / Acceptable)**
  - Slow coastline retreat (less than 1 meter/year).
  - Generally uninhabited areas.
  - Minimal agricultural activity.
  - No infrastructure services and public facilities.



One of the methods to reduce coastal erosion being adopted in **Pontian, Johor**.

SMP 3-E *Sea Level Rise Risk*

The management of risk from sea level rise considers the following:

1. The risk from sea level rise is more significant on the West Coast than the East Coast of Peninsular Malaysia. Most residential areas will be affected by the 100-meter sea level rise. Coastal zone development and erosion control measures must be implemented to mitigate the impact of sea level rise on the coastal areas.

2. The following are the areas that are vulnerable to the threat of sea level rise in Peninsular Malaysia:

    - Kedah: Kuala Kedah, Kuala Muda
    - Penang: along Seberang Perai coastline
    - Perak: Seri Manjung, Bagan Datuk
    - Malacca: along the state coastline
    - Negeri Sembilan: Port Dickson, Batu Melintang
    - Johor: Pontian, Kukup, Mersing, Kuala Rompin, Endau
    - Kelantan: Tumpat
    - Terengganu: Marang, Setiu, Besut
    - Pahang: Pekan

SMP 3-F *Drought Risk*

1. In managing drought risk, the country must always be prepared to face the uncertainties and risks brought about by climate change phenomena such as drought. Prolonged drought will increase the potential of forest fires. Drought risk reduction measures include:

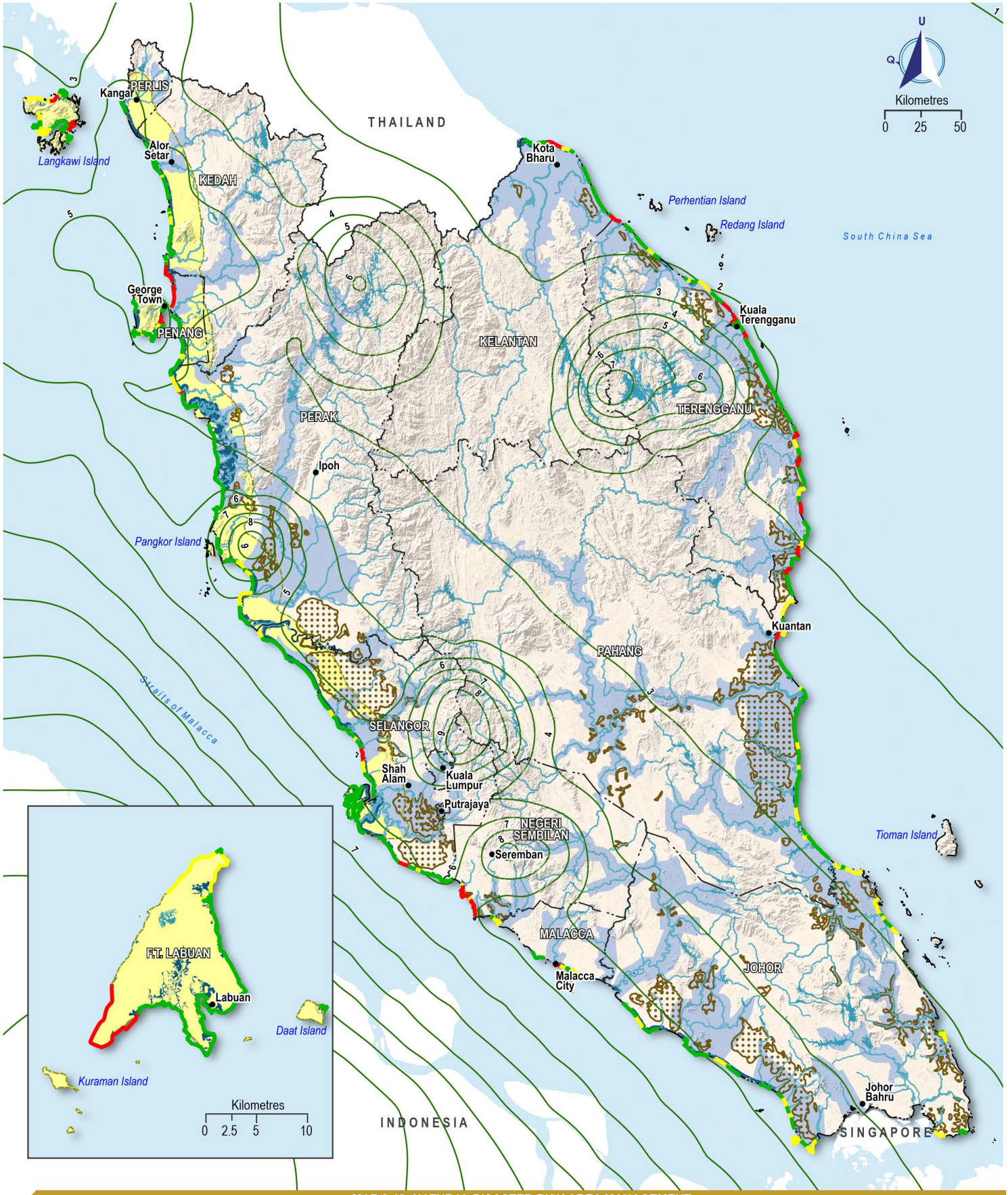
    - Protection of water resources such as dams and river basins.
    - Exploration of alternative water supplies such as groundwater and off-river storage (ORS) to reduce dependence on rivers and dams.
    - Implementation of the 'Sponge City' development concept in urban areas.

SMP 3-G *Forest and Peatland Fire Risk*

1. The need for peatland mapping is based on the following:

    - Non-disaster risk zones: areas with peat layer of less than 3 metres in thickness. These areas are permitted to be developed; and
    - Disaster risk zones: areas with peat layers of less than 3 metres in thickness but larger than 250 acres, and areas with peat thickness of more than 3 metres. Development at these areas can be considered subject to risk likelihood, engineering solution and development feasibility.

2. Encourage community participation in peatland forest management.



MAP 3-13: NATURAL DISASTER RISK AREA MANAGEMENT
(FLOOD, EARTHQUAKE AND TSUNAMI, COASTAL EROSIAN, SEA LEVEL RISE AND PEAT SOIL) IN PENINSULAR MALAYSIA AND F.T OF LABUAN

Flood Risk
- Flood Risk

Earthquake and Tsunami Risk
- Fault Line
- Tsunami Risk

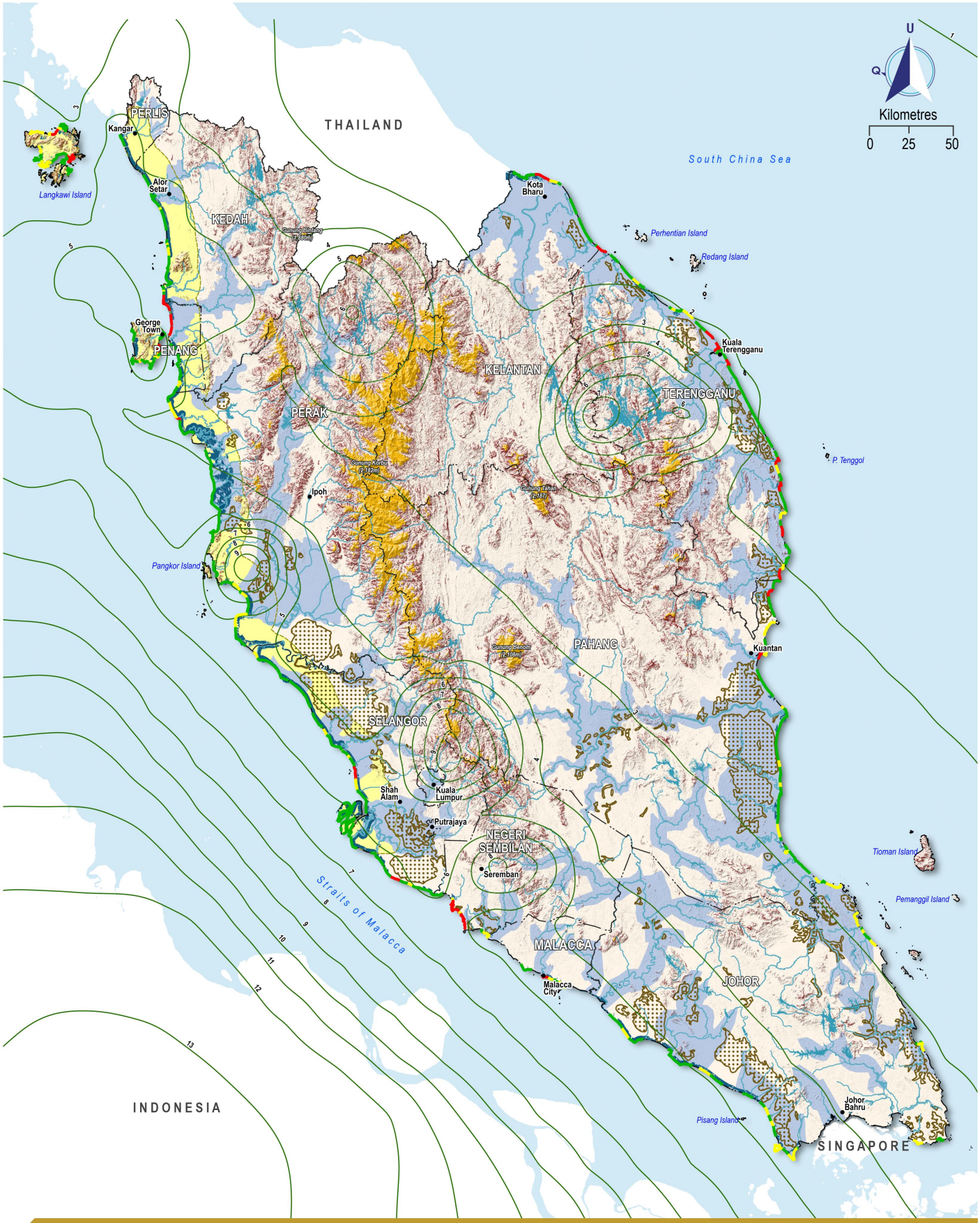
Coastal Erosion Risk
- Critical
- Significant
- Not Serious / Acceptable

Sea Level Rise Risk
- Sea Level Rise Prediction Year 2030 and 2100 (0.12m - 0.73m)

Forest and Peat Soil
- Peat Soil

Others
- Low Risk
- River and Dam
- State Capital

Source:
- National Coastal Erosion Study, 2016
- National Hydraulic Research Institute of Malaysia(NAHRIM), 2017
- Irrigation and Drainage Department, 2018
- Department of Marine Park Malaysia, 2018
- Labuan Development Blueprint, 2030
- National Physical Plan 4, 2020



MAP 3-14: SMP 3: NATURAL DISASTER RISK AREAS MANAGEMENT PLAN FOR PENINSULAR MALAYSIA

Landslide Risk Area
- Landslide Risk (Slope >25°)
- Highland (> 1,000m)

Flood Risk
- Flood Risk

Earthquake and Tsunami Risk
- Fault Line
- Tsunami Risk

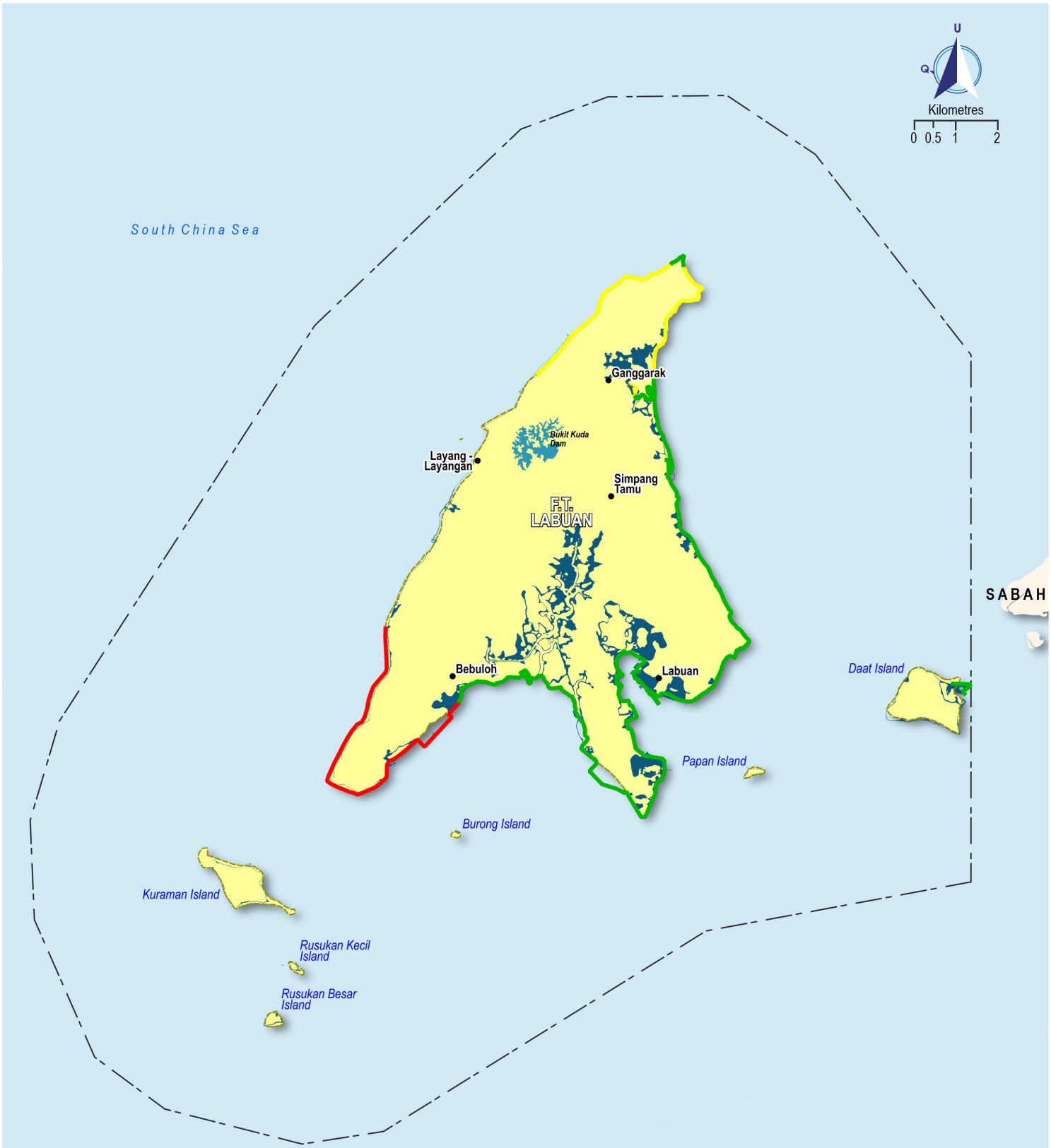
Coastal Erosion Risk
- Critical
- Significant
- Not Serious / Acceptable

Sea Level Rise Risk
- Sea Level Rise Prediction Year 2030 and 2010 (0.12m - 0.73m)

Forest and Peat Soil
- Peat Soil

Others
- Low Risk
- River and Dam
- State Capital

Source:
- National Coastal Erosion Study, 2016
- National Hydraulic Research Institute of Malaysia (NAHRIM), 2017
- Irrigation and Drainage Department, 2018
- Department of Marine Park Malaysia, 2018
- National Physical Plan 4, 2020



MAP 3-15: SMP 3: F.T. LABUAN NATURAL DISASTER RISK AREAS MANAGEMENT PLAN FOR F.T OF LABUAN

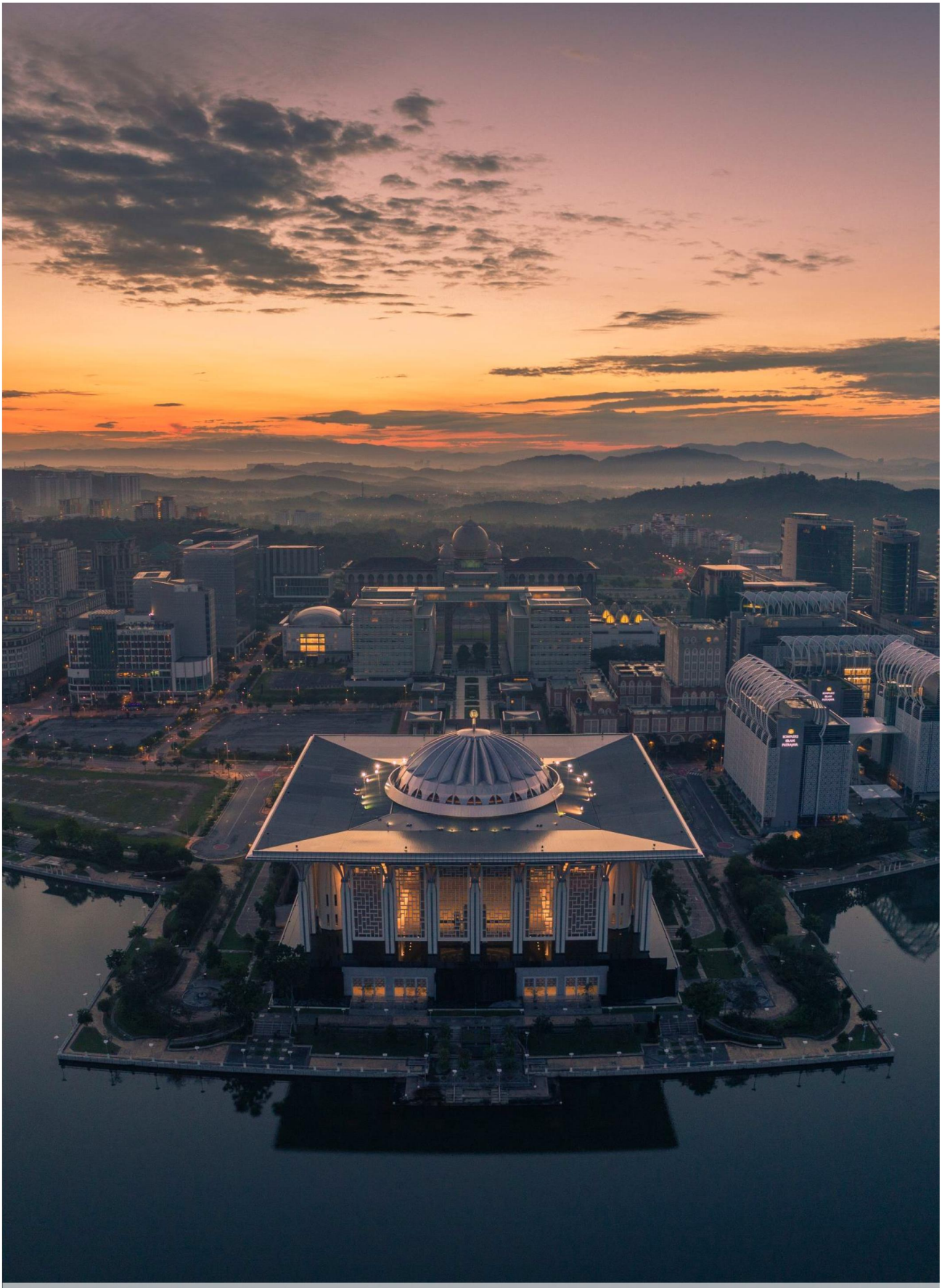
Tsunami Risk
- Tsunami Risk

Coastal Erosion Risk
- Critical
- Significant
- Not Serious / Acceptable

Sea Level Rise Risk
- Sea Level Rise Prediction Year 2030 and 2100 (0.12m - 0.73m)

Others
- River and Dam
- Main Town
- Federal Territory of Labuan Boundary

Source:
- National Coastal Erosion Study, 2016
- National Hydraulic Research Institute of Malaysia(NAHRIM), 2017
- Labuan Development Blueprint, 2030
- National Physical Plan 4, 2020



Precinct 3, F.T. Putrajaya

NPP4 Structure

The NPP4 strategic planning framework is formulated to provide the synergy to the country's physical planning landscape. Aimed at making Malaysia a **Prosperous, Resilient, and Liveable Nation,** this NPP4 document acts as an instrument in translating and rationalising the aspirations of the Shared Prosperity Vision 2030, the 12MP and strategic sectoral policies into a more comprehensive planning framework. Being guided by the development aim, three development thrusts have been developed to address all aspects of planning and development, especially the physical, economic, social and environmental aspects. **Figure 3-10** gives an overview of the overall structure of NPP4 which contains an aim, **three (3) development thrusts, 11 strategic directions, 39 strategies and 120 actions.**

Figure 3-10: Structure and Form of NPP4
Source: NPP4, 2020

NPP4 Strategic Directions and Strategies

Transformation in various sectors can be realised through concerted implementation of the three development thrusts which include strategic directions, strategies and actions for each sector as presented below:

THRUST 1:
Balanced and Dynamic Growth

THRUST 2:
Spatial Sustainability and Climate Change Resilience

THRUST 3:
Liveable Environment and Inclusive Community

NPP4 STRATEGIC DIRECTIONS AND STRATEGIES

DG1	**Strengthening Nation's Strategic Position at Global Level**
DG1.1	Strengthen Regional Cooperation in Physical Planning and Economic Development
DG1.2	Strengthen National Security Planning
DG2	**Ensuring Sustainable and Competitive Economic Growth**
DG2.1	Strengthen the Function of Growth Areas
DG2.2	Intensify the Activities of Digital Economy as the Basis for Economic Growth
DG2.3	Apply the Latest Industrial Technology as a Pillar of Economic Growth
DG2.4	Diversify Tourism Products and Coverage as One of the Main Drivers of the National Economy
DG2.5	Ensure Provision of High Quality Infrastructure and Tourism Support Facilities
DG2.6	Leverage Rural Local Resources
DG3	**Providing Strategic and Integrated Transportation Network Connectivity**
DG3.1	Strengthen Road Transport Network and Connectivity
DG3.2	Making Rail as the Main Pillar of Transportation System
DG3.3	Strengthen Public Transport Services To Achieve Modal Split Targets
DG3.4	Strengthen Air Connectivity at Global, Regional and Local Levels
DG3.5	Improve Water Transport Services
DG3.6	Strengthen the Logistics Industry
DG4	**Improvising Digital and Smart Infrastructure**
DG4.1	Ensure Development of Infrastructure Towards a Smart Nation
DG4.2	Ensure Comprehensive Implementation of Smart City Agenda

SR1	**Holistic Land Use Planning**
SR1.1	Optimal Land Development Planning
SR1.2	Prioritise Urban Renewal in Existing Built-up Areas
SR1.3	Ensure Development Focus Areas are developed in a Sustainable Manner
SR1.4	Implement the Establishment of Malaysia Urban Observatory (MUO) as an Urban Big-Data Centre and National Smart City Platform
SR1.5	Implement Mitigation Efforts to Reduce the Risk of Natural Disasters and Climate Change
SR2	**Sustainable Management of Natural, Food and Heritage Resources**
SR2.1	Preserve and Conserve National Ecological Assets
SR2.2	Manage and Regulate Development in Environmentally Sensitive Areas (ESAs)
SR2.3	Ensure Sustainability of Water Resources
SR2.4	Manage Geological Resources and Diversity
SR2.5	Ensure National Food Security
SR2.6	Strengthen the Preservation, Conservation and Protection of National Cultural and Natural Heritage Site
SR2.7	Ensure the Preservation and Protection of Cultural Heritage in Physical Planning and Development Control Process
SR3	**Development Towards a Carbon Neutral Nation**
SR3.1	Expand the Implementation of the Low Carbon Cities Framework
SR3.2	Improve the Management of Sustainable Alternative Energy Sources
SR3.3	Strengthen Efficient and Sustainable Waste Management

CI1	**Housing Provision Planning for All**
CI 1.1	Ensure Housing Supply Matches Housing Needs
CI 1.2	Ensure Systematic Housing Planning
CI2	**Building Educated and Competitive Society**
CI 2.1	Provide Basic Education Facilities to Every Levels of Society Throughout the Country
CI 2.2	Provide Integrated Educational Institutions to Create Skilled and Educated Communities
CI3	**Conducive and Liveable Environment**
CI 3.1	Intensify the Implementation of the Community Neighbourhood Concept Through the Provision of Space and Facilities for Shared Use
CI 3.2	Develop Community Facilities in an Integrated and Conducive manner
CI 3.3	Mainstream a Clean, Healthy and Safe Lifestyle in Planning and Development
CI4	**Community-Friendly Planning and Development**
CI 4.1	Implement Collaboration and Strategic Partnerships in Development

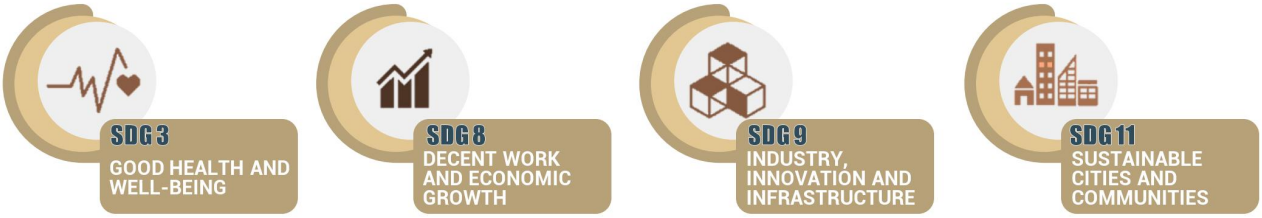
Relationship of the NPP4 Strategies to the SDGs and NUA

Sustainable Development Goals (SDGs)

Malaysia has always been committed in playing its role as a member of the United Nations. Hence, planning policies and agendas at the global level are translated into local context and integrated into the strategies of NPP4. The following diagram maps the relationship between NPP4 strategies and the SDGs.

Figure 3-11: SDGs in NPP4 context
Source: NPP4, 2020

NPP4 recognises the needs to translate global planning policies and agendas in making the national planning and development in line with the global trends. In terms of SDGs, although **Figure 3-10** indicates that all the SDGs are well-mapped to the NPP4 strategies, it was found that four of the goals are exceptionally relevant to NPP4. The following shows the strong relationship between **SDG 3, SDG 8, SDG 9 and SDG 11** with the associated NPP4 strategies:



Strategic summary of NPP4			
Formulate land use planning, optimal use of resources and the provision of infrastructure such as communication and transport systems as well as support infrastructure that will ensure the well-being of the population.	Strengthen the development of regional economic corridors in an integrated manner in line with the recommendations of SDG 8 to create a diverse and balanced economic ecosystem.	Adopt innovative technologies in urban and rural management and development involving water supply sources, solid waste and sewage management, and sustainable energy generation.	Ensure sustainable spatial and land use planning through optimal land use estimation method (target of built-up land use of 11.4% by 2040).
Ensuring access to adequate, affordable, and comfortable housing for all household groups (especially B40 and M40).	Strengthen the role of cities - intensify existing development with appropriate activities in growth areas such as Conurbations, Promoted Development Zones (PDZs) and Catalyst Centres.	Emphasise on the aspects of enhancement and implementation of smart cities at the state and local levels, including rural areas (smart rural).	Strengthen the transport sector to be an enabler in reducing the development gap between urban and rural areas by increasing the level of accessibility.
Highlight the planning of adequate, clean, safe, accessible, and conducive facilities in line with the lifestyle of the community.	Emphasise on increasing the contribution to the country's GDP. The contribution of the tourism sector will increase access to employment opportunities for urban and rural communities.	Adapt and utilise the use of technology and innovation in ensuring the country's preparedness, in turn makes Malaysia a resilient country.	Strengthen initiatives for the conservation of natural resources, biodiversity, heritage, and reduce the impact of climate change and the adaptation of green technology and its advantages in the current planning system.
Translating aspects of community well-being through universal social planning. The provision of community facilities is in line with current needs and trends.	Provide adequate digital-based infrastructure to facilitate daily economic activities. It also requires social (human capital) and environmental development, bridging the communication and linkage gap between urban and rural areas.	Ensure the quality of infrastructure improvement can be enjoyed by, and can connect, all regions. Realise borderless connectivity and reduce the digital gap especially for rural communities.	The formation of a liveable society through the provision of community activity space that meets the needs of all groups as well as expanding community involvement in the planning process.

New Urban Agenda (NUA)

Besides the SDGs, the five strategic thrusts of the New Urban Agenda was also incorporated into NPP4. The following shows the relationship between the NUA strategic thrusts to NPP4 strategic directions.

Five (5) strategic thrusts of NUA

NPP4 Strategic Directions

THRUST 1	THRUST 2	THRUST 3
DG 1: Strengthening Nation's Strategic Position at Global Level	**SR 1 : Holistic Land Use Planning**	**CI 1 : Housing Provision Planning for All**
Regional Cooperation in Physical Planning and Economic Development, National Security Planning **Relationship of with NUA strategic thrust: Thrust 1, Thrust 2 & Thrust 5** **Item:2,21,27,35,50,96,103,149,153**	Optimal and Balanced Land Use Planning **Relationship of with NUA strategic thrust: Thrust 2, Thrust 3 & Thrust 5** **Item:14c,51,76,88,98,114b,137**	Appropriate and Systematic Housing Supply According to Needs **Relationship of with NUA strategic thrust: Thrust 1, Thrust 2 dan Thrust 5** **Item:31,32,46,54,77,99, 105,106,107,111,158**
DG 2 : Ensuring Sustainable and Competitive Economic Growth	Resource Management for Land Development, systematic information /data management, Disaster Risk Reduction & Climate Change **Relationship of with NUA strategic thrust: Thrust 1, Thrust 2, Thrust 3 & Thrust 5** **Item:3,29,32,39,52,63,64,66,65,69,70,77,80,97,105,108,123,124,132,137,143,153, 156**	**CI 2 : Building Educated and Competitive Society**
Increased productivity of economic sectors, digital economy and innovation, increased development and employment opportunities. **Relationship of with NUA strategic thrust: Thrust 2** **Item: 14b, 43,44,45,49,56, 57,59,60,62,70,94,95,100,139,145** High Income Country & Communities **Item: 19,56,57,104,106**	**SR 2 : Sustainable Management of Natural, Food and Heritage Resources**	Basic Education Facilities to every Level of Society **Relationship of with NUA strategic thrust: Thrust 1, Thrust 4 & Thrust 5** **Item: 36,56**
DG 3 : Providing Strategic and Integrated Transportation Network Connectivity	Resource Management (natural resources, water resources) and Integrated and Sustainable Biodiversity **Relationship of with NUA strategic thrust: Thrust 3** **Item:15,16,26,44,65,67,71,73,76,88,98,101,106,** Coastal Development Management **Item: 50,64,71,73,114,145**	Community Empowerment, Skilled Society, Human Development, Talent **Relationship of with NUA strategic thrust: Thrust 2, Thrust 4 & Thrust 5** **Item:1,5,34,36,38,48,56,61,113, 125,148,155,157**
Transport Connectivity and Networks along with Comprehensive Urban and Rural Mobility **Relationship of with NUA strategic thrust: Thrust 2 & Thrust 5** **Item:13,34,50,67,100,113,114,118,117,116,118, 119**	Environmental Resilience, ESA, Sustainable National Food Security Assurance **Relationship of with NUA strategic thrust: Thrust 3** **Item: 2,14c,67,68,70,76,78,79,101,111**	**CI 3 : Conducive and Liveable Environment**
DG 4 : Improvising Digital and Smart Infrastructure	Importance of Natural Heritage & Culture **Relationship of with NUA strategic thrust: Thrust 3** **Item: 38,97,124,125**	The Concept of Community Neighborhood **Relationship of with NUA strategic thrust: Thrust 4** **Item: 5,37,77**
Provision of Infrastructure & Digital Infrastructure towards Smart Nation. **Relationship of with NUA strategic thrust: Thrust 5** **Item: 34,44,124**	**SR 3 : Development Towards a Carbon Neutral Nation**	Public Spaces; Clean, Healthy and Safe Lifestyle; Quality of Life & Health **Relationship of with NUA strategic thrust: Thrust 4** **Item: 3,11,13,37,53,65,67,94,95,96, 109,115,118,119,120,123**
Telecommunication Information & Technology **Relationship of with NUA strategic thrust: Thrust 4 & Thrust 5** **Item: 34,36,44,92,156,160**	Green Environment, Green and Urban Technology and Low Carbon Mobility **Relationship of with NUA strategic thrust: Thrust 1, Thrust 2, Thrust 3 & Thrust 5** **Item: 34,44,54,71,74,75,97,120, 121,122**	**CI 4 : Community-Friendly Planning and Development**
Smart Cities and Technology Adaptation in Planning **Relationship of with NUA strategic thrust: Thrust 1 & Thrust 5** **Item: 66, 118**	Integrated Solid Waste Management and Alternative Energy Source Management **Relationship of with NUA strategic thrust: Thrust 1, Thrust 3 & Thrust 5** **Item:14(c),34,54,66,71,74,75,119,121**	Collaborative Community Involvement in Development **Relationship of with NUA strategic thrust: Thrust 4** **Item: 1,9,13,114,149,155,156**

NPP4 Main Development Targets

To achieve balanced development and optimum use of land, NPP4 has formulated various targets to be achieved until 2040. These main targets are listed and presented here to provide easy reference to other agencies as a general guide for them in developing and determining implementation targets at state and local levels.

Targets	2018	2020	2025	2030	2040
Peninsular Malaysia & F.T. Labuan Population	25.7 Million	26.8 Million	28.5 Million	30.1 Million	32.6 Million
Urbanisation Rate	75.6%	77.2%	79.7%	80.0%	Not more than 85%
Optimal Built-up Land Use Requirements for Peninsular Malaysia & F.T. Labuan	1,241,149 hec	1,320,681 hec	1,392,001 hec	1,454,628 hec	1,510,197 hec
Urban Sustainability Level (Based on MurniNets) (101 LA)	60 Sustainable	75 Sustainable	90 Sustainable	101 Sustainable	101 Sustainable
Forest Cover (Peninsular Malaysia)	47.7% 6,286,434 hec	47.3% 6,238,008.35 hec	48.0%	49.0%	50.0%
National Ranking for Disaster Management (National Disaster Risk Management at the Global Level)	104	111	115	120	125
Wireless Broadband	• Nationwide 3G coverage • Rapid development of 4G coverage	• 96.7% 2G coverage * • 95.3% 3G coverage • 91.8% 4G coverage	• 100% 4G coverage nationwide • 5G planning and implementation	New Technology	
Fixed Broadband	Growing from high-speed broadband (HSBB) to HSBB 2 and Sub-Urban Broadband (SUBB)	4.95 million premises available with fixed line broadband access **	• Expanding fiber optics to urban and rural areas • Alternative technologies for connecting premise • Gigabit access to 9 million premises ready for installation	New Technology	

Note:
The JENDELA initiative will prioritise populated areas and areas with economic activity
**Coverage rates in populated areas benefit at least 20 people per sq km*
*** Combined data by fixed operators in NDII*

> “And He has set up on the earth mountains standing firm, lest it should shake with you, and rivers and roads, so that you may guide yourselves.”
>
> 16:15 – An-Nahl