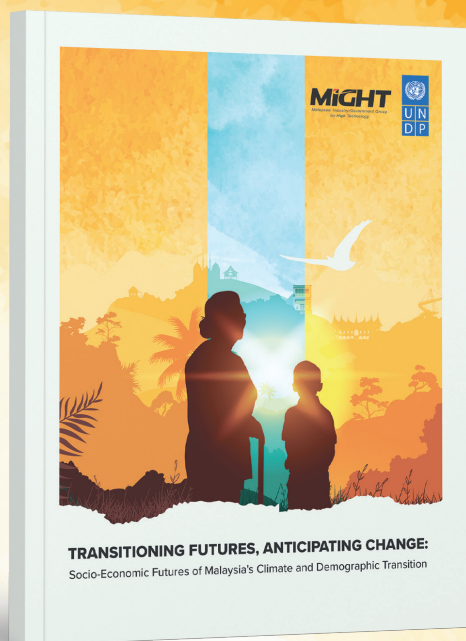


MiGHT
Malaysian Industry-Government Group
for High Technology



TRANSITIONING FUTURES, ANTICIPATING CHANGE:
Socio-Economic Futures of Malaysia's Climate and Demographic Transition



Cover Rationale

The cover design encapsulates the complex interplay between climate change, demographic shifts and sustainable development in Malaysia. The use of watercolour textures in the background represents the fluid and interconnected nature of climate and demographic transitions. Central to the composition is a depiction of Malaysia's diverse skyline, showcasing both urban development and natural tropical environments. The predominant orange hue serves as a visual metaphor for the pressing nature of climate and demographic related challenges.

A key focal point of the cover is a window-like element offering a glimpse into a potential future. This section is rendered in vibrant green tones and symbolises the vision of a greener, more sustainable future. The transition from orange to green represents hope and the transformative change possible through effective policies and sustainable practices. The silhouette of an elderly woman and child also depicts society's common aspiration for positive change.

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JOINT-FOREWORD

Why Did We Get into This Study?

The beginning of our interest was the issue of megatrends and underlying drivers. Of the many megatrends that are underway around the world, for Malaysia, there are two that could combine to create profound social and economic consequences. These are potentially disruptive megatrends, and so while they may present opportunities if managed well, they could also create worst-case scenarios.

The first of these megatrends is the country's demographic transition. In 2022, Malaysia crossed the ageing threshold as 7.2% of its population turned 65 and above years old. By 2040, this will double to nearly 15%. This has obvious social consequences, and economic consequences – which need to be planned and managed for. Socially, the number of dependent people for every economically active Malaysian has risen to 1.6. This is leading to a shrinking workforce including in critical sectors like health and education. There is a rising need for care and the need for maturing a care economy. In the economic arena, the need for increased social welfare and healthcare spending will put pressure on the fiscal space, and an ageing workforce will have implications for Malaysia's global competitiveness.

This then intersects with the second of the megatrends that we look at – the climate transition. A significant economic transformation is forthcoming from the transition to net-zero emissions which in turn will require further investments, both from the fisc and from the private sector. The wider consequences of climate change – heat waves, and potential flooding will need both adaptation and mitigation financing. Unpredictable weather patterns are almost certain to disrupt global food systems and combined with the pressure of modifying supply chains to become more climate-friendly, the rising cost of food will put pressure on the fiscal space, and in the social domain on food subsidies and on the pensions and retirement savings of the elderly.

It was at this stage, we approached MIGHT, Malaysia's premier institution on Foresight and Futures studies, and began our collaborative journey.

A little about the methodology.

In total there are 19 domains of intersections between these two megatrends, which are underpinned by 91 signals of change. The identifying of these signals was undertaken through wide consultations with experts and regular Malaysians all across the country. The cumulative outcome of the signals, then led us to eight drivers of change-which point us to how various futures could shape, depending on how the eight drivers are dealt with. It is worth mentioning these drivers here:

1. Access to Quality Healthcare
2. Climate Resilience
3. Demographic Resilience and Social Protection
4. Economic Structure and National Fiscal Space
5. Governance, Leadership and Political Will
6. Labour Market Dynamics and Wages
7. Migration and Urbanisation
8. Water-Energy-Food Security and Connectivity Nexus

The treatment of the drivers, in turn lend themselves to shaping a range of anticipated futures; we used three scenarios – a just transition or best-case scenario, a failed transition or worst-case scenario, and a shock transition – one that is forced upon the country by systemic shocks.

The report offers a rich analysis of the country's preparedness for anticipated futures and provides detailed insights from the intense analytical work undertaken. Read on.

We hope leaders, policy makers and the people of Malaysia will enjoy reading this labour of love.

Niloy Banerjee

Resident Representative

UNDP Malaysia, Singapore & Brunei Darussalam

At MIGHT we are committed to the principles of co-creation, collaboration, and conversation, which we refer to as our “3Cs.” When approached by UNDP Malaysia, what began as a simple conversation evolved into a meaningful collaboration, driven by our mutual commitment to anticipatory and proactive action. Our subsequent interactions, a direct result of an alignment with MIGHT’s role in improving future preparedness, then transformed into a co-creative process which culminates in this exploratory report. We fully anticipate that this report will continue to inspire more of ‘3Cs’ that will enhance Malaysia’s preparedness for climate and demographic transitions.

In the wake of the COVID-19 pandemic, the importance of future preparedness and the role of foresight has never been more critical. The challenges of the future, underscored by high-impact events that precipitate systemic changes, demand our vigilant attention. Within this report, the intersection of 11 climate change trends and 13 demographic change trends across 19 areas of confluence illustrates the intricate and interwoven nature of these forces. The complexity and uncertainty of the future are further exemplified by the identification of eight key agents of change, which have shaped three plausible scenarios of Malaysia’s climate and demographic transition. This has resulted in over 155 potential future implications across six socio-economic areas.

Therefore, is Malaysia prepared? While we acknowledge that readiness must be maintained at all levels, including government, industry, academia, and research establishments, as well as civil societies, communities, and individuals, this report represents an initial effort to undertake a preliminary assessment of Malaysia’s current preparedness posture. We implemented a wind tunnel evaluation of Malaysia’s 49 national acts, 61 federal policies covering 486 policy strategies, which are all essential components of our readiness for future demographic and climate shifts. The findings of the report have been enlightening, and we urge readers to investigate them further.

This report is not prescriptive but aims to instigate conversations and a whole-of-nation approach to the impending challenges and opportunities. It underscores the importance of strategic foresight and systematic planning in building a resilient and adaptive nation. We are hopeful that it will prompt actions that will enhance Malaysia’s resilience in the face of climate change and demographic shifts.

The report outlines eight transition enablers that facilitate the achievement of a Just Transition, as well as 51 signposts to monitor progress. Nevertheless, these discoveries alone are not solely responsible for constructing Malaysia’s resilience. It relies on the combined endeavours of all individuals, at every hierarchical level, to fulfil their respective roles. Although the process of creating this report has ended, the process of assuring Malaysia’s future readiness has only just commenced. We strongly encourage you to join us in this crucial undertaking. Together, let us make better futures together.

Rushdi Abdul Rahim

*President & Chief Executive Officer
Malaysian Industry-Government Group
for High Technology (MIGHT)*

EXECUTIVE SUMMARY

Why this Report Now? Why the Urgency?

2040 will be an important inflection point for Malaysia. 14.5 percent of Malaysians will be over 65-years old. The nation will be mid-transition towards net-zero carbon emission targets-changing the economic landscape. Climate change effects including extreme weather events, heatwaves, and the spread of climate-sensitive diseases will be increasing in frequency and intensity.

These changes are often studied in isolation, but systemic approaches are needed to understand how these megatrends will intersect. Ageing shapes climate vulnerabilities, and the economic transitions required to remain competitive will need to account for an ageing workforce. Climate adaptation and social welfare will therefore put pressures on national fiscal space.

These converging trends necessitate proactive, risk-informed measures in the 13th Malaysian Plan, and in policies and legislations to ensure resilience, sustainability and equitable development across the nation.

KEY INSIGHT 1

Multiple futures are plausible with complex transition dynamics in society, technology, economy, environment and politics.

Using collective foresight, engaging with experts and over 540 stakeholders nationwide, we identified 19 key intersections of climate and demographic change and 91 signals of change.

Cumulatively, these signals indicate:

-  **Social dynamics** will shape Malaysia's transition, redefining social identity.
-  **Technological solutions** hold promise for Malaysia's transition.
-  **Economic constraints** cast shadows on Malaysia's path towards transition.
-  **Environmental struggle** persists amidst progress and preservation.
-  **Political dilemma** for much needed pragmatic policies over populism.

From these signals, we identified 8 key drivers of change and analysed how these will shape the future of Malaysia's economic structures, labour markets, and the well-being of the elderly and their families:

-  **Access to Quality Healthcare**
-  **Climate Resilience**
-  **Demographic Resilience and Social Protection**
-  **Economic Structure and National Fiscal Space**
-  **Governance, Leadership and Political Will**
-  **Labour Market Dynamics and Wages**
-  **Migration and Urbanisation**
-  **Water-Energy-Food Security and Connectivity Nexus**

EXECUTIVE SUMMARY

A range of futures could emerge, depending on how we address these drivers:

Just Transition: A best-case scenario where equitable, inclusive and sustainable practices prevail. Climate adaptation and mitigation together with demographic transition are equally addressed to the best outcomes in Malaysia's sustainable development.

Failed Transition: A bleak worst-case scenario caused by inertia, missed opportunities and faltering implementation. As Malaysia grapples with climate change and an ageing population, chaos ensues due to its inability to adapt and transition effectively, resulting in cascading failures.

Shock Transition: A disruptive scenario of upheavals from systemic shocks that compel abrupt adaptation. Climate and demographic crises catalyse urgent adaptations. Malaysia swiftly implements stopgap measures, yet faces unintended consequences.



KEY INSIGHT 2

Future implications manifest heterogeneously across society and states.

Each state and societal segment will be impacted differently and will adapt according to their context or sustainability agenda. Six future socio-economic implications were anticipated to arise from Malaysia's climate and demographic transition.

In economic structure & labour markets:
Economic Shifts: Greening & Vulnerabilities

The transformation of Malaysia's economic sectors towards sustainable practices, advancing the emergence of green industries and the potential decline of sectors that fail to adapt, resulting in areas of economic vulnerability. This impacts Malaysia's competitiveness, economic stability and growth potential.

Labour Market Restructuring: Transformation & Displacement

Significant changes in employment due to technological disruptions and economic shifts, characterised by the rethinking of work, reshaping of jobs, reskilling and upskilling and the displacement of workers from vulnerable sectors. This transformation influences salaries and wages, affecting income distribution.

Fiscal Sustainability: Resilience & Pressures

The government's ability to sustain healthy public finances amid changing socio-economic conditions. It involves balancing investments in national resilience and rising public expenditures with the pressures of reduced revenue. This impacts debt management and the capacity to fund essential services.

In well-being of elderly & their families:
Healthcare System: Wellness & Cost

The adaptation of Malaysia's healthcare system to improve health outcomes by managing cost of care, capacity and health initiatives amidst climate impacts and demographic vulnerabilities. This affects the overall wellness of the population, crisis response and financial sustainability.

Quality of Life: Sufficiency & Inequalities

The shifts and strains in social safety nets and protection measures needed to enable equitable resource distribution and maintain stability in living standards and well-being amid growing resource competition. This could lead to increased inequalities in access and quality of life, affecting social cohesion mobility and health.

Climate Disasters: Adaptations & Fragility

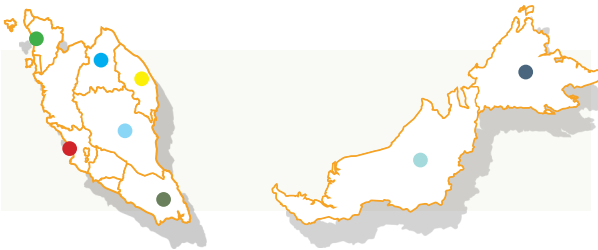
The nation's ability to recover from climate-related shocks and stresses, highlighting the resilience and fragility of infrastructure and communities across Malaysia and underlying socio-economic, environmental and governance challenges. These adaptations impact overall societal well-being and growth potential.

EXECUTIVE SUMMARY

KEY INSIGHT 3

Malaysians are highly concerned for the disruptive changes brought upon by climate and demographic shifts.

This report highlights the concerns raised by Malaysians across the nation for the climate and demographic transition. Their collective voices highlighted concerns on food security, climate and demographic awareness, environmental resilience, governance structures, economic stability and well-being.



● NORTHERN REGION

- Food Security
- Political Instability
- Well-Being
- Social Protection
- Financial Stability

● CENTRAL REGION

- Food Security
- Climate Adaptation
- Governance Structures
- Environmental Resilience
- Food Waste Management

● KELANTAN

- Flooding
- Land Subsidence
- Drainage Issues
- Economic Resilience
- Inflation

● TEREINGGANU

- Climate Change Impact to Sea Level and Coastal Erosion
- Water Resources
- Food Security
- Age-Friendly Facilities
- Housing

● PAHANG

- Food Security
- Climate Change Preparedness
- Governance Structures
- Elderly Welfare
- Economic Growth and Financial Stability

● JOHOR

- Flooding
- Water-Food-Data Security
- Climate Hazard
- Climate and Demographic Change Awareness
- Healthcare Accessibility

● SARAWAK

- Sea Level Rise
- Climate Change Impacts
- Food Security
- Climate and Demographic Change Awareness
- Rural-Urban Migration

● SABAH

- Food Security
- Climate and Demographic Change Awareness
- Statelessness
- Governance Structures
- Job Opportunities

EXECUTIVE SUMMARY


KEY INSIGHT 4
Malaysia's future preparedness showcases areas of strength alongside notable gaps.

Malaysia has demonstrated a proactive legislative framework with an increasing array of policies tailored to meet evolving national imperatives and ongoing adaptive revisions to address emerging health, social and environmental challenges.

Continuous adaptation, including coherent and integrated policy approach, is imperative to effectively anticipate and manage future implications across climate, health, labour, and economic vulnerabilities. An analysis of 49 national acts and 61 national policies covering 486 strategies revealed:

- Strong governance and regulatory focus but increased potential for red tape.
- Emphasis on developing and utilising talent but less on ageing talent.
- Multiple efforts in awareness of climate and demographic change but awareness still remains a concern.

Assessing these policies and strategies against the three plausible scenarios of Malaysia's climate and demographic transition, we see varying levels of future preparedness in six socio-economic areas.









ECONOMIC SHIFTS: GREENING & VULNERABILITIES	SIGNIFICANT PREPAREDNESS
LABOUR MARKET RESTRUCTURING: TRANSFORMATION & DISPLACEMENT	MODERATE PREPAREDNESS
FISCAL SUSTAINABILITY: RESILIENCE & PRESSURES	LOW PREPAREDNESS
HEALTHCARE SYSTEM: WELLNESS & COST	MODERATE PREPAREDNESS
QUALITY OF LIFE: SUFFICIENCY & INEQUALITIES	MODERATE PREPAREDNESS
CLIMATE DISASTERS: ADAPTATIONS & FRAGILITY	LOW PREPAREDNESS

Fiscal sustainability is a key issue as many measures for preparing for and cushioning the climate and demographic transitions are dependent on government funding—even as climate and demographic changes threaten to generate economic disruptions. While Malaysia is undertaking various commitments toward climate mitigation, it needs to accelerate climate adaptation action and investment.


KEY INSIGHT 5
Navigating systemic challenges of climate change and demographic shifts, requires prioritising resilience across sectors and proactive planning.

Finally, this report provides Transition Enablers, Strategic Considerations and Options as the result of stakeholder input, benchmarking and thorough analysis, all aimed at improving Malaysia's readiness for the climate and demographic transition.

The Transition Enablers construct a clear pathway for stakeholders to understand how different elements contribute to achieving sustainability and resilience.

-  **Equitable Access to Healthcare**
-  **Building Climate Resilience**
-  **Inclusive Social Safety Nets and Strengthening Social Fabric**
-  **Green Economic Diversification and Strengthening National Fiscal Space**
-  **Visionary Leadership and Accountable Governance**
-  **Future-Ready Work and Workforce Development**
-  **Visionary Leadership and Accountable Governance**
-  **Sustainable Resource Management and Self-Sufficiency**

EXECUTIVE SUMMARY

Forty Strategic Considerations have been included as thought-provoking inquiries aimed at stimulating deep reflection and catalyse proactive planning with an accompanying 113 Strategic Options to address the multifaceted challenges and opportunities that lie ahead. Strategic Options are framed according to the MIGHT F.I.R.S.T.[®] Matrix (Funding and Financing, Infrastructure and Institutions, Regulations and Policies, Skills and Talents, and Technology and Innovation). This framework helps in comprehensively addressing and tackling a whole-of-nation approach in developing adaptive strategies that enhance resilience and effective solutions tailored to Malaysia's context.

The perspectives presented herein are not prescriptive directives, but thoughtful suggestions informed by current trends, issues, and challenges, as well as future socio-economic implications and Malaysia's preparedness.

CALL TO ACTION

This exploratory foresight undertaking emphasises the need for continuous and integrated action. As climate and demographic changes intensify, the report aims to catalyse nationwide dialogue and collaboration. It calls for strategic engagement with key stakeholders to develop targeted strategies addressing current and future challenges. By embracing our strengths and vulnerabilities, Malaysia can navigate this era of polycrisis, ensuring no one is left behind. Our journey towards a Just Transition is just a beginning, emphasising resilience and sustainable prosperity for future generations.

CHAPTER 1



Charting Change: Understanding the Work

1.1 Why this Report Now?

The world faces an uncertain future of climate change. We are already experiencing unprecedented heatwaves and changing weather patterns that are impacting agricultural productivity and food prices while increasing the intensity and frequency of natural disasters. Sea level rise has and will continue to displace island and coastal communities.

While the economic transition required to reach net-zero carbon emissions—which Malaysia aims to achieve by 2050—will create opportunities, it will also disrupt many industries and their workers' livelihoods.

Malaysia will need to simultaneously navigate a major demographic transition, as the over-65 population increases from 7.4 percent in 2023 to 14.5 percent by 2040. An aging society will change demands on families, social protection, and government and private sector services. We will need to rethink expectations about work, savings, and retirement in the midst of a global climate crisis.



GLACIAL THAW

The melting of polar ice caps contributing to rising sea levels affecting Malaysia's coastal regions.



POLAR OCEAN RETREAT

Melting ice opens new waters, altering marine ecosystems.



ACIDIC TIDE

Acidification of oceans are damaging coral reefs and marine life in Malaysia's rich seas.



TIDAL ASCENT

Rising sea levels threaten Malaysia's 4,675km coastline with coastal erosion, flood and saltwater intrusion.



THERMAL SURGE

The ocean absorbs more than 90% of the excess heat trapped by greenhouse gasses. Malaysian sea surface temperature have increased by 0.24°C from 2003 to 2022.

CLIMATE CHANGE TRENDS



CLIMATE DISASTERS

Intensifying storms, tsunamis, floods, landslides, and droughts hitting Malaysia harder and more often, leaving devastation in their wake.



CLIMATE KALEIDOSCOPE

Climate patterns have become more unpredictable with a wide variation in regional climate.



RAINING UNCERTAINTIES

Erratic rainfall patterns making Malaysia's agriculture and water supply unpredictable. In 2014, Malaysia experienced extremes of drought and floods.



GLOBAL WARMING

Malaysia's temperatures have been on the rise with 0.13°C every decade and could increase to 1.6°C in 2050 and 4°C in 2100. The hottest day could be record 40.8°C in 2050 and 43.2°C in 2100 as compared to the recent April 2024 heatwave where temperatures soared between 35-40°C.



FOSSIL FUELLED

Actions that continues to prioritise economic growth from carbon-intensive natural resources over environmental preservation and sustainability.



TOWARDS NET ZERO

A hopeful march towards balancing carbon emissions, with Malaysia striving to cut its footprint by 2050.



URBAN RISE

Malaysia is experiencing rapid urbanization, with over 76% living in urban areas as of 2020 and a projected 81.8% by 2030.



SOCIAL FRAYING

Raring its ugly head, among all walks of Malaysians social fraying can be seen in widening income inequality, ethnic tensions, and generational divides.



SLOWING POPULATION GROWTH

While there are more Malaysians annually, population growth has been slowing with only a 31.2% increase in the next 28 years vs 64.3% increase in past 28 years.



LOW FERTILITY

Over 50 years, Malaysia's fertility rate has swiftly declined from 6.7 children per woman in 1957 to 1.6 in 2023.



COMPACT FAMILIES

Average household size in Malaysia has shrunk in the past decade from 4.3 persons in 2010 to 3.8 in 2020

DEMOGRAPHIC CHANGE TRENDS



OLDER MOTHERS

More women are choosing to have babies later with average age at first birth increasing to 30.6 years.



GENDER DISPARITY

Gender disparity manifests in education, employment, and political representation. In Malaysia, women earn 33% less than men in 2022 and the gap has been widening.



YEARS LOST

Health disparities and lifestyle chip away at life expectancy in Malaysia, with majority being NCD sufferers and heart disease, the leading cause of premature mortality.



CHILDHOOD STUNTING

1 in 5 Malaysian kids suffer from stunted growth due to poor diet among mothers and babies in the first 1000 days.



RAPID AGEING

Malaysia will be an aged nation by 2044 and super-aged by 2056. The transition from ageing to aged to superaged is faster than many other countries.



UNHEALTHY AGEING

Malaysia ranks 19th in Asia for obesity, with a rate of 19.7%, and nearly 3 million Malaysian adults suffer from at least three of the four major NCDs.



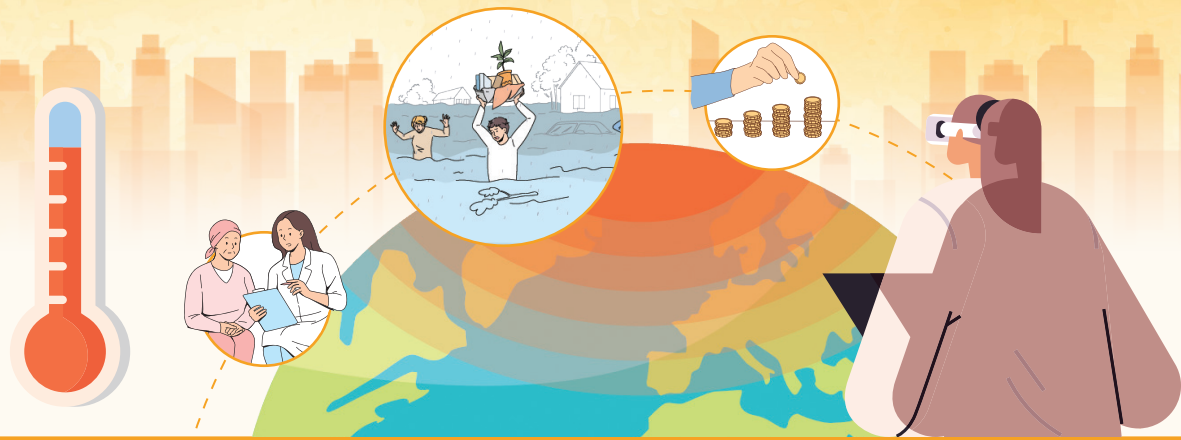
HEALTHCARE ACCESSIBILITY

Over 95% of Malaysians are covered by public healthcare services. However, disparities exist, particularly in rural areas.





INCREASING LIFE EXPECTANCY



Malaysia's life expectancy has been steadily increasing from 55.4 years in 1955 to 74.8 in 2023 and expected to continue to increase.





Climate Change and Demographic Change will have Socio-Economic Impacts

-  Malaysia needs an estimated **RM392bil** to adapt to climate change in the next 50 years.
-  Annual flood losses cost Malaysians RM800 million in 2023, and a staggering **RM6.1 billion** in 2021.
-  **Slower population growth** and the shrinking relative size of the working-age population will account for a third of the decline in headline GDP growth by 2050.

Climate Change and Demographic Change are Interrelated and the Confluence of the two will Amplify Impacts, but these are Rarely Addressed Together

-  Due to global warming and the vulnerability of unhealthy and ageing workers, labour productivity in Malaysia could fall by 25% by 2045.
-  Internal migration accelerates aging in rural areas and smaller townships, reducing the working-age population and development investment. This could create pockets of vulnerability to climate stresses and disaster events.

The Socio-Economic Implications of Malaysia's Transition Vary Across Segments and Sector

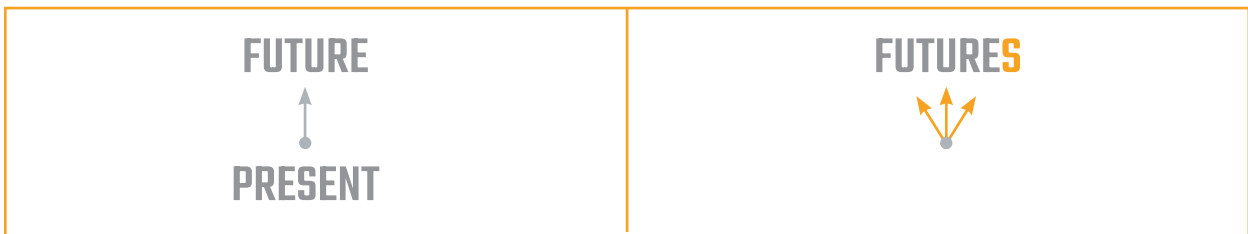
-  Demographic trends are uneven across the country, with Lenggong, Perak recording the highest old age dependency ratio of 21.2%, while Tumpat, Kelantan recording the highest total dependency ratio of 68.1%.
-  About **52%** of EPF members have less than RM10,000 in their accounts, while **27%** have less than RM1,000. Meanwhile, about 56% contributors, who are aged 54, have less than RM50,000 in their EPF savings—an amount that can only sustain them for a little over four years, assuming they spend RM1,000 per month.

Malaysia is in the process of making key strategic decisions that will shape its response to these challenges, including the National Climate Change Bill, Senior Citizens Bill, National Adaptation Plan, National Aging Blueprint, and the 13th Malaysian Plan. Future-proofing the design and implementation of these Acts and Plans will require the ability to navigate uncertain futures generated by the confluences of climate change and demographic change.

1.2 Navigating Uncertain Futures with Foresight

We often hear the regretful phrase, “If only I had the foresight,” uttered moments after a lost opportunity or worse, a disaster. It’s a stark reminder that being able to foresee consequences or possibilities could have led to different choices and actions with better outcomes.

Foresight is not an act of prediction but rather a mindset or approach for anticipating future challenges. Foresight provides opportunities to conceive multiple versions of the future—not a multiverse, but a variety of scenarios exploring what could plausibly happen.



In this highly volatile, uncertain, complex, and ambiguous (VUCA) world, it is insufficient to anticipate and prepare for a single future. Envisioning a range of futures and pathways that could lead us there is an essential tool in long-term strategic planning. By doing so, we can anticipate and proactively prepare for what is ahead.



FINDING THE CONFLUENCE

Identifying and understanding how climate change and demographic change intersect.

UNDERSTANDING WHAT DRIVES THE FUTURE

Anticipating shifts in magnitude and directions of key drivers shaping Malaysia’s transition.

ANTICIPATING PLAUSIBLE FUTURES

Breaking stereotypical planning around a single future, which becomes obsolete if trajectories change.

STRESS TESTING EXISTING PREPAREDNESS

Assessing existing policy strategies against plausible futures to better anticipate opportunities and risk.

PARTICIPATORY ENGAGEMENT

Facilitating consultations and engagements in a whole-of-society approach to contextualize and validate future implications.

CHAPTER 1: CHARTING CHANGE: UNDERSTANDING THE WORK

1.3 Intersections of Climate Change and Demographic Change

The future is not necessarily a continuation of today nor the past. Present trajectories may not point toward what the future looks like because drivers of change emerge, shift and intersect in rapid and unexpected ways. For example, five years ago, QR codes were a curiosity in Malaysia. However, the COVID-19 pandemic and high cell-phone ownership in Malaysia combined to accelerate the use of QR-codes in everyday life—from contact tracing to ordering food to making e-wallet transactions.

In Malaysia's climate and demographic shifts, there will be a multitude of such intersections, both obvious and not. These intersections and their implications for how they could potentially shift environmental conditions and evolving societal dynamics are explored in two focus areas:

1. Economic structures and labour markets are at the forefront of the battle against the twin forces of climate change and demographic change. This focus area is critical because they directly influence livelihoods, Malaysia's economic stability, and capacity for innovation. As climate change disrupts traditional industries such as agriculture, manufacturing, and tourism, the demand for new skills and jobs in renewable energy and sustainable practices becomes imperative. Simultaneously, demographic shifts, such as ageing populations and migration patterns, further strain existing economic frameworks.

2. The well-being of the elderly and their families is another crucial focus area in understanding the interplay between climate change and demographic dynamics. This focus is essential because Malaysia's ageing population will represent a significant segment of society that is particularly vulnerable to climate impacts. Extreme weather events, heatwaves, and the spread of climate-sensitive diseases pose direct threats to their health and well-being.

By exploring the confluence of trends in climate change and demographic change from perspectives of livelihood and liveability, 19 intersections were identified. Understanding these intersections will enable:

RESILIENT DEVELOPMENT

Understanding and addressing areas of confluence enhances societal resilience by comprehensively tackling interconnected challenges from climate change and demographic change.

INCLUSIVE ADAPTATION

Prioritising confluence areas ensures inclusive adaptation and mitigation initiatives that consider diverse impacts on Malaysia's different demographic groups and regions.

EFFICIENT RESOURCE MANAGEMENT

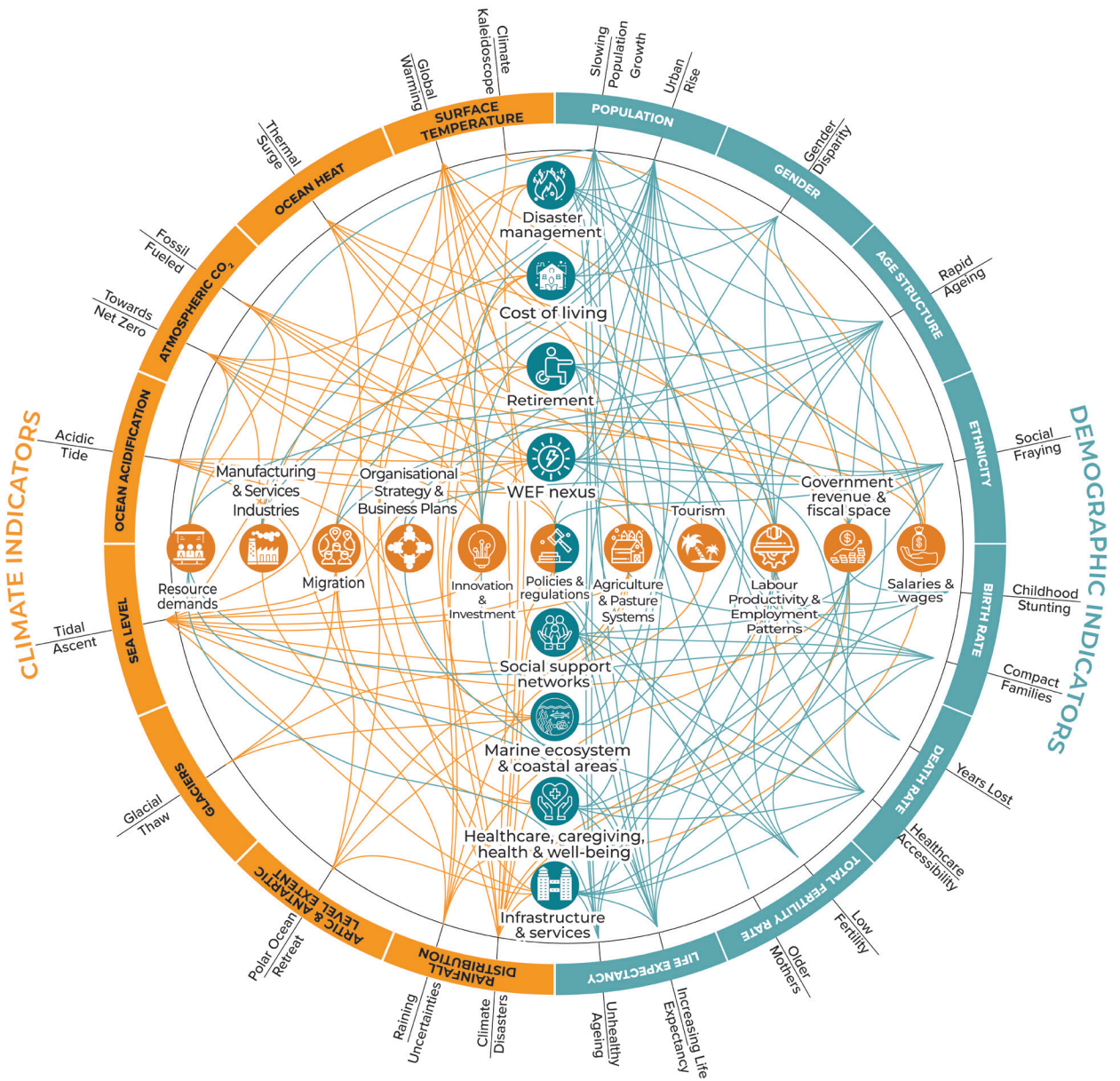
Focusing on confluence areas enables efficient allocation of resources, maximum impact, and effectiveness in addressing complex challenges.

PROACTIVE PLANNING

Recognition and action on confluence areas facilitate proactive planning, anticipating, and mitigating of potential impacts for long-term resilience and sustainability.

CHAPTER 1: CHARTING CHANGE: UNDERSTANDING THE WORK

Climate and demographic changes will intersect in almost all aspects of our lives, reshaping the way we live, work and play.



CHAPTER 1: CHARTING CHANGE: UNDERSTANDING THE WORK

1.4 Approach

To help understand, anticipate and respond to the future, the following approach was adopted for the development of this report. The work was divided into three stages and involved the following processes:

STAGE	1. DIAGNOSIS <i>Where is Malaysia in Climate and Demographic Changes?</i>	2. PROGNOSIS <i>How might Malaysia's climate and demographic transition occur and what could be its future implications?</i>	3. PRESCRIPTION <i>What is Malaysia's preparedness for future socio-economic implications of climate and demographic transition?</i>
APPROACH	<p>This stage delves into the current landscape of climate and demographic changes at global, national and state levels, examining signals of climate and demographic changes that will enable better understanding of Malaysia's plausible transition pathways and future implications.</p>	<p>This stage examines potential transition pathways for Malaysia, considering both desired outcomes and various directions for key drivers that will shape the future. The objective is to understand the plausible futures Malaysia could encounter for climate and demographic transition and to explore the associated socio-economic implications of each scenario.</p>	<p>This stage focuses on evaluating how current governance structures address and withstand plausible future socio-economic implications from the climate and demographic transition. By wind-tunnel testing these policies, we assess their robustness and identify strategic considerations to enhance Malaysia's preparedness.</p>
TOOLS	<ul style="list-style-type: none"> • Horizon & Environmental Scanning • Consultations with Experts, Youth, and Indigenous Peoples • Driver Mapping 	<ul style="list-style-type: none"> • Participatory Scenario Building • Futures Wheel 	<ul style="list-style-type: none"> • Policy Review • MIGHT F.I.R.S.T® Matrix • Wind Tunnelling

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CHAPTER 2



At A Crossroads: Envisioning Malaysia's Plausible Climate and Demographic Transitions

CHAPTER 2: AT A CROSSROADS: ENVISIONING MALAYSIA'S PLAUSIBLE CLIMATE AND DEMOGRAPHIC TRANSITIONS

Malaysians living in this defining era find ourselves at the pivotal intersections of impending climate and demographic shifts. What forces will drive these transformative changes? How will they shape the nation's future, our lives, and the lives of future generations? Through the lens of foresight, utilising horizon and environmental scanning, stakeholder engagements, driver mapping, and scenario building, we uncover critical factors that will shape Malaysia's path forward, exploring potential transition pathways into evolving socio-economic landscapes.

2.1 What will Drive Malaysia's Climate and Demographic Transition?

In charting Malaysia's future, we need to consider the key drivers of change that will emerge as pivotal forces, forging the paths of Malaysia's climate and demographic transitions. Drawn from signals present in our daily lives, they serve as foretelling cues that hint at future possibilities, both favourable and not.

We explore how each driver could manifest in different directions, leading to three plausible scenarios (a best-case scenario, a worst-case scenario, and a disruptive scenario) for Malaysia's transition. These will inform our strategic responses to these drivers, strongly influencing which of these futures will be actualised.

Identifying Key Drivers behind Malaysia's Climate and Demographic Transition Depends on Understanding Today's Signals

91
Signals

14 Social

6 Technological

49 Economic

6 Environmental

16 Political

pertaining to current trends, issues and challenges, events, policies & regulations, or emerging technology related to climate and demographic transition helped us identify



8 Key Drivers critical in driving in shaping Malaysia's climate and demographic transitions



ACCESS TO
QUALITY
HEALTHCARE



CLIMATE
RESILIENCE



DEMOGRAPHIC
RESILIENCE
AND SOCIAL
PROTECTION



ECONOMIC
STRUCTURE
AND NATIONAL
FISCAL SPACE



GOVERNANCE,
LEADERSHIP AND
POLITICAL WILL



LABOUR MARKET
DYNAMICS
AND WAGES



MIGRATION AND
URBANISATION



WATER-
ENERGY-FOOD
SECURITY AND
CONNECTIVITY
NEXUS

What are The Signals Telling Us?



SOCIAL DYNAMICS WILL SHAPE MALAYSIA'S TRANSITION, REDEFINING SOCIAL IDENTITY.

Our healthcare and social support systems are under immense pressure from an ageing population, chronic health issues, and rapid urbanisation. Gender inequalities and caregiving responsibilities exacerbate these challenges. Marginalised and vulnerable groups face heightened risks during this transition. Migration and shifting ethnic populations have the potential to reshape social cohesion and community belonging. However, an age-diverse workforce and active senior engagement highlight could increase resilience.



TECHNOLOGICAL SOLUTIONS HOLD PROMISE FOR MALAYSIA'S TRANSITION.

Malaysia's commitments to innovations in renewable energy, sustainable agriculture, and climate-resilient infrastructure offer pathways to mitigate environmental impacts and adapt to changing demographics. Advancements in healthcare technology—including telemedicine, IVF, and digital health records—enhance access to care, and support ageing populations.. Nevertheless, disparities in access and participation present challenges for our collective path forward..



POLITICAL DILEMMA FOR BETWEEN PRAGMATIC AND POPULISM SHAPE POLICIES.

Malaysia's governance structures are constantly evolving to meet society's needs amidst fiscal challenges. Despite deficits and debt, the nation advances tax diversification for financial sustainability. From subsidy reforms to cash transfer overhauls, there is a dedication to bolstering welfare and resilience. Legislative strides like the Senior Citizen Bill echo commitment to shield vulnerable populations. Concurrently, a review of poverty metrics shows Malaysia's resolve to tackle multidimensional poverty effectively.



ECONOMIC CONSTRAINTS CAST SHADOWS ON MALAYSIA'S PATH TOWARDS TRANSITION.

The burgeoning digital economy holds promises of innovation and growth, while the emergence of the silver economy underscores our duty to the ageing population. Bank Negara's green economy focus reflects our sustainability commitment. Yet, challenges arise with the gig economy's expansion, including concerns about underemployment and loss of productivity due to heat stress. Economic pressures threaten quality of life and retirement security, as living costs rise. Navigating economic uncertainty calls for cautious steps forward.











ENVIRONMENTAL STRUGGLE PERSISTS AMIDST PROGRESS TOWARDS CLIMATE RESILIENCE.

Growing carbon emissions and consumption impede Malaysia's sustainable development. Sea level rise threatens coastal regions, risking land loss and community vulnerability. Recurring transboundary haze events, heatwaves, ecological disruptions, and escalating extreme weather underscore the urgent need for resilient adaptation. Biodiversity loss, poor water management, and agricultural challenges compound environmental woes, posing profound risks to food security and ecosystem health.

Why Is It Significant for the Transition?



DRIVERS	IMPACT		LEVEL OF UNCERTAINTY
	Well-being of elderly and their families	Economic structures and labour market	
 ACCESS TO QUALITY HEALTHCARE	HIGH	HIGH	MODERATE
 CLIMATE RESILIENCE	HIGH	HIGH	HIGH
 DEMOGRAPHIC RESILIENCE AND SOCIAL PROTECTION	HIGH	HIGH	MODERATE
 ECONOMIC STRUCTURE AND NATIONAL FISCAL SPACE	MODERATE	HIGH	HIGH
 GOVERNANCE, LEADERSHIP AND POLITICAL WILL	HIGH	HIGH	HIGH
 LABOUR MARKET DYNAMICS AND WAGES	MODERATE	HIGH	MODERATE
 MIGRATION AND URBANISATION	MODERATE	HIGH	MODERATE
 WATER-ENERGY-FOOD SECURITY AND CONNECTIVITY NEXUS	HIGH	HIGH	HIGH

ACCESS TO QUALITY HEALTHCARE

What does it encompass?

The adaptations, innovations, and resilience within Malaysia's healthcare systems to ensure that the growing need for healthcare services can be met efficiently and equitably despite challenges such as rising healthcare costs, technological advancements, and increasing demand for healthcare services.

What are the signals telling us?

Malaysia's healthcare system is renowned for its universal coverage and quality. However, annual medical inflation rates have been steadily increasing at 8-13% per year since 2013. Approximately 74% of Malaysia's private healthcare expenditure is out-of-pocket, reflecting that just 22% of Malaysians are covered by health takaful or insurance.

In response, the government has committed to increasing public spending on healthcare to 5% of GDP but not timeframe has been provided. Additionally, the pivot towards preventative healthcare remains elusive. Disparities persist, notably in the doctor-to-population ratio, which stands at 1:420 and the nurse-to-population ratio at 1:454. These ratios are considerably less than the WHO recommendation of 1:400 and 1:300 respectively.

The disparity between East Malaysia and Peninsular Malaysia exacerbates the challenge: Sabah and Sarawak face a shortage of medical talent, having a doctor-to-population ratio of 1.2 and 1.5 respectively, compared to 6.7 in Klang Valley in 2019.

How could it shape Malaysia's climate and demographic transition?

Amidst surging healthcare needs, access to quality healthcare will rely on reform, technology and resource allocations.



Signposts to monitor:

1. Healthcare infrastructure investment
2. Healthcare policy reforms
3. Technology adoption in healthcare
4. Healthcare workforce
5. Community health initiatives
6. Healthcare equity
7. Health coverage

To mitigate and adapt to:

 **Global Warming**

 Climate Kaleidoscope

 Thermal Surge

 Fossil Fuelled

 Towards Net Zero

 Acidic Tide

 Tidal Ascent

 Glacial Thaw

 Polar Ocean Retreat

 Raining Uncertainties

 Climate Disasters

 Slowing Population Growth

 Urban Rise

 Gender Disparity

 Rapid Ageing

 Social Fraying

 Childhood Stunting

 Compact Families

 Years Lost

 Healthcare Accessibility

 Low Fertility

 Older Mothers

 Increasing Life Expectancy

 Unhealthy Ageing

CLIMATE RESILIENCE

What does it encompass?

Proactive measures and strategies undertaken to build capacity of communities, systems, and infrastructures to withstand, adapt to, and recover from the impacts of climate change.

What are the signals telling us?

Malaysia's climate vulnerability remains a complex enigma that is uncertain and devastating. Amidst the risks of droughts, landslides, tsunamis, and storm surges, floods emerges as the most pervasive threat, inflicting substantial losses.

While the East Coast of Peninsular Malaysia faces frequent flooding, southwest Peninsular Malaysia experiences severe heatwaves. In 2022, Sarawak recorded 242 flood incidents, followed by Kedah (108) and Terengganu and Selangor (107 each). Encouragingly, Perak (7) and Penang (13) displayed resilience due to flood mitigation investments.

In 2024, Malaysia confronted significant heatwave challenges, with 648 Level 1 and Level 2 alerts issued from February to March. While heatwave losses were significantly lower than flood losses, their rising frequency signals future hurdles.

Additionally, in response to disasters like the Batang Kali landslide, the government allocated RM563 million for nationwide slope repairs, encompassing monitoring and preventive measures for more than 2,000 high-risk slopes. Despite efforts to mitigate and prevent disasters, we still often find ourselves reacting to crises as they unfold.

How could it shape Malaysia's climate and demographic transition?

Beyond net zero commitments, Malaysia needs to accelerate investments and polices for proactive climate mitigation and adaptation.



Signposts to monitor:

1. Climate-induced displacement
2. Integration of climate resilience into policy making
3. Disaster preparedness and response
4. Ecosystem restoration and protection
5. Investment in climate-resilient infrastructure
6. Community resilience programs
7. Climate vulnerability assessments
8. Diversification of livelihoods

To mitigate and adapt to:

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 Climate Kaleidoscope

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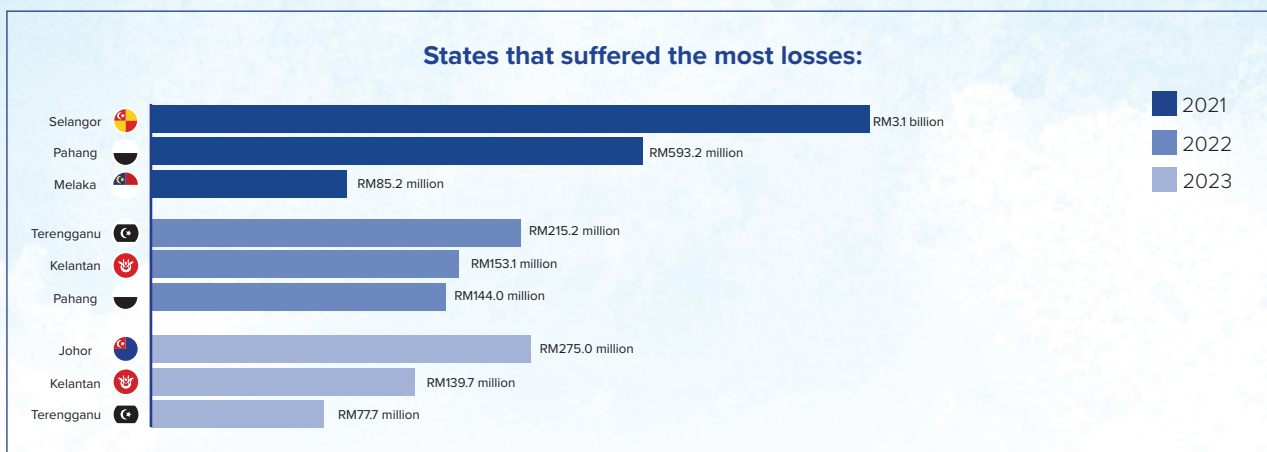
 Older Mothers

 Increasing Life Expectancy

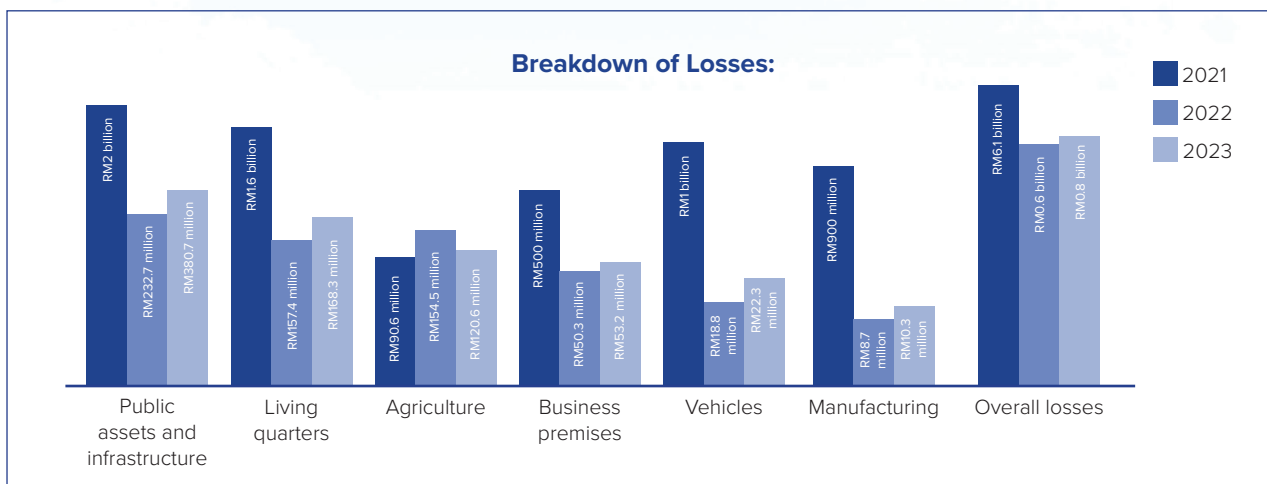
 Unhealthy Ageing

THE PRICE WE PAY FOR FLOODS IN MALAYSIA

States that suffered the most losses:



Breakdown of Losses:



To prevent floods:

In Budget 2022:

RM100 million
to NADMA

RM864.4 million

to manage dams, flood warning system and flood mitigation infrastructures

In Budget 2023:

RM400 million
to NADMA

RM15 billion

billion flood mitigation plan until 2030 for climate change adaptation involving 46 flood mitigation plans and weather forecast system upgrades

In Budget 2024:

RM300 million
to NADMA

RM11.8 billion

for 33 new flood mitigation projects.

DEMOGRAPHIC RESILIENCE AND SOCIAL PROTECTION

What does it encompass?

The ability of the population to adapt, withstand, and recover from the challenges and changes associated with demographic changes in Malaysia, including an ageing population, longer life expectancy, and sub-replacement fertility.

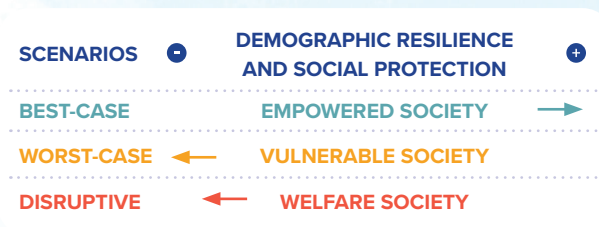
What are the signals telling us?

The disparities in savings and retirement preparedness are staggering and transcends ethnic boundaries. Out of the 16.1 million EPF members, the 3.2 million in the T20 group command 83% of savings, totaling RM818 billion, or an average of RM278,941 per member; while M40 and B40 members have an average of RM28,032 and RM1,713 respectively. Malaysia's Gini coefficient has hovered around 0.4, indicating moderate but persistent income inequality.

Amidst this financial precarity, the strain on familial caregiving amplifies. With the national average household size dwindling to 3.8, families face mounting challenges in providing care for their loved ones, especially the elderly in the face of rising cost of living. Malaysia's aged care infrastructure remains nascent, with long waiting lists for elder care homes underscoring the inadequacy of current provisions. As Malaysia's social landscape evolves, traditional employment-based programs prove insufficient for gig and informal workers, necessitating a more integrated, universal, and life-cycle approach to social assistance under the developing National Social Protection Policy.

How could it shape Malaysia's climate and demographic transition?

A rapidly ageing society will place immense pressure on caregiving and social protection systems.



Signposts to monitor:

1. Infrastructure and resources for elderly healthcare and caregiving
2. Social safety nets for vulnerable groups
3. Poverty rates
4. Pension reforms
5. Labour market trends
6. Real wages and retirement savings
7. Gini coefficient

To mitigate and adapt to:

Global Warming

Climate Kaleidoscope

Thermal Surge

Fossil Fuelled

Towards Net Zero

Acidic Tide

Tidal Ascent

Glacial Thaw

Polar Ocean Retreat

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ECONOMIC STRUCTURE AND NATIONAL FISCAL SPACE

What does it encompass?

Economic diversity, development, organisations, and sectors; as well as the government's financial capacity and flexibility to manage revenue and expenditures effectively.

What are the signals telling us?

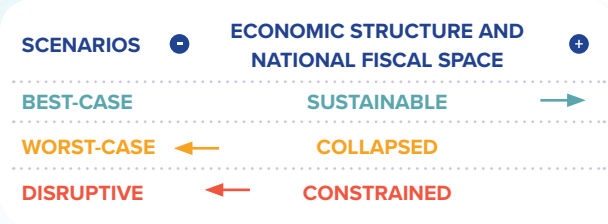
Government spending, crucial for transitioning to a green, climate-resilient economy and addressing the needs of an aging population, faces challenges due to Malaysia's tax revenue at just 11.8% of GDP in 2023—substantially lower than Asia Pacific and OECD averages of 19.8% and 34.1% respectively.

Economic diversification is pivotal for the transition. Despite fiscal constraints, innovative solutions are underway, including capital gains tax introduction, sales and services tax increases, PADU database launch for subsidy rationalisation, and pension reform. Investments, notably the RM24.9 billion in Kulim, Kedah, underscore reindustrialisation prospects.

Malaysia's shift from oil and gas necessitates alternative economic activities in the East Coast and East Malaysia. However, SMEs and global supply chain businesses encounter mounting challenges with strict ESG reporting frameworks. Less than 12% of Malaysian SMEs are prepared for ESG compliance, highlighting the urgency for adaptation. The evolving accountability framework indicates a seismic shift towards responsible business practices amidst growing climate-related litigation cases.

How could it shape Malaysia's climate and demographic transition?

Climate and demographic shifts will increase demand for government spending while reshaping national economic structures.



Signposts to monitor:

1. Macroeconomic indicators: GDP growth, inflation, unemployment, national debt-to-GDP ratio, fiscal deficit/surplus
2. Investment trends: FDI and DDI, public and private spending on infrastructure and innovation
3. Economic diversification: GDP contribution, investment, employment from green or emerging sectors versus carbon-intensive or resource sectors

To mitigate and adapt to:

Global Warming

Climate Kaleidoscope

Thermal Surge

Fossil Fuelled

Towards Net Zero

Acidic Tide

Tidal Ascent

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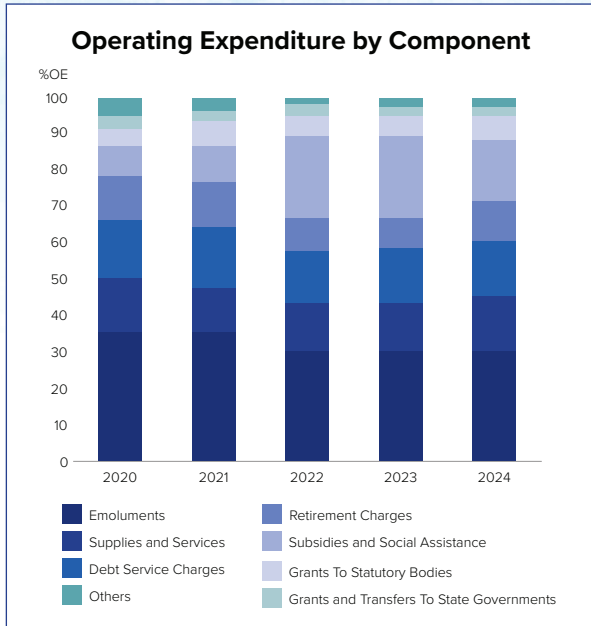
Unhealthy Ageing

ECONOMIC STRUCTURE AND NATIONAL FISCAL SPACE

IS MALAYSIA FINANCIALLY SOUND FOR THE TRANSITION?

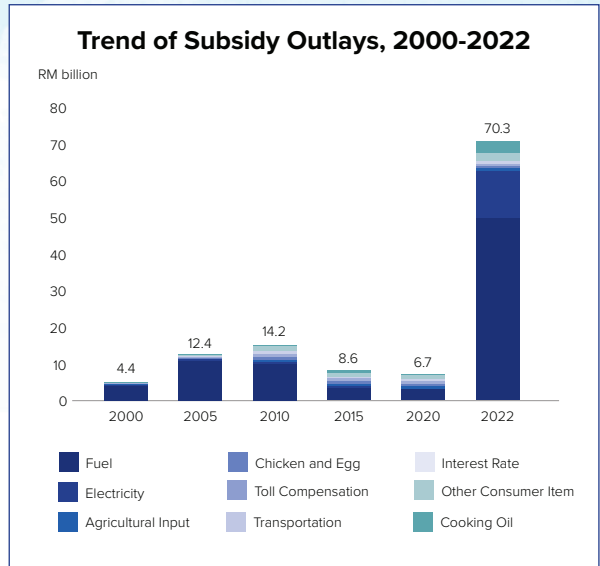
“ Is Malaysia becoming a welfare state? ”

Recent operating expenditure has seen large portions for subsidies and social assistance.



“ Dad, may I have petrol money? ”

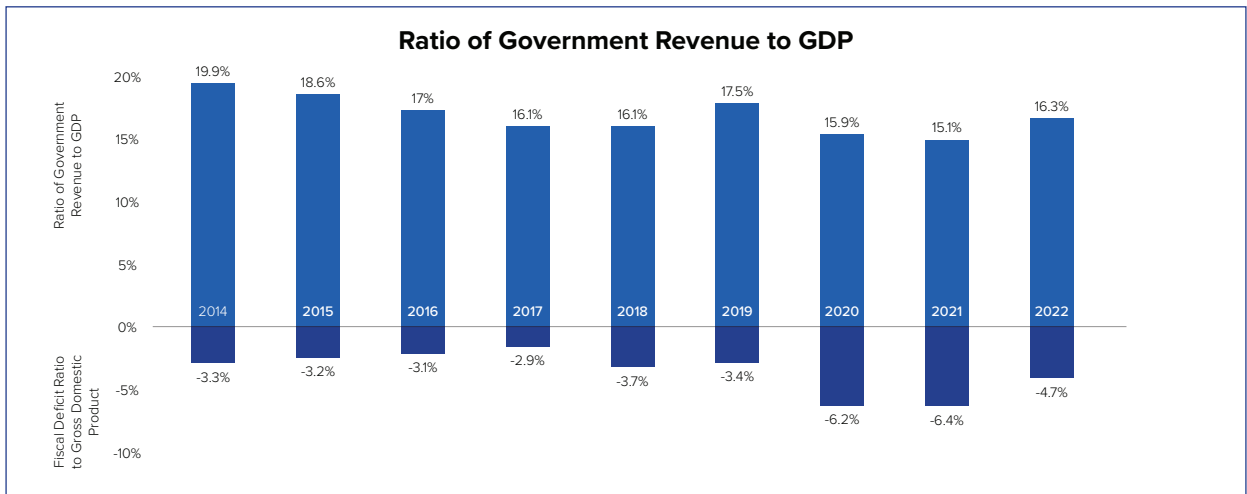
Malaysia's 2022 subsidies skyrocket to RM70.3 billion, with RM52 billion just for fuel.



Note: Total subsidies exclude wage subsidy programme under the COVID-19 Fund
Source: Ministry of Finance, Malaysia

“ Tightening our wallets ”

Fiscal space is tightening as Malaysia's tax collection is much lower than the regional average of 25% while our fiscal deficits are higher than regional peers at -3.6%.



GOVERNANCE, LEADERSHIP AND POLITICAL WILL

What does it encompass?

The structures and processes for decision-making; as well as willingness of leaders and decision makers to support and drive strategic policies or initiatives at society, state, national, and international levels to overcome challenges faced during the climate and demographic transition.

What are the signals telling us?

While Malaysia has made commendable strides in sustainable development, addressing challenges from formalising the Care Economy to tackling subsidy reforms, the path ahead is fraught with fiscal dilemmas demanding societal buy-in.

Malaysia's position within the top 50-75% globally in the Worldwide Governance Indicators testifies to our commitment to good governance, with improvements in 4 of the 5 indicators. However, we still lag in "Voice and Accountability" and saw a slight drop in "Regulatory Quality". Nonetheless, Malaysia's performance surpasses many upper-middle-income countries.

While the country's global corruption perception ranking improved by three positions to 57th in 2023, concerns persist over recent high-profile court cases. Positively, Malaysia's trust index rose from 62 in 2023 to 68 in 2024, according to the Edelman Trust Barometer, indicating growing trust in governance institutions.

However, Malaysians' economic optimism dropped 20 points in 2023. A Merdeka Center survey revealed that 60% of respondents have a negative outlook on the country's direction, placing more trust in businesses and alternative media than in government sources.

How could it shape Malaysia's climate and demographic transition?

In confronting new challenges alongside persistent systemic issues, leadership and governance must prioritise unity over division in Malaysia, opting for political pragmatism over populism to ensure consistency and follow-through.



Signposts to monitor:

1. Policy consistency on climate and demographic transition
2. Level of public discourse and awareness
3. International and national commitments on climate and demographic transition
4. Infrastructure and institution investments for resilience
5. Political ideology
6. Good governance indicators

To mitigate and adapt to:

 Global Warming

 Climate Kaleidoscope

 Thermal Surge

 Fossil Fuelled

 Towards Net Zero

 Acidic Tide

 Tidal Ascent

 Glacial Thaw

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LABOUR MARKET DYNAMICS AND WAGES

What does it encompass?

The fluctuations, interactions and trends brought upon by workforce composition, skills development and educational paradigms, influencing employment patterns, wage structures and overall labour market functionality.

What are the signals telling us?

Malaysia's labour force has made notable strides, with consistently low unemployment rates (3.3% in 2023) and an above-average labour force participation rate (69.9% in 2023). However, a concerning gender gap persists. Only 51.6% of Malaysian women are active in the workforce, compared to 78% of men, with 43.2% citing family responsibilities for work opt-outs.

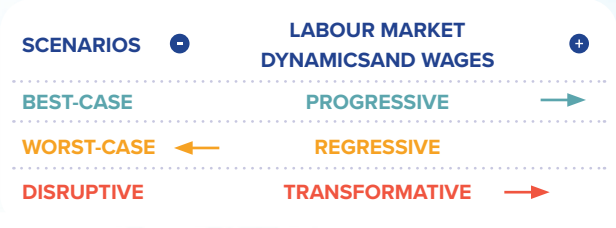
Persistent wage disparities and underemployment further compound issues: while high-skilled jobs experience notable wage growth, low-skilled and semi-skilled sectors stagnate, with the urban-rural pay gap exacerbating income inequality.

Malaysia's 2024 job market appears promising, supported by recovering economic growth. Q1 2024 job opportunities surged by 1.5% to 8.94 million, the highest since 2018. However, growth primarily favours sectors vulnerable to climate, demographic, and technological disruptions: notably agriculture, informal jobs, and semi-skilled sectors.

A quarter of Malaysia's workforce are in informal or non-standard employment—many of whom are youth—that often lacks pathways for career progression. Young men are shunning higher education, while women constitute over 60% of public university students.

How could it shape Malaysia's climate and demographic transition?

The fluctuations, interactions, and trends brought upon by workforce composition, skill development, and educational paradigms, which influence employment patterns, wage structures, and overall labour market functionality.



Signposts to monitor:

1. Employment rates and job creation across states
2. Wage growth and wage equity
3. Male and female labour force participation rates
4. Labour market policies and legislation
5. Technological adoption and impact on jobs
6. Sectoral employment shifts
7. Workforce skills development and education alignment

To mitigate and adapt to:

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Climate Kaleidoscope

Thermal Surge

Fossil Fuelled

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Acidic Tide

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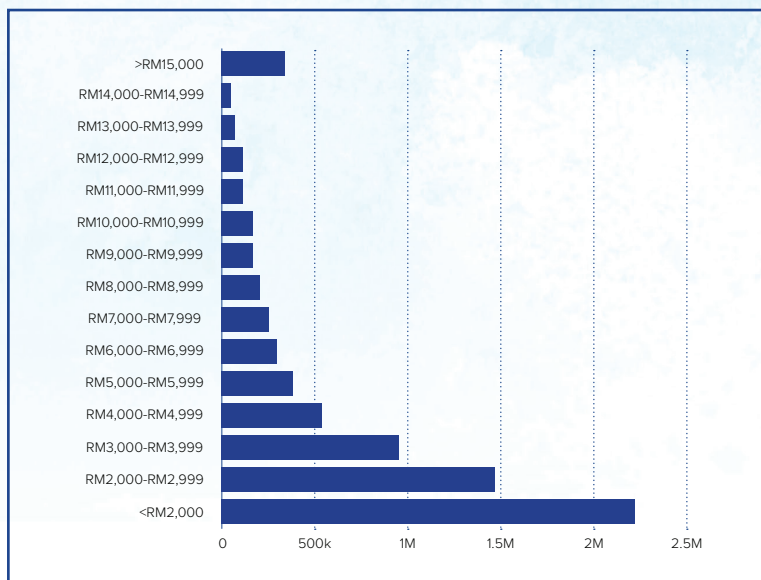
Older Mothers

Increasing Life Expectancy

Unhealthy Ageing

THE RINGGIT AND SENSE OF MALAYSIA'S LABOUR MARKET

“**38.5% Malaysians earn less than RM2,000 while 4% earn more than RM15,000 per month.**”



“**Workers in urban areas earn 40% more than workers in rural areas.**”

Mean monthly salaries and wages



Growth from 2021 to 2023: 5.1% (urban) and 10.5% (rural)

“**Women earn 33% less than men.**”

Average annual earnings (same experience, qualifications and job titles)



Global average gender pay gap: 23% Singapore: 14.3%

“**Only 2 out of 10 senior positions belong to women**”



Compared with 5 in US and 4 in Singapore.

LABOUR MARKET DYNAMICS AND WAGES

“Are Malaysians paid enough compared to global peers?”

Occupation	Average Monthly Salary In		
	Malaysia	Singapore	Australia
Registered Nurse	RM2,500	S\$3,400	AU\$5,800
Doctor (General Practice)	RM7,000	S\$8,300	AU\$11,400
Professional Engineer	RM5,400	S\$7,900	AU\$6,700
Retail Sales Associate	RM1,600	S\$2,000	AU\$4,200
Accountant	RM4,000	S\$4,300	AU\$5,500
Data Analyst	RM3,900	S\$4,600	AU\$6,400
Teacher	RM2,879	S\$3,700	AU\$6,200
Police Officer	RM3,800	S\$3,500	AU\$6,000
IT Support Specialist	RM3,400	S\$3,900	AU\$5,400
Kitchen Chef	RM2,500	S\$1,820	AU\$3,800
Farm Manager	RM4,125	S\$4,400	AU\$5,820

For perspective:

The estimated monthly cost of living per person is RM3000 in Kuala Lumpur, S\$3,000 in Singapore, and AU\$3,400 in Sydney.

Source: MIGHT Analytics with data from Payscale and Numbeo, 2024

Rise of Informal Employment and Underemployment

“Underemployment among informally employed workers is significantly higher at 73.2% vs formally employed workers at 26.5%.”

The HiFy surveys conducted by the World Bank during the COVID-19 pandemic suggest that informally employed workers were more likely to lose their jobs, receive irregular payments, and experience reductions in income. They were also more likely to experience food shortages and rely of harmful coping strategies. These findings underline their vulnerabilities to shocks and their limited abilities to cope effectively

“Malaysia aims for high skilled workers but 62.7% of jobs only require semi-skilled workers.”

Out of the total number of filled jobs, the semi-skilled category led the chart with 5.48 million jobs (62.7 percent), followed by skilled with 2.19 million (25.1 percent) and low-skilled with 1.07 million (12.2 percent),” he said.

MIGRATION AND URBANISATION

What does it encompass?

The multifaceted impacts of population movement and urban growth on societies, economies, infrastructure, and the environment within the context of climate change and shifting demographics.

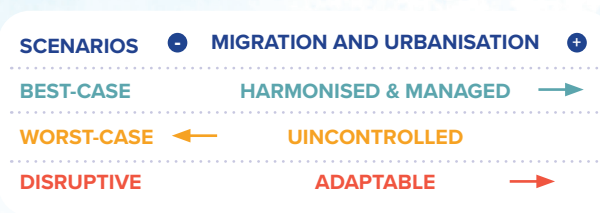
What are the signals telling us?

Malaysia's urbanisation rate is set to hit 81.8% by 2030, a sign of its swift development. While new townships arise around emerging industries like hydrogen energy, others dwindle due to job shortages and increasingly older populations with unique needs as the young move away to greener pastures. Four such cities—Ipoh, Taiping, Penang Island, and Sibü—have joined the WHO Global Network for Age-friendly Cities and Communities. The rate of inter-state migration, at 30.3%, highlights regional disparities, with Sabah experiencing the highest outward migration. Malaysia also sees significant international migration, with the share of female emigrants (57%) being the second-highest in the region. This translates to 6% of Malaysian women which underscores a significant loss of talent, with educated and professional women seeking better opportunities abroad.

The IOM estimates 1.2 billion environmental migrants worldwide by 2050. Climate change could slash the GDPs of migrant-sending countries like Nepal, Bangladesh, and Indonesia by up to 4.4%, likely intensifying migration to ...Malaysia and reshaping population demographics, possibly increasing pressures on urban infrastructure and services.

How could it shape Malaysia's climate and demographic transition?

Internal and external migration, as well as a rapidly ageing population will all place demands on Malaysia's urban services and infrastructure while hollowing out small towns and rural areas.



Signposts to monitor:

1. Urban-rural population demographics (ratios, age distribution, employment rates, income)
2. Urbanisation rate
3. Internal and international migration patterns
4. Infrastructure coverage and development (urban planning and zoning, transportation networks, utility services, digital connectivity)
5. Urban environmental indicators (air and water quality, green spaces, climate resilient infrastructure)
6. Quality of life indicators, social cohesion, public health trends

To mitigate and adapt to:

 Global Warming

 **Climate Kaleidoscope**

 Thermal Surge

 Fossil Fuelled

 Towards Net Zero

 Acidic Tide

 Tidal Ascent

 Glacial Thaw

 Polar Ocean Retreat

 Raining Uncertainties

 **Climate Disasters**

 **Slowing Population Growth**

 **Urban Rise**

 Gender Disparity

 **Rapid Ageing**

 **Social Fraying**

 Childhood Stunting

 Compact Families

 Years Lost

 **Healthcare Accessibility**

 **Low Fertility**

 Older Mothers

 **Increasing Life Expectancy**

 **Unhealthy Ageing**

WATER-ENERGY-FOOD SECURITY AND CONNECTIVITY NEXUS

What does it encompass?

The practices, strategies, infrastructure, and innovations to address the increased pressures, demands, and interdependent relationship between water, energy, food (WEF), and connectivity systems.

What are the signals telling us?

Recent water disruptions from declining water levels in reservoirs and rivers as well as increasing incidences of water pollution have called for more efforts on water conservation initiatives and investments in water treatment technologies. Meanwhile, the growth of renewable energy sources signals progress towards a future with more sustainable energy, offering opportunities for reduced greenhouse gas emissions and off-grid energy solutions. However, rising food imports alongside stagnant local agricultural productivity signal dependence on external sources, exacerbated by global market volatility.

Amidst these challenges, physical and digital connectivity presents opportunities; transportation infrastructure improvements promise enhanced accessibility and efficiency, while digital advancements facilitate social mobility, communication, and commerce. However, the digital divide casts a shadow, with disparities in access to broadband internet and digital infrastructure hindering communication and access to vital services for certain communities.

How could it shape Malaysia's climate and demographic transition?

Tipping the balance of a highly interconnected, complex, and increasingly uncertain nexus of WEF and connectivity nexus could impact climate and demographic resilience.



Signposts to monitor:

1. Resource availability and access
2. Energy consumption (energy efficiency) and production (energy mix)
3. Agricultural productivity
4. Food imports, exports and prices
5. Investment into WEF and connectivity infrastructure
6. Policy and regulatory changes
7. Technological innovation and adoption

To mitigate and adapt to:

Global Warming

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WATER-ENERGY-FOOD SECURITY AND CONNECTIVITY NEXUS


WATER OF LIFE

Business losses experienced by small and medium enterprises from the manufacturing, construction, and services sectors from 43 days of water supply disruption in Selangor in 2020 amounted to RM2.05 billion

Cost of Sungai Kim Kim clean-up:

RM6.4
million

Fine on the polluting company:

RM32k

70-90%

of water disruptions stem from technical issues, with rising causes from pollution and climate hazards.

Water consumption:

Malaysia
205L
/day

WHO Recommended
165L
/day

Cost of piped water
RM1.75
per m³

Sewerage: 85.4%
of main cities

Malaysians pay
RM1.75
per m³

Piped water: 97.1% 97%
Urban Rural

By 2025: 98% piped water, 87.5% sewerage

Freshwater usage in 2020:

53%
Domestic & Industrial

47%
Agriculture

By 2050, water demand will increase 103%

98% of Malaysia's water comes primarily from 2,986 river basins. Replenished by 750-1,000 mm from Malaysia's annual rainfall.


ENERGISING LIVES
Price of Energy:

RON95	RM2.05 (subsidized)	RM3.35 (retail)
Diesel	RM2.15 (subsidized)	RM3.33 (retail)
Electricity	1-200kWh RM0.218-0.435 sen/kWh	RM0 (subsidized)

Electricity bill below RM20. Lowest residential and second-lowest commercial electricity prices in ASEAN.

CO₂ Emissions from Fuel Combustion (2021) :

- **Share of global emissions:** 0.7%, Ranked 24th in the world.
- Increase of 96% from 2000 to 2021.
- **By fuel:** Coal 40.3%, Natural gas 30.6%, Oil 29.1%
- **By sector:** Electricity producers 49.2%, Transport 21.7%, Industry 15.5%

Electricity Generation (2021) :

Non-renewables	Renewables
81% (Coal 47.9%, Natural gas 32.5%, Oil 0.6%)	19% (Hydro 17.3%, Solar 1.1%, Biomass 0.6%)

Target: 40% renewables by 2035, 70% renewables by 2050

Energy Consumption (2021) :

33.4% Industry	30.9% Transport	7.3% Commercial and public services
19.4% Non-energy use	7.4% Residential	

Energy efficiency: 2 569.823 MJ/\$2015 GDP, 63rd in the world

Total Energy Supply (2021) :

Non-renewables	Renewables
95.8% (Natural gas 44.8%, Oil 27%, Coal 24%)	4.2% (Hydro 2.8%, Biomass 1.2%, Solar 0.2%)

WATER-ENERGY-FOOD SECURITY AND CONNECTIVITY NEXUS



FOOD FOR LIFE

Meeting Malaysia's Food Needs

Self-Sufficiency Ratio (2022)		Target SSR
Beef	14.7%	50% (2025)
Vegetables	44.7%	79% (2030)
Fresh Milk	57.3%	100% (2025)
Fruits	78.1%	83% (2030)
Rice	62.6%	75% (2025)
Fish	90.2%	n/a
Chicken/Duck Meat	94.4%	n/a
Chicken/Duck Eggs	108.9%	n/a



Malaysians spend around **20-40%** of their wages on food. However, nearly a quarter of the food is wasted due to overbuying or spoilage.

Kedah's low-lying paddy farms face climate threats of floods, rising seas, and longer droughts endangering harvests.



Malaysians love eating rice, with an average of

82.4kg

consumed per person annually. This makes us the 22nd highest rice consumers globally.

However, we import

40%

of our rice from climate vulnerable countries like Pakistan, Thailand, and Viet Nam.



CONNECTING MALAYSIANS

How Connected are Malaysians?

Internet penetration rate

97.4%

However in 2020

37%

of students are unable to connect due to cost, stability and coverage

129.2%

of population are on mobile connections

83.1%

are social media users

66.64Mbps (mobile)

Median Speeds:

112.21Mbps (fixed)

Speeds have increased by 83.4% and 22.6% respectively.

Average of 80% 5G coverage in populated areas with the highest in Klang Valley at 96.4%; while Pahang, Kelantan, Sabah and Sarawak are below 50%.

Price of Connectivity

Malaysians spend an average of

8h 17mins

on the internet, more than 50% of our waking time.

RM15 billion

over 10 years earmarked for 5G implementation.

Malaysians pay on average RM1.30 per GB for mobile data and RM167 per month for broadband internet.

Price of mobile data per GB has gone down by

83.1%

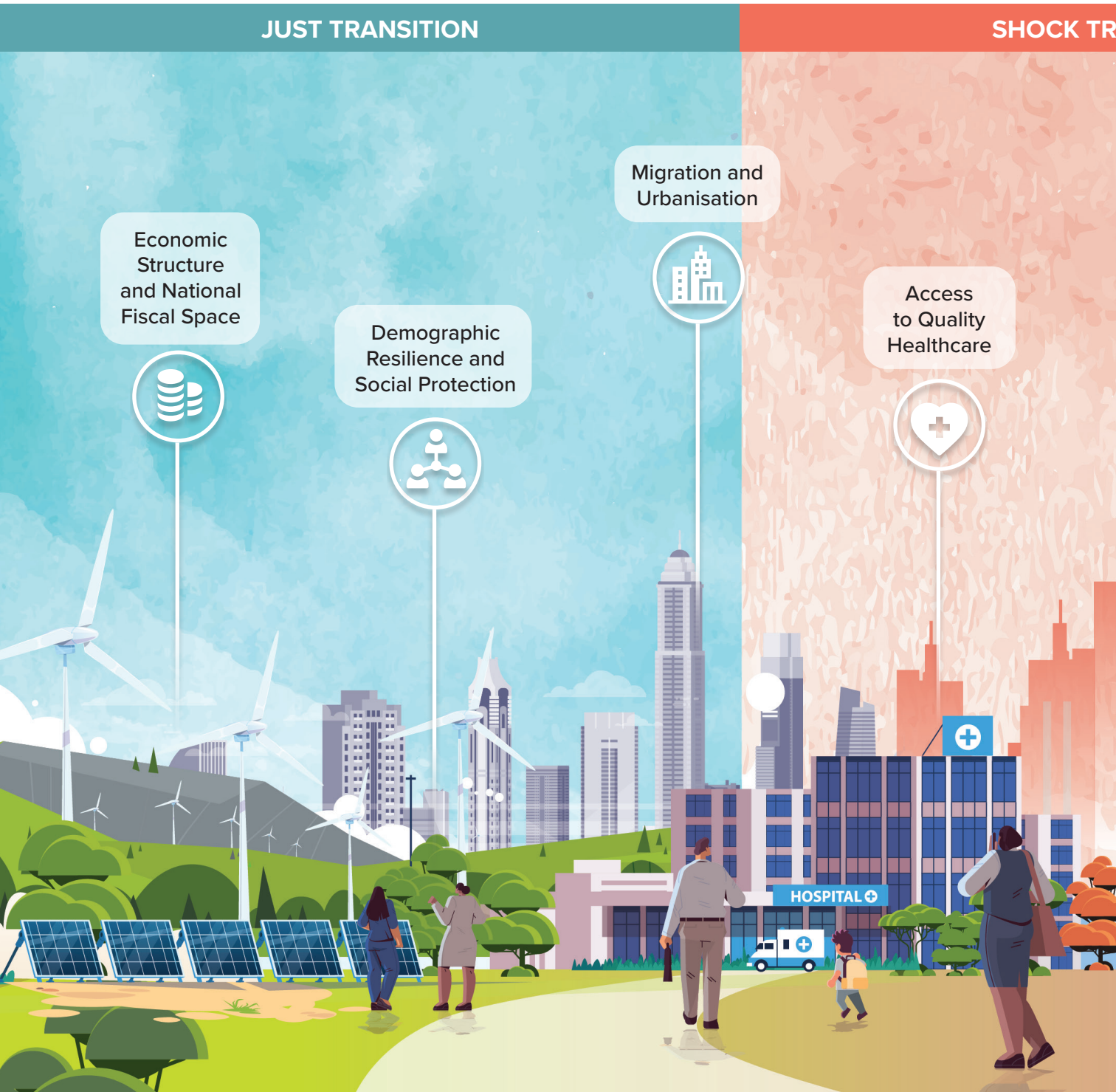
in just 5 years.



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2.2 How Could the Transition Occur?

The world stands at a pivotal crossroads of a path yet taken. Within this juncture lies the intricate interplay of eight key drivers steering Malaysia's climate and demographic transition, each charting its own future. From this complexity emerges three distinct scenarios:

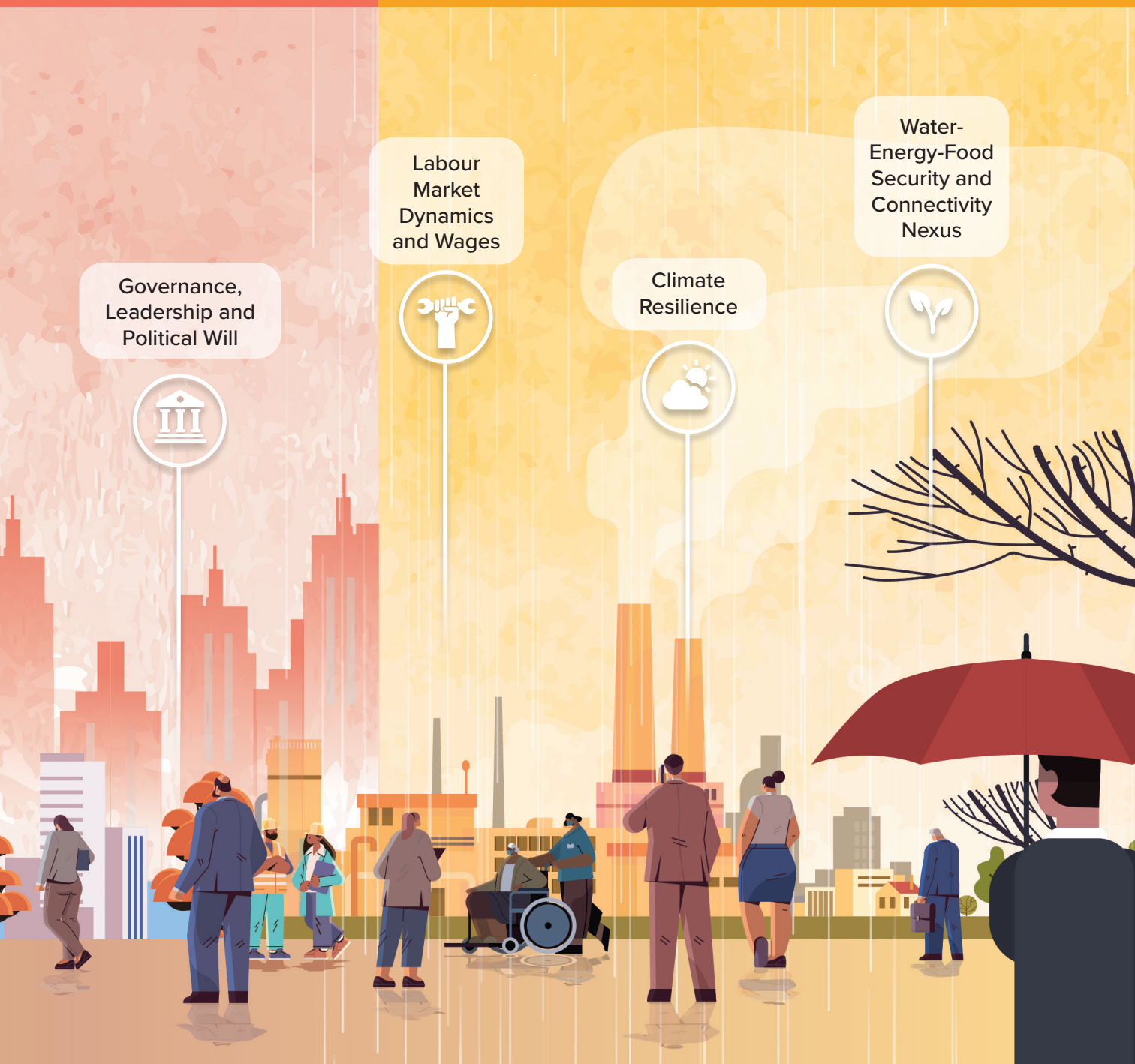


CHAPTER 2: AT A CROSSROADS: ENVISIONING MALAYSIA'S PLAUSIBLE CLIMATE AND DEMOGRAPHIC TRANSITIONS

These scenarios not only illuminate the potential transitions that Malaysia could face but also underscore the urgent need for strategic foresight and proactive measures to navigate Malaysia towards the transition that we aspire.

TRANSITION

FAILED TRANSITION



Governance,
Leadership and
Political Will

Labour
Market
Dynamics
and Wages

Climate
Resilience

Water-
Energy-Food
Security and
Connectivity
Nexus

JUST TRANSITION

A best-case scenario where climate adaptation and mitigation together with demographic transition are equally addressed to realise the best outcomes in Malaysia's sustainable development.



GOVERNANCE, LEADERSHIP & POLITICAL WILL ARE VISIONARY

Malaysia demonstrates visionary governance and leadership in climate and demographic action at all levels.



QUALITY HEALTHCARE IS ACCESSIBLE & EQUITABLE

Malaysia boasts a healthcare system accessible to all citizens. Advanced technologies and innovative solutions ensure equal healthcare access.



LABOUR MARKET DYNAMICS AND WAGE ARE PROGRESSIVE

Malaysia demonstrates a progressive labor market with a focus on green jobs amidst climate and demographic transitions.



MIGRATION AND URBANISATION ARE HARMONISED AND MANAGED

Malaysia showcases a harmonised and managed migration and urbanisation landscape.





DEMOGRAPHIC RESILIENCE AND SOCIAL PROTECTION GIVE RISE TO AN EMPOWERED SOCIETY

Malaysia portrays a society where individuals are empowered and enjoy dignity. Comprehensive social protection programs and equitable policies ensure a dignified life for all.



CLIMATE RESILIENCE INVOLVES ADAPTATION AND MITIGATION

Malaysia demonstrates impressive climate resilience. Advanced infrastructure protects against climate-related hazards. Sustainable practices and robust policies have minimized vulnerabilities.



WATER-ENERGY-FOOD SECURITY AND CONNECTIVITY NEXUS IS SELF-SUFFICIENT

Malaysia thrives with a self-sufficient and sustainable nexus available and accessible to all. Integrated systems ensure consistent access to water, energy, and food while bolstering robust connectivity.



ECONOMIC STRUCTURE AND NATIONAL FISCAL SPACE ARE SUSTAINABLE

Malaysia showcases a sustainable green economy with a balanced economic structure and robust fiscal space. The nation invests in renewable energy, green technologies, and eco-friendly infrastructure.



SHOCK TRANSITION

A disruptive scenario as Malaysia grapples with climate change and an ageing population, chaos ensues due to its inability to adapt and transition effectively, resulting in cascading failures.



GOVERNANCE, LEADERSHIP AND POLITICAL WILL ARE REFORMED

Malaysia experiences a transformative shock that initiates reform and green leadership. Crises triggers a reformative shift in governance, fostering proactive green leadership.



QUALITY HEALTHCARE IS REACTIVE AND LIMITED

Malaysia grapples with healthcare challenges post-crisis. Resource constraints and reactive measures have led to limited healthcare access. Emergency healthcare services are overwhelmed, causing delays and limitations.



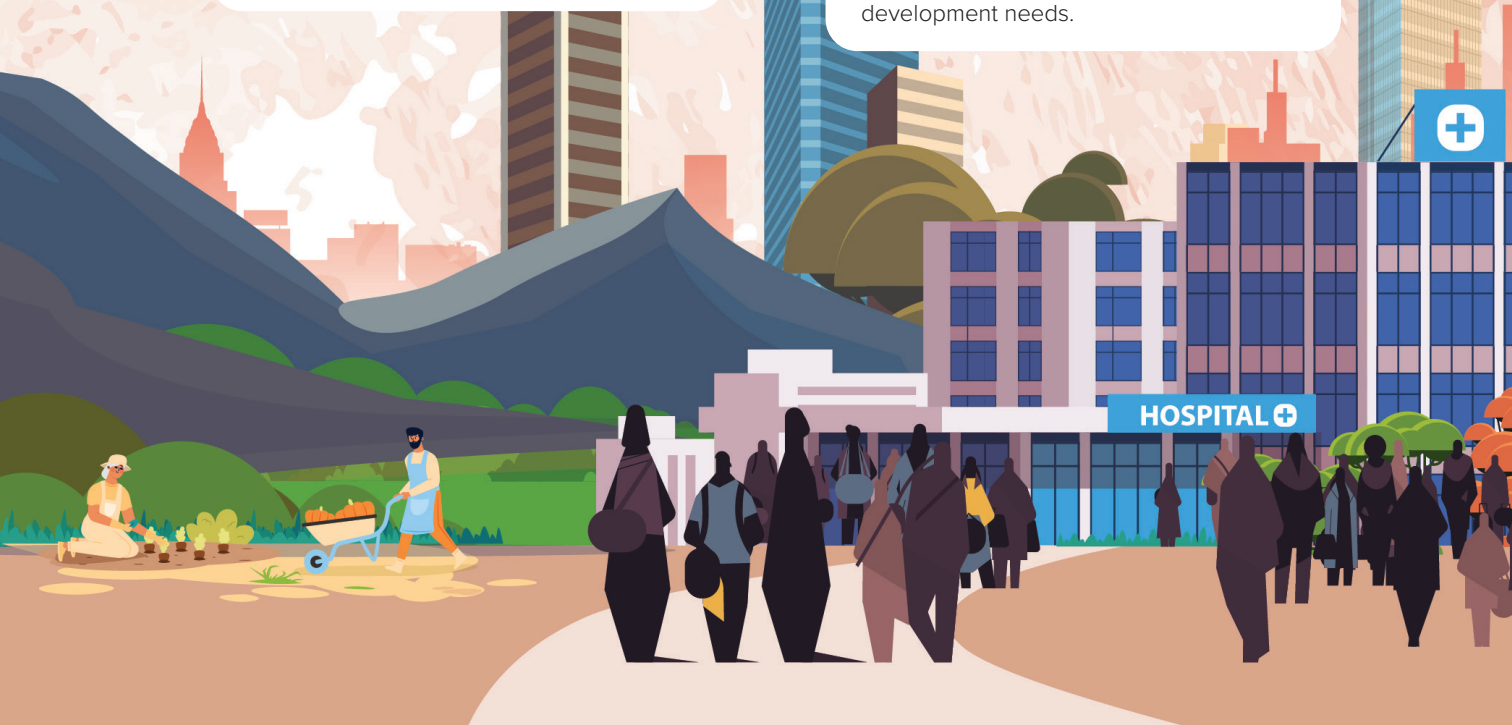
LABOUR MARKET DYNAMICS AND WAGES ARE TRANSFORMATIVE

Malaysia mandates mandatory reskilling and upskilling for the ageing workforce, redirecting them to green jobs in renewable energy and eco-friendly sectors.



MIGRATION AND URBANISATION ARE ADAPTABLE

Malaysia adapts to a changing landscape of migration and urbanisation following a shock transition. Flexible policies and rapid adaptation strategies accommodate shifting migration trends and urban development needs.





DEMOGRAPHIC RESILIENCE AND SOCIAL PROTECTION GIVE RISE TO A WELFARE SOCIETY

Malaysia reflects a welfare-oriented society shaped by crisis response. Social safety nets and welfare programs are prominent but reactive.



CLIMATE RESILIENCE IS CRISIS-RESPONSIVE

Malaysia has undergone transformative changes post-crisis. Innovative technologies and swift crisis-response measures are evident. Resilience centers and adaptive infrastructure are established.



WATER-ENERGY-FOOD SECURITY AND CONNECTIVITY NEXUS IS RECOVERING

Malaysia enters a phase of recovery following the climate and demographic crisis. Embracing lessons learned, the nation adopts sustainable consumption patterns and improved resource management, driving a recovery towards restored availability and accessibility for all.



ECONOMIC STRUCTURE AND NATIONAL FISCAL SPACE ARE CONSTRAINED

Malaysia navigates a constrained economic recovery with limited focus on the green economy post-crisis. The economy operates under severe constraints due to post-shock recovery as fiscal limitations hinder significant investments in the green sector



FAILED TRANSITION

A bleak worst-case scenario where climate and demographic crises catalyse urgent adaptations. Malaysia swiftly implements stopgap measures, yet faces unintended consequences.



GOVERNANCE, LEADERSHIP AND POLITICAL WILL ARE INEPT

Malaysia faces governance challenges, resulting in an inept and dysfunctional system. Lack of coherent leadership and political stability impedes effective action.



QUALITY HEALTHCARE IS INACCESSIBLE AND EXCLUSIVE

Malaysia faces challenges in healthcare access. Disparities exist, leading to limited access for marginalised communities. Decaying infrastructure and unequal resource allocation result in exclusive healthcare.



LABOUR MARKET DYNAMICS AND WAGES ARE REGRESSIVE

Malaysia experiences a regressive labor market with limited green job opportunities due to failed transitions. Stagnant wages and scarce job prospects dominate the landscape, including limited growth in green industries.



MIGRATION AND URBANISATION ARE UNCONTROLLED

Malaysia grapples with uncontrolled migration and urbanisation due to failed transitions. Absence of effective policies and unplanned urban expansion leads to chaotic migration patterns, overcrowded cities, and aging small towns and rural areas.





DEMOGRAPHIC RESILIENCE AND SOCIAL PROTECTION GIVE RISE TO A VULNERABLE SOCIETY

Malaysia struggles with demographic challenges, resulting in societal vulnerabilities. Gaps in social protection systems leave many vulnerable, particularly the elderly and marginalized groups.



CLIMATE RESILIENCE IS FRAGILE

Malaysia struggles to withstand climate change. Ageing infrastructure and inadequate adaptation measures have left communities exposed to climate risks. Increased occurrences of extreme weather events have strained resources.



WATER-ENERGY-FOOD SECURITY AND CONNECTIVITY NEXUS IS DISRUPTED

Malaysia faces a disrupted nexus due to failed transitions. Inefficient resource allocation, disrupted supply chains, and erratic connectivity characterise a system grappling to meet fundamental needs.



ECONOMIC STRUCTURE AND NATIONAL FISCAL SPACE COLLAPSE

Malaysia faces economic collapse and fiscal breakdown. Inadequate fiscal planning, economic mismanagement, and neglect of green initiatives lead to an economy in ruins.



CHAPTER 3



Anticipating Futures: Exploring Socio-Economic Implications from the Transitions

CHAPTER 3: ANTICIPATING FUTURES: EXPLORING SOCIO-ECONOMIC IMPLICATIONS FROM THE TRANSITIONS

As we turn the page from envisioning Malaysia's plausible climate and demographic transitions, we are called to delve deeper into the socio-economic implications that these futures could hold. We have already come to understand how Malaysia could transition in the face of climate and demographic changes. As we stand at the crossroads of these pivotal transitions, we must challenge the conventional notion that our future is merely an extension of the past. Instead, we must embrace a mosaic of possibilities, with each transition unfolding a unique narrative and shaping a distinct future. We must confront fundamental shifts, challenges, and opportunities that arise from these plausible transitions. This chapter encapsulates the insights and perspectives of stakeholders engaged in envisioning these changes. Anticipating these will strengthen our potential response and whole-of-nation preparedness to navigate the climate and demographic transition towards the future we aspire.

3.1 What Lies Ahead for Malaysia's Socio-Economic Future?

While economic outlooks are aplenty for Malaysia, our socio-economic future remain shrouded in uncertainty, shaped by profound shifts and intricate challenges. One can't help but wonder how life will evolve in the face of impending climate and demographic changes.

Earlier, we have come to understand how Malaysia could potentially undergo the climate and demographic transition. Now, we accelerate the changes and unfold how the decisions we make, sets off a series of events and implications that will weave a unique narrative through the fabric of our nation's economic structures and labour market as well as the well-being of the elderly and their families.

In economic structures and labour market, the transition towards a greener economy is fraught with both promise and peril. The shift towards sustainable practices heralds a new era of innovation but exposes the economy to vulnerabilities, particularly in sectors slow to adapt. Meanwhile, the labour market will undergo transformative changes. While new technologies and processes promise to revolutionise industries, they also pose the

risk of displacing a significant portion of the workforce. Additionally, the dual imperative of maintaining fiscal discipline while investing in climate and demographic adaptations imposes significant pressure on Malaysia for a careful orchestration of policies and priorities.

Closer to home, the well-being of the elderly and their families centers on health, wealth, and safety. The healthcare system faces pressures from escalating demands for wellness and medical care, compounded by the rising costs of advanced treatments and technologies. However, Malaysia's investments and strategic planning in a dual healthcare system could ensure universal coverage. The quality of life for the elderly may be threatened by deep-seated inequalities that risk isolating the most vulnerable; yet, targeted social policies could alleviate these disparities, bolstering social inclusion and support. Furthermore, while climate disasters significantly threaten the stability of elderly communities — often the least equipped to handle rapid environmental changes — proactive enhancement of community and national resilience could safeguard these groups, ensuring the elderly live their later years with dignity and security.

CHAPTER 3: ANTICIPATING FUTURES: EXPLORING SOCIO-ECONOMIC IMPLICATIONS FROM THE TRANSITIONS

6 future socio-economic implications were anticipated to arise from scenarios of Malaysia's climate & demographic transition:

IN ECONOMIC STRUCTURES & LABOUR MARKETS:

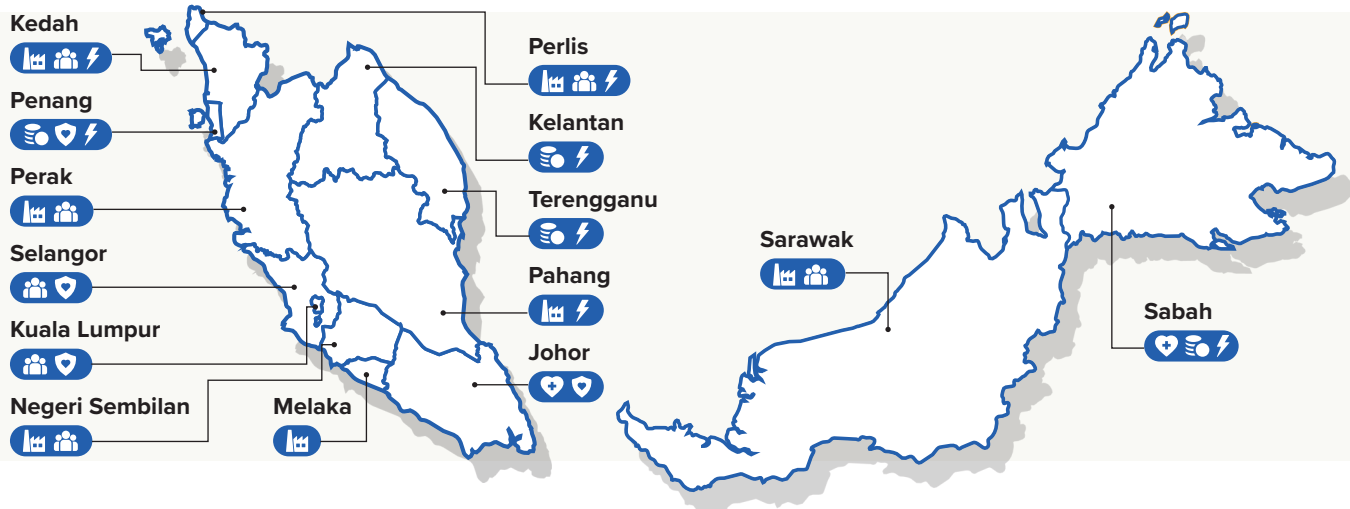
SOCIO-ECONOMIC IMPLICATION	ECONOMIC SHIFTS: GREENING T& VULNERABILITIES	LABOUR MARKET RESTRUCTURING: TRANSFORMATION & wDISPLACEMENT	FISCAL SUSTAINABILITY: RESILIENCE & PRESSURES
WHAT IT ENCOMPASSES	<p>The transformation of Malaysia's economic sectors towards sustainable practices, advancing the emergence of green industries and the potential decline of sectors that fail to adapt, results in areas of economic vulnerability. This impacts Malaysia's competitiveness, economic stability, and growth potential.</p>	<p>Significant changes in employment due to technological disruptions and economic shifts, characterised by the rethinking of work, reshaping of jobs, reskilling and upskilling, and the displacement of workers from vulnerable sectors. This transformation influences salaries and wages, affecting income distribution.</p>	<p>The government's ability to sustain healthy public finances amid changing socio-economic conditions. It involves balancing investments in national resilience and rising public expenditures with the pressures of reduced revenue. This impacts debt management, the capacity to fund essential services, and to make key investments toward desired futures.</p>

IN WELL-BEING OF ELDERLY & THEIR FAMILIES:

SOCIO-ECONOMIC IMPLICATION	HEALTHCARE SYSTEM: WELLNESS & COST	QUALITY OF LIFE: SUFFICIENCY & INEQUALITIES	CLIMATE DISASTERS: ADAPTATIONS & FRAGILITY
WHAT IT ENCOMPASSES	<p>The adaptation of Malaysia's healthcare system to improve health outcomes by managing cost of care, capacity, and health initiatives amidst climate impacts and demographic vulnerabilities. This affects the overall wellness of the population, crisis response, and financial sustainability.</p>	<p>The shifts and strains in social safety nets and protection measures needed to enable equitable resource distribution and maintain stability in living standards and well-being amid growing resource competition. This may lead to increased inequalities in access and quality of life, affecting social cohesion, mobility, and health.</p>	<p>The nation's ability to recover from climate-related shocks and stresses, highlighting the resilience and fragility of infrastructure and communities across Malaysia and underlying socio-economic, environmental, and governance challenges. These adaptations impact overall societal well-being and growth potential.</p>

State of Change: Socio-Economic Ripples Across Malaysia

Across Malaysia, each state is poised for significant socio-economic shifts. Industries will evolve, workforces will adapt, and everyday life will reflect these sweeping transitions. While states may emerge more resilient, harnessing new opportunities, they might also find themselves facing new challenges. Each state will need to navigate this complex transition adeptly, forging a path toward a future that is both sustainable and inclusive.



Perlis & Kedah

Agricultural Shifts: Climate Adaptation and Ageing Farmers

Increasing temperatures and erratic weather patterns coupled with ageing field workers who are vulnerable to heat strokes threaten crop yields. This pushes Perlis and Kedah towards innovative, climate-resilient farming practices, set to reshape local economies and impact food security.

Perak

Tech Renaissance: Innovation and Industrial Transformation

Perak is shifting from traditional resource-intensive industries to a high-tech economy. Investments in technology hubs and green industries drive this change, fostering innovation and creating new job opportunities reshaping the local economy, impacting labour markets, and enhancing economic resilience.

Kelantan

Local Stewardship: Diversification of Industries and Sustainable Resource Management

Rising temperatures and erratic weather patterns exacerbate water scarcity issues, flooding and economic vulnerabilities, threatening traditional and cultural industries, tourism and community livelihoods. These pushes Kelantan towards significant adaptation efforts, some led by communities including sustainable water management and economic diversification to ensure resilience.

Selangor & Kuala Lumpur

Urban Evolution: Balancing Migration and Quality of Life

Rapid urbanisation and centralisation of economic activities in Kuala Lumpur and Selangor drive significant internal migration, exacerbating urban poverty and straining infrastructure. High living costs, housing shortages, and environmental degradation necessitate strategic urban planning and sustainable development to maintain quality of life and support economic growth.

CHAPTER 3: ANTICIPATING FUTURES: EXPLORING SOCIO-ECONOMIC IMPLICATIONS FROM THE TRANSITIONS

Negeri Sembilan**Economic Diversification: High-Tech and Tourism Development**

Negeri Sembilan is diversifying its economy by focusing on high-tech manufacturing and tourism. This transformation attracts investments and enhances socio-economic development. Rapid development and urbanisation strain local infrastructure and resources, pushing the state towards sustainable growth strategies to manage these impacts effectively.

Melaka**Sustainable Heritage: Green Growth and Culture**

Melaka's embrace of a green economy integrates sustainable development with cultural preservation. This fosters eco-tourism and economic growth, positioning Melaka as a model for sustainable heritage management.

Penang**Urban Resilience: Urban Growth and Environmental Challenges**

Rising sea levels and extensive sea reclamation threaten Penang's infrastructure and housing affordability. These pressures push the state to enhance coastal defenses and implement sustainable urban planning, necessitating fiscal interventions and impacting community resilience.

Sarawak**Sustainable Growth: Energy Transition and Decarbonisation**

Sarawak is at the forefront of Malaysia's energy transition, capitalising on its rich natural resources for hydroelectric power and other renewable energy initiatives. This shift supports economic growth, reduces reliance on fossil fuels, and promotes environmental sustainability. Additionally, with the implementation of the Climate Change Act, Sarawak is committed to decarbonisation efforts, positioning itself as a leader in sustainable development and climate action.

The information presented here is derived from stakeholder engagements, supplemented with research and analysis. It is non-exhaustive and has been selectively curated for presentation purposes.

Pahang**Resource Management: Sustainable Mining and Environmental Stewardship**

Pahang's rich mineral resources drive extensive mining activities, which significantly contribute to the state's economy. However, the environmental impacts of these activities, such as deforestation, water pollution, and carbon emissions, push Pahang towards sustainable mining practices. Balancing economic growth with environmental stewardship is essential to preserve natural habitats and ensure long-term community well-being.

Terengganu**Coastal Resilience: Sustainable Tourism and Community Adaptation**

Rising sea levels and severe coastal erosion threaten local tourism and community livelihoods. These challenges push the state towards enhancing coastal defenses and implementing sustainable tourism practices. Additionally, Terengganu's rich cultural heritage and efforts to foster a thriving retirement community are integral to its adaptation strategies, ensuring cultural preservation and social well-being are central to its sustainable development.

Johor**Cross-Border Dynamics: Salary Growth and Living Strains**

Johor benefits from high cross-border employment and increased disposable incomes. While this boosts local consumption, it primarily generates revenue through consumption taxes. The economic benefits are accompanied by rising living costs and socio-economic inequalities, straining infrastructure and requiring prudent fiscal planning to maintain economic stability and quality of life.

Sabah**Balanced Development: Widened Access and Socio-Economic Opportunity**

Limited access and connectivity in remote areas, coupled with statelessness, disrupts quality of life, social mobility and indigenous practices for vulnerable populations. Additionally, saltwater intrusion and sea acidification threaten local food security and livelihoods. These complex dynamics push Sabah towards nature-based solutions and innovation that improve healthcare access, manage environmental sustainability, and support economic resilience for all residents.

What Lies Ahead for Malaysia's Socio-Economic Future:

A Journey of Transformation and Preparedness in the Just Transition

As Malaysia embarks on a Just Transition, the socio-economic horizon gleams with promising transformations. Envision proactive policies, strategic investments, and a united community spirit, all propelling the nation towards a greener, more equitable, and resilient future. This transition promises to weave a narrative of progress across various sectors, each playing a vital role in shaping a brighter tomorrow.

ECONOMIC SHIFTS

RISE OF THE GREEN ECONOMY AND INDUSTRY DECARBONISATION

Malaysia's green economy is set to flourish with substantial investments projected to exceed RM100 billion by 2030, creating 300,000 new jobs in renewable energy, sustainable agriculture, and eco-tourism. Universities and research institutions will become global hubs for green innovation. As the manufacturing sector diversifies, key industries like oil, gas, and chemicals will adopt sustainable practices, significantly reducing carbon emissions and driving economic and environmental sustainability.

FISCAL SUSTAINABILITY

FISCAL RESILIENCE AND LONG-TERM FISCAL HEALTH

Optimised public spending and stringent anti-corruption measures could prevent RM55 billion in annual losses. Funds will be reallocated to healthcare, education, and social protection, with increased spending on climate adaptation. Enhanced revenue generation, economic diversification, and improved tax collection will ensure fiscal resilience. Strategic green investments will attract significant funds, boosting renewable energy capacity to 70% by 2030. Effective governance will improve fiscal health and transparency, enhancing public services.

LABOUR MARKET RESTRUCTURING

DEVELOPING, ATTRACTING, AND RETAINING TALENT

The workforce will evolve to high-skilled roles, supported by progressive wage policies, potentially doubling monthly median wages by 2040. Advanced automation will enhance productivity in industrial regions. Job displacement in traditional sectors will be mitigated by extensive upskilling and reskilling programs, with RM12 – 16 billion invested annually. Flexible work arrangements and digital literacy programs will ensure inclusivity, integrating rural and ageing workers.

QUALITY OF LIFE

ENHANCED SOCIAL SAFETY AND MOBILITY

Financial literacy, wealth accumulation, and targeted social programs will uplift quality of life. Increased social welfare spending will alleviate poverty, especially in underserved areas. Progressive taxation and social programs will bridge income inequality, promoting social mobility and cohesion. Nationwide financial education campaigns will improve savings and investment practices. Enhanced education and job training programs will prepare the workforce for future markets. Strengthened family support systems will ensure elderly care and foster community support.

A Journey of Transformation and Preparedness in the Just Transition

HEALTHCARE SYSTEM**TRANSFORMATION OF HEALTHCARE AND
EQUITABLE ACCESS**

Strategic funding will improve service accessibility and quality, addressing medical brain drain and talent retention. The MADANI Medical Scheme, with RM100 million allocated, will ease congestion in clinics and hospitals. Plans to produce 30 geriatric specialists annually will enhance care for the ageing population. Advanced healthcare technologies like telemedicine and AI will revolutionise service delivery, particularly in remote areas. Preventive healthcare initiatives will curb non-communicable diseases, reducing overall healthcare costs.

CLIMATE DISASTERS**EARLY PREPAREDNESS AND RESILIENT
COMMUNITY**

Proactive climate disaster preparedness will lead to comprehensive disaster plans, improving early warning systems and emergency response capabilities. Regions prone to natural disasters will be fortified with climate-resilient infrastructure, minimising economic losses. Community-based adaptation initiatives will empower local communities to adopt sustainable practices. Enhanced public health systems will respond effectively to climate-related health challenges. Economic diversification will reduce dependency on climate-sensitive sectors, fostering long-term resilience.

The Just Transition envisions a future of green growth, labour market transformation, fiscal resilience, enhanced healthcare, improved quality of life, and robust climate disaster adaptation. This journey promises equitable benefits across all regions, ensuring a prosperous and resilient Malaysia for all.

What Lies Ahead for Malaysia's Socio-Economic Future:

A Journey of Disruption and Forced Adaptation in the Shock Transition

As Malaysia faces the turbulent waves of a Shock Transition, the socio-economic landscape transforms under the pressure of frequent climate disasters and rapid demographic shifts. This era of forced adaptation reveals a narrative of resilience and urgency, driving the nation towards a precarious yet promising future.

ECONOMIC SHIFTS

CRASH AND GREEN TRANSFORMATION

Malaysia's traditional economic pillars crumble as ignored climate and demographic changes unleash sudden market disruptions. A staggering 15% GDP drop, 800,000 job losses, and RM72 billion in annual export declines push the nation to the brink. In response, swift investments in green technologies and infrastructure emerge, reshaping industries and positioning Malaysia as a beacon of green innovation.

FISCAL SUSTAINABILITY

PRESSURES AND SURVIVAL

Malaysia's fiscal health is under siege as climate and demographic shocks escalate spending and shrink revenues. The fiscal deficit may soar to 28% of GDP by 2040. Strained by rising healthcare and social welfare costs, the nation adopts austerity measures and innovative revenue strategies like green taxes. Yet, resilient fiscal policies and green investments herald a more stable and transparent financial future.

LABOUR MARKET RESTRUCTURING

DISPLACEMENT AND RESKILLING

The labour market is upheaved, with mass job displacement in vulnerable sectors like agriculture and manufacturing. Amidst this chaos, reskilling programs and supportive policies pave the way for new opportunities in green industries. However, the exodus of talent seeking better prospects abroad exacerbates workforce polarization. Despite these challenges, economic diversification and inclusive strategies promise to stabilize the labour market and promote social equity.

QUALITY OF LIFE

INEQUALITIES AND REDISTRIBUTION

Socio-economic inequalities deepen as climate shocks and rising costs diminish access to basic necessities. Increased poverty and social unrest threaten stability, while public trust erodes, prompting emigration. Comprehensive policies focused on equitable resource distribution and social services are vital to restoring cohesion and improving quality of life for all Malaysians.

A Journey of Disruption and Forced Adaptation in the Shock Transition

HEALTHCARE SYSTEM**INCREASING DEMANDS AND RISING COSTS**

Healthcare demands surge as climate-related illnesses and an ageing population stretch resources thin. Medical inflation, possibly hitting 19.6% annually, exacerbates the strain. Emergency investments in healthcare infrastructure and advanced technologies aim to bridge the gap, while policies ensure broader access and preventive care. Despite these efforts, the migration of healthcare professionals remains a critical challenge.

CLIMATE DISASTERS**FRAGILITY AND REBUILDING**

Frequent climate disasters expose the fragility of Malaysia's systems, demanding urgent adaptation. Severe weather events overwhelm response capabilities, causing widespread damage. Resilient infrastructure investments and robust climate policies are crucial. Despite potential economic losses of up to RM1.84 billion annually by 2040, the drive for innovation in sustainable technologies offers a glimmer of hope, fostering long-term resilience.

The Shock Transition presents a daunting yet transformative path for Malaysia. As the nation grapples with socio-economic disruptions, the urgency of adaptation drives significant change. Through resilience, innovative policies, and a commitment to sustainability, Malaysia can navigate these challenges, emerging stronger and more inclusive, poised for a resilient future.

What Lies Ahead for Malaysia's Socio-Economic Future:

A Journey of Inefficiencies and Shortcomings in the Failed Transition

As Malaysia navigates the murky waters of a Failed Transition, the socio-economic landscape is marred by inefficiencies and systemic shortcomings. This era of mismanagement and poor governance reveals a narrative of decline and struggle, pushing the nation towards a precarious future.

ECONOMIC SHIFTS

STAGNATION AND DECLINE

Malaysia's economic pillars falter as ineffective governance and inadequate green initiatives take their toll. The failure to comply with global ESG standards results in severe trade barriers, could lead to a 10% annual reduction in exports. Industry stagnation, compounded by reduced competitiveness and the flight of foreign direct investments, results in substantial job losses and a GDP contraction. The nation's economic decline is marked by increased poverty and widening socio-economic disparities.

FISCAL SUSTAINABILITY

FISCAL INSTABILITY AND PUBLIC DEBT

Corruption, government leakages, and lack of transparency drive fiscal instability. Economic mismanagement results in reduced government revenue, while rising public debt and interest payments strain the fiscal budget. Austerity measures, aimed at managing the fiscal crisis, cut essential public services and social programmes. The erosion of investor confidence and reduced international loans further exacerbate the fiscal pressures, leading to a potential fiscal crisis and undermining public trust in government.

LABOUR MARKET RESTRUCTURING

UNEMPLOYMENT AND UNDEREMPLOYMENT

The labour market is characterized by regressive dynamics, with stagnant wages and limited job opportunities. Ineffective policies and economic mismanagement lead to mass job losses in key sectors such as manufacturing and agriculture, pushing unemployment rates to unprecedented levels. The exodus of skilled workers seeking better opportunities abroad exacerbates the talent drain. Informal employment rises as people struggle to survive, leading to a decline in workforce productivity and deepening economic stagnation.

QUALITY OF LIFE

INEQUALITIES AND SOCIAL UNREST

Economic mismanagement and poor governance result in the lack of social protection systems, exacerbating socio-economic disparities. Living standards decline as households struggle with inadequate housing, sanitation, and access to basic necessities. The increased cost of living and limited access to essential goods fuel social unrest and instability. Strain on social services and infrastructure leads to a decline in overall well-being and heightened social tensions. Growing inequality drives emigration, as Malaysians seek better opportunities abroad, further eroding social cohesion.

A Journey of Inefficiencies and Shortcomings in the Failed Transition

HEALTHCARE SYSTEM**EROSION AND INEQUITY**

A dual-tiered healthcare system of inequity emerges. The elite enjoy high-quality services, while decaying infrastructure and underfunding leave vulnerable and remote communities with inadequate coverage. Years of neglect lead to the crumbling of public health infrastructure, with hospitals and clinics becoming unsafe. Medical inflation, rising to 19.6% annually, increases the burden on the healthcare system. The brain drain of healthcare professionals further exacerbates staffing shortages, reducing the quality of care and widening health disparities.

CLIMATE DISASTERS**VULNERABILITY AND FRAGILITY**

Malaysia becomes highly vulnerable to climate disasters due to ineffective governance and lack of climate adaptation policies. Increased frequency and severity of floods and heatwaves cause widespread destruction, displacing communities and overwhelming emergency services. Annual economic losses from these disasters could reach up to RM6.3 billion by 2040, crippling the economy. Environmental degradation, including deforestation and loss of biodiversity, exacerbates the impacts of climate disasters. Displacement and migration crises strain resources and social services, while public health crises emerge as natural disasters increase the spread of diseases. Reduced agricultural productivity and long-term economic stagnation further exacerbate the nation's challenges.

The Failed Transition paints a grim picture of Malaysia's socio-economic future. The nation grapples with inefficiencies, systemic failures, and widespread vulnerabilities. Addressing these challenges requires urgent reforms, improved governance, and strategic investments in resilience and sustainable development. Without significant changes, Malaysia risks remaining in a cycle of decline and instability.

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3.2 Anticipating Change: Future Opportunities and Risks

As Malaysia navigates the transformative socio-economic futures shaped by impending climate and demographic changes, the nation stands on the brink of profound transformation. This journey heralds the emergence of new paradigms, significant shifts in societal norms, and the discontinuation of outdated practices. These changes will collectively redefine our current way of life, presenting a future ripe with both opportunities and risks for those who are brave and prepared.

As part of the preparedness, we arm ourselves with the knowledge of what these new paradigms, shifts and discontinuations could entail. We identify:

New: Concepts practices, and technologies that emerge as a direct consequence of socio-economic transformations driven by climate and demographic changes. These new developments arise naturally from the shifting landscape, presenting unprecedented changes yet to be seen nor fully understood.

Shift: Significant transformations in existing systems, behaviours, and practices as Malaysia transitions through climate and demographic changes. These shifts reflect changes to our current ways of doing things.

Discontinued: The phasing out of outdated and unsustainable practices that no longer align with our future vision. This discontinuation is necessary to pave the way for new innovations and shifts, ensuring the nation's progression towards resilience and sustainability.

We also identify the future opportunities and risks, highlighting those who will most benefit from these emerging opportunities and those who will bear the greatest burden from the risks inherent in the future socio-economic implications.

NEW

AI Healthcare Revolution

Advanced AI-driven medical diagnostics and treatment transforming healthcare delivery.

Carbon as a Currency

Using carbon credits as a tradable asset in economic transactions.

Climate-Resilient X

Innovations that can allow us to mitigate and adapt to climate change.

Digital Nomadism

Individuals who work remotely while traveling and living in different locations.

Green Economy Boom

Investments and policies promoting sustainable economic practices.

Human-Machine Integration

Seamless interaction between humans and advanced machines in daily life and work.

Intergenerational Fairness

Policies ensuring equitable resources and opportunities across all age groups.

Planetary Health

An integrative approach to health that focuses on the interdependence of human and natural systems.

Rise of Silver Economy and Solo Economy

Economic growth driven by single individuals and the elderly demographic.

Youthquake

Significant societal changes driven by the influence and activism of younger generations.

SHIFT

From Baby Daycare to Elderly Daycare

Increasing focus on care facilities for the ageing population.

From Centralised to Decentralised Energy Systems

Shifting energy production to local, smaller-scale renewable sources.

From Government-Led to Community-Partnered Development

Moving from government-led initiatives to collaborative local community development.

From High-Carbon to Low-Carbon Economy

Transitioning from an economy reliant on high-carbon resources to a low-carbon diversified economy.

From Inequality to Social Equity

Striving for fair distribution of resources and opportunities.

From Industry 4.0 to 5.0 to 6.0

Evolution of industries incorporating advanced technologies and human-centric innovation.

From Mass Consumerism to Conscious Consumerism

Moving towards mindful and sustainable consumption habits.

From Reactive to Proactive Policies

Moving from crisis response to preventative strategies.

From Short-Term Fiscal Planning to Long-Term Fiscal Health

Implementing sustainable financial strategies for future stability.

From Traditional to Green Jobs

Creating employment in environmentally sustainable industries.

DISCONTINUED

3D (“Dirty, dangerous, and demeaning”) Work

Replacing hazardous and monotonous jobs with automation.

Extractive Economy

Phasing out industries reliant on depleting natural resources.

Fossil Fuel Dominance

Ending the reign of oil and gas as primary energy sources.

Health Inequities

Striving to eliminate disparities in healthcare access and quality.

Lost and Dismissed Indigenous Stewardship Practices

Loss of traditional knowledge due to migration and urbanisation.

Landfills

Moving towards zero-waste and circular economy practices.

Mandatory Retirement Age

Eliminating fixed retirement ages to accommodate diverse career paths.

Non-Compliance with Environmental Standards

Phasing out practices that fail to meet global sustainability criteria.

Single-Use Plastic

Banning disposable plastics in favour of sustainable alternatives.

Subsidies

Reducing government financial support.

Traditional Export Reliance






Diversifying beyond conventional export-dependent economies.

CHAPTER 3: ANTICIPATING FUTURES: EXPLORING SOCIO-ECONOMIC IMPLICATIONS FROM THE TRANSITIONS

IN ECONOMIC STRUCTURES & LABOUR MARKETS:

 ECONOMIC SHIFTS: GREENING & VULNERABILITIES	LABOUR MARKET RESTRUCTURING: TRANSFORMATION & DISPLACEMENT	FISCAL SUSTAINABILITY: RESILIENCE & PRESSURES
 <ol style="list-style-type: none"> Green Economy Growth High-Skilled Jobs International Investment 	<ol style="list-style-type: none"> Reskilling Programs Increased Productivity Inclusive Workforce 	<ol style="list-style-type: none"> Reallocation of Public Spending Green Investments Enhanced Revenue Generation
 <ol style="list-style-type: none"> Market Losses Economic Instability Over-Reliance on Green Sectors 	<ol style="list-style-type: none"> Job Displacement Brain Drain Underemployment 	<ol style="list-style-type: none"> Fiscal Deficit Economic Downturn Austerity Measures
 <ol style="list-style-type: none"> Renewable Energy Companies Tech-Savvy Workers Green Tech 	<ol style="list-style-type: none"> Skilled Workers Tech Companies States with Reskilling Initiatives 	<ol style="list-style-type: none"> Public Services Green Investors Tax Authorities
 <ol style="list-style-type: none"> Workers in Traditional Industries Hard-to-Abate Industries 	<ol style="list-style-type: none"> Low-Skilled Workers Traditional Sector Workers Workers Slow to Reskill 	<ol style="list-style-type: none"> Government Finances Low-Income Populations Traditional Export Sectors

IN WELL-BEING OF ELDERLY & THEIR FAMILIES:

 HEALTHCARE SYSTEM: WELLNESS & COST	QUALITY OF LIFE: SUFFICIENCY & INEQUALITIES	CLIMATE DISASTERS: ADAPTATIONS & FRAGILITY
 <ol style="list-style-type: none"> Healthcare Innovations Improved Access Preventive Healthcare 	<ol style="list-style-type: none"> Social Programs Financial Literacy Job Training 	<ol style="list-style-type: none"> Resilient Infrastructure Community-Based Adaptation Disaster Preparedness
 <ol style="list-style-type: none"> Healthcare Inequities Medical Inflation Healthcare Professionals Retention 	<ol style="list-style-type: none"> Increased Cost of Living Social Unrest Emigration 	<ol style="list-style-type: none"> High Economic Losses Environmental Degradation Displacement
 <ol style="list-style-type: none"> Healthcare Providers Patients Tech Companies 	<ol style="list-style-type: none"> Underserved Areas Educated Workforce Financially Literate Citizens 	<ol style="list-style-type: none"> Construction Sector Local Communities Public Health Systems
 <ol style="list-style-type: none"> Rural Communities Low-Income Populations Public Health Systems 	<ol style="list-style-type: none"> Low-Income Families Unemployed Individuals Vulnerable Population 	<ol style="list-style-type: none"> Climate Vulnerable Localities Environmental Conservation Vulnerable Populations



SOCIO-ECONOMIC IMPLICATION



OPPORTUNITIES



RISKS



BENEFICIARIES



IMPACTED

3.3 What is Most Concerning for the Transition?

As we stand on the cusp of unprecedented change, the collective voice of stakeholders from across Malaysia offers a poignant and powerful testament to the pressing challenges we face. The diverse regions of our nation, each with its unique landscape and community, have come together to highlight a shared narrative—one that underscores the urgent need for resilience, foresight, and unity in addressing our climate and demographic transitions.

FOOD SECURITY: THE FOUNDATION OF OUR FUTURE

Food security emerges as a beacon of concern across all regions, from the bustling cities of the Northern region to the serene landscapes of Sabah and Sarawak. This resounding call emphasises the fundamental need for a stable and sufficient food supply. It is not merely a matter of sustenance but a cornerstone of our social and economic stability. Ensuring that every Malaysian has access to nutritious food is paramount to our national resilience and prosperity.

ENVIRONMENTAL RESILIENCE: BATTLING THE ELEMENTS

The specter of environmental challenges looms large in the hearts of our stakeholders. Rising sea levels, relentless flooding, and unpredictable climate hazards are not distant threats; they are immediate and palpable concerns. From the coastal vulnerabilities of Terengganu to the flood-prone areas of Kelantan and Johor, our regions cry out for robust climate adaptation and disaster management strategies. These voices compel us to build a future where our communities can withstand and thrive amidst the forces of nature.

GOVERNANCE AND POLICY: THE PILLARS OF STABILITY

Effective governance and sound policy-making are the bedrock of our journey towards a sustainable future. Stakeholders have consistently highlighted the need for strong, transparent, and adaptive governance. Whether it is ensuring good governance in Terengganu or addressing the political stability concerns in the Northern region, there is a clear demand for leadership that is responsive and responsible. Policies must be crafted not just with foresight but with a deep understanding of the diverse needs of our people.

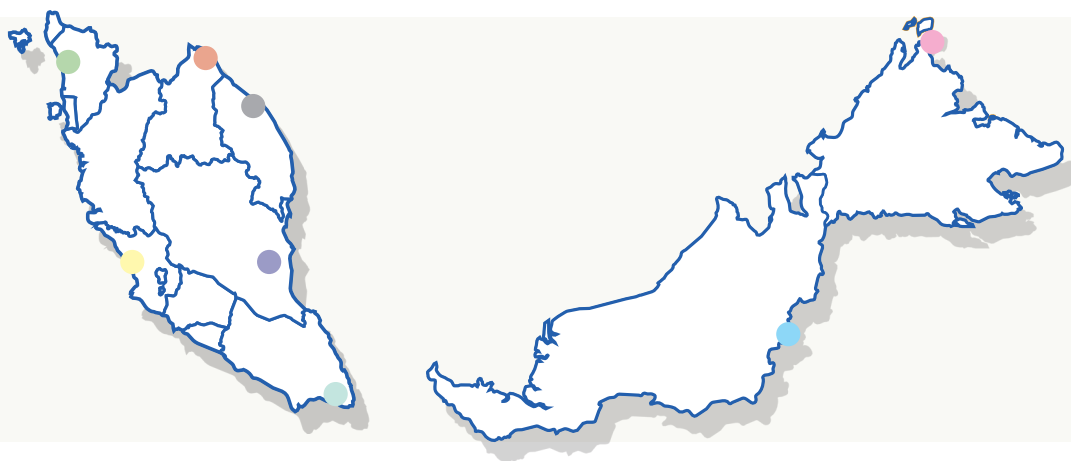
ECONOMIC STABILITY AND WELLBEING: A BALANCED GROWTH

Economic growth and financial stability resonate as core concerns, reflecting the intertwined nature of our livelihoods and economic health. From the economic growth aspirations in Pahang to the financial stability worries in Terengganu, stakeholders underscore the importance of creating an economy that is inclusive and resilient. Moreover, the welfare of our elderly, the marginalised communities, and the overall wellbeing of our citizens remain at the forefront of our collective consciousness. A prosperous Malaysia is one where every individual, regardless of age or background, can thrive.

HEALTHCARE: THE HEARTBEAT OF OUR NATION

Access to adequate healthcare is a recurring theme, particularly in regions like Kelantan and Johor. The emphasis on both physical and mental healthcare underscores a holistic approach to wellbeing. Our healthcare systems must be robust, inclusive, and prepared to meet the challenges posed by both demographic shifts and environmental changes. Ensuring the health of our nation is not just a priority; it is a moral imperative.

TOP CONCERNS ACROSS MALAYSIA FOR THE CLIMATE AND DEMOGRAPHIC TRANSITION

● **NORTHERN REGION**

Food Security

Political Instability

Well-Being

Social Protection

Financial Stability

● **CENTRAL REGION**

Food Security

Climate Adaptation

Governance Structures

Environmental Resilience

Food Waste Management

● **JOHOR**

Flooding

Water-Food-Data Security

Climate Hazard

Climate and Demographic
Change Awareness

Healthcare Accessibility

● **KELANTAN**

Flooding

Land Subsidence

Drainage Issues

Economic Resilience

Inflation

● **TERENGGANU**Climate Change Impact to Sea
Level and Coastal Erosion

Water Resources

Food Security

Age-Friendly Facilities

Housing

● **PAHANG**

Food Security

Climate Change Preparedness

Governance Structures

Elderly Welfare

Economic Growth & Financial
Stability● **SABAH**

Food Security

Climate and Demographic
Change Awareness

Stateless Sabahans

Governance Structures

Job Opportunities

● **SARAWAK**

Sea Level Rise

Climate Change Impacts

Food Security

Climate and Demographic
Change Awareness

Rural-Urban Migration

The information presented here is from a survey undertaken with stakeholders during engagements. Sample size is not representative of Malaysian population and is selectively curated for presentation purposes.

WHAT YOUNG MALAYSIANS THINK: FUTURE OF CAREGIVING



In 2023, the UNDP Accelerator Lab Malaysia conducted a youth survey which included indigenous youth, with a focus on the future of caregiving for ageing parents. The survey highlighted that youth have significant concerns ensuring support systems that enable their parents to age comfortably at home. Most expressed a strong sense of filial piety and responsibility to meet their parents' emotional, social, and financial needs. However, only 40% of respondents we are confident that they can afford to do so.

Another major worry for youth was the impact of climate change on their finances, with expectations of rising costs for essentials like food and energy. They emphasised the need for financial assistance, whether from family members or the government, to provide quality care for the elderly.

The survey also highlighted a gender disparity in caregiving concerns : female youth expected to be disproportionately burdened with caregiving responsibilities and household chores while also contributing to household income. This dual responsibility makes them more likely to seek caregiving assistance.

Regarding climate-related concerns, 72% of respondents expressed readiness to relocate due to environmental issues. However, affordability remains a critical factor influencing their decision to move.

CHAPTER 4



Navigating Change: Assessing Current Preparedness and Building Resilience

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

As we progress from envisioning plausible transitions to understanding their socio-economic implications, we now turn our focus to Malaysia's readiness to face these impending changes. How prepared are we to navigate the complexities of climate and demographic shifts? This chapter delves into an assessment of our existing governance structures, using wind-tunnel testing to reveal the robustness of our policies and acts.

We also look beyond our borders to benchmark other countries' preparedness, offering insights into global preparedness and strategies. Together with these insights, we present strategic considerations and options to guide the direction of the eight crucial key drivers of change that will shape the future of Malaysia's climate and demographic transition.

Our final thoughts encapsulate our collective journey, emphasising the importance of foresight and preparedness today for tomorrow's resilience.

4.1 Malaysia's Preparedness

National acts and policies are the bedrock of our nation's development, forming governance structures that must balance long-term trends with evolving needs. The robustness of these governance structures to address and withstand potential future socio-economic implications from climate and demographic changes and the plausible transition was assessed using a method known as wind-tunneling or policy stress-testing. Besides testing for policy robustness, this approach can evaluate policies for future-readiness and flexibility, ensuring they can be adapted or reversed if new insights emerge. Thus, providing insights that help policymakers prepare better today and increase their capacity to deal with tomorrow's uncertainties.

Envisioning the plausible transition pathways that Malaysia could undertake provides us insights on the nature of governance structures needed. The Just Transition scenario highlights our strengths in social policies but underscores the need for more integrated approaches to economic and environmental sustainability. The Shock Transition scenario exposes vulnerabilities in our rapid response mechanisms and the resilience of our labour market and economic structures. Finally, the Failed Transition scenario warns of the dire consequences of inaction and the critical need for proactive, adaptive policy-making.

The wind-tunnelling exercise was a participatory process involving relevant policymakers, policy implementers, and subject matter experts, and consisted over three workshop sessions. It is important to note that this exercise assessed only the policy strategies, not the effectiveness of current implementation. Stakeholders assessed whether the policy strategies could be implemented successfully or would face difficulties when confronted with the plausible conditions of the Just, Shock and Failed Transition scenarios and its associated socio-economic implications. This thorough and inclusive assessment process delves deep into the heart of our governance structures, examining their current state of preparedness and identifying critical areas for enhancement. It provides a nuanced understanding of the resilience and adaptability of our policies, ensuring they are not only robust but also flexible enough to pivot in response to new challenges and insights.

The insights gained from this wind-tunneling exercise are invaluable. They illuminate the strengths and vulnerabilities within our policy framework, offering a clear roadmap for building greater resilience. By highlighting the areas that need reinforcement, this process empowers us to proactively address potential weaknesses, fortifying our nation against the unpredictable forces of climate change and demographic shifts.

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

Mapping Malaysia's Governance Structures: At A Glance

A tool for national focus, evolving from resource protection in an agriculture-based economy to economy modernisation in an industrial-based economy to societal well-being in a knowledge-based economy.

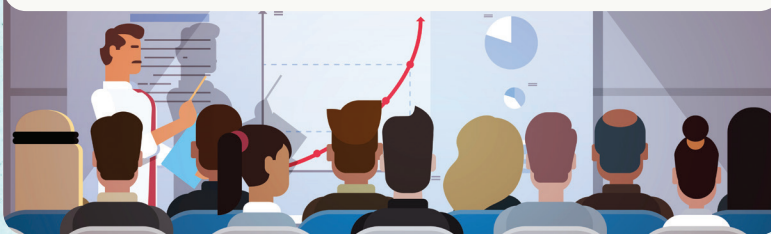
The evolution of Malaysia's national acts and policies over the decades reveals a strategic approach to addressing the country's dynamic needs. As part of the wind-tunneling exercise, it is vital to conduct a policy mapping of Malaysia's governance structures related to climate and demographic changes as well as the socio-economic implications that are associated with the transition. By examining the timeline, we can gain insights into how often these acts and policies are developed, reviewed, and implemented; reflecting the changing focus and priorities of the nation.

While some governance structures are decades old, they undergo constant reviews to stay relevant.

Many foundational acts, such as the Employment Act 1955 and the Environmental Quality Act 1974, have been in place for several decades, undergoing periodic reviews and amendments to stay relevant with changing needs. Policies like the National Policy on Environment 2002 and the National Climate Change Policy 2009 are subject to regular reviews to ensure they adapt to evolving environmental challenges and international standards. Recent policies, including the Health White Paper (2023-2038), demonstrate an adaptive approach, with planned periodic reviews to address emerging health and social issues.

Number of policies and acts are on the rise.

During the initial decades (1950s–1980s), acts and policies in Malaysia were developed relatively infrequently, focusing primarily on foundational issues such as environmental conservation and agricultural support, exemplified by the Land Conservation and Development Acts and the Padi Cultivators (Control of Rent and Security of Tenure) Act 1967. As Malaysia transitioned towards industrialisation in the 1980s and 1990s, the frequency of new acts and policies increased to support industrial growth and economic stability, with key legislation including the Industrial Coordination Act 1975 and the Employees' Provident Fund Act 1991. In recent decades (2000s–present), there has been a notable surge in policies aimed at societal well-being, driven by demographic changes and the need for enhanced social protection, highlighted by acts such as the Private Aged Healthcare Facilities and Services Act 2018 and the Housewives' Social Security Act 2022.



Some governance structures tackle urgent needs while others focus on long-term development.

Certain policies and acts are implemented swiftly to address urgent needs, such as the Employment Insurance System Act 2017, which provides economic stability in response to employment challenges. Meanwhile, policies focused on sustainable development and societal well-being often have medium to long-term implementation horizons. For example, the National Policy on Women 2009 and the National Family Policy 2011 are designed to have lasting impacts on gender equality and family well-being.

Need for robust policies for a changing world.

Malaysia has demonstrated a proactive legislative framework that evolves with the nation's changing needs, ensuring resilience against socio-economic and environmental shifts. There is a clear trend towards a holistic approach in governance, integrating industrial development, economic growth, societal welfare, and environmental sustainability. As Malaysia faces increasing life expectancy, an ageing population, and global demands for sustainable development, continuous review and adaptation of acts and policies are essential to meet these challenges and enhance the quality of life for all citizens.

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

(National Acts)



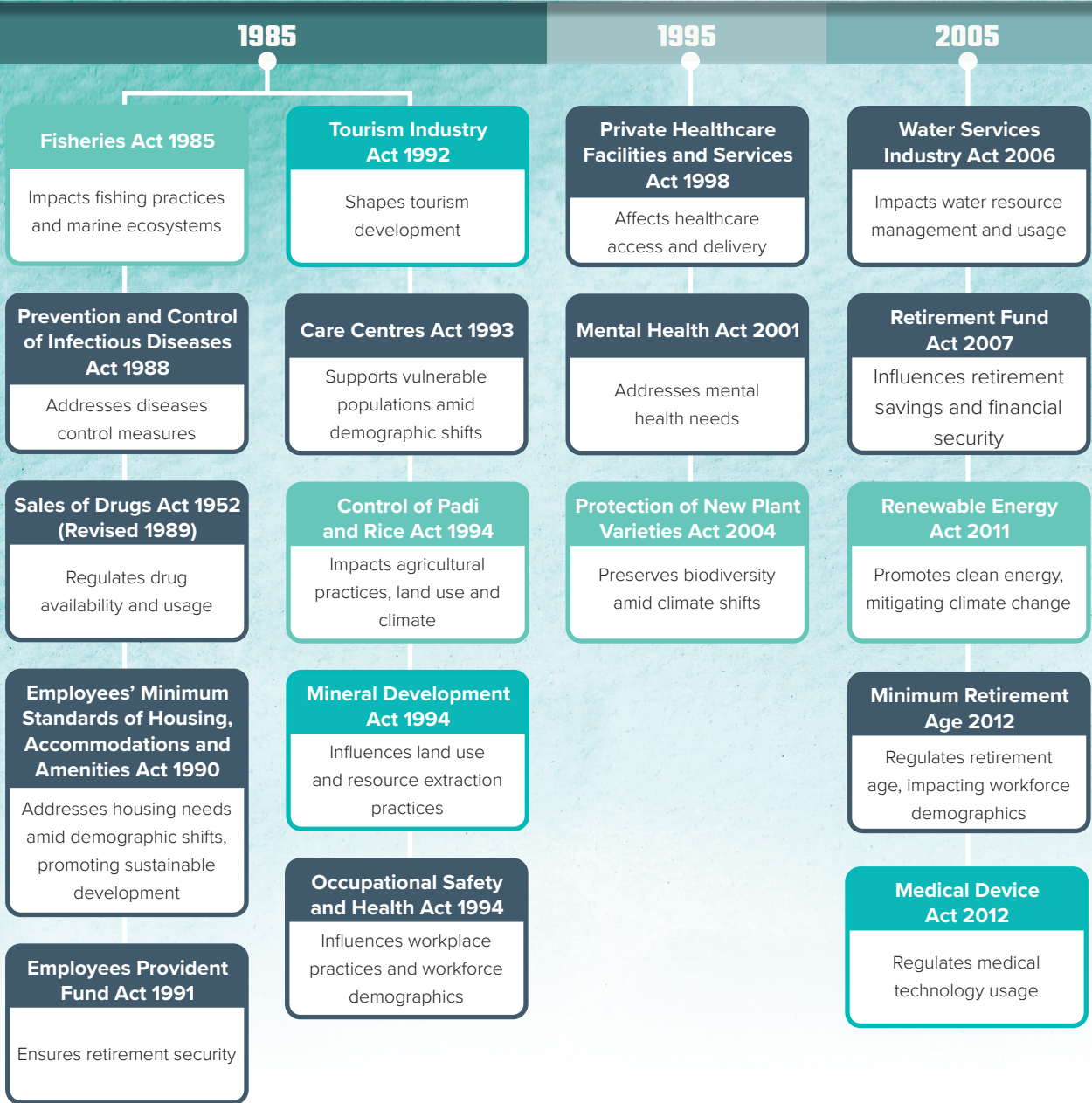
Legend:

Environmental Sustainability

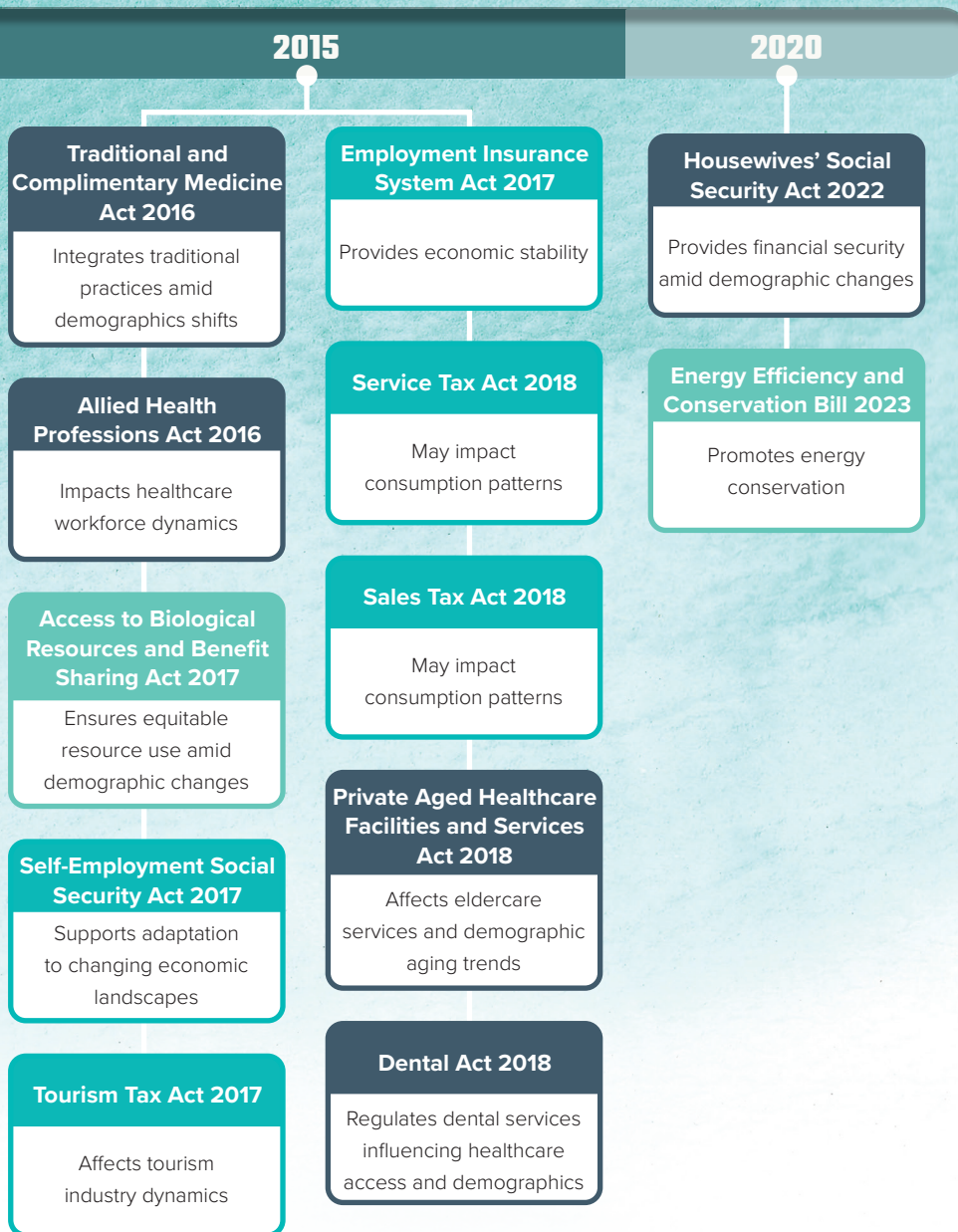
Industrial Development and Economic Growth

Societal Well-being

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE



CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

**Legend:**

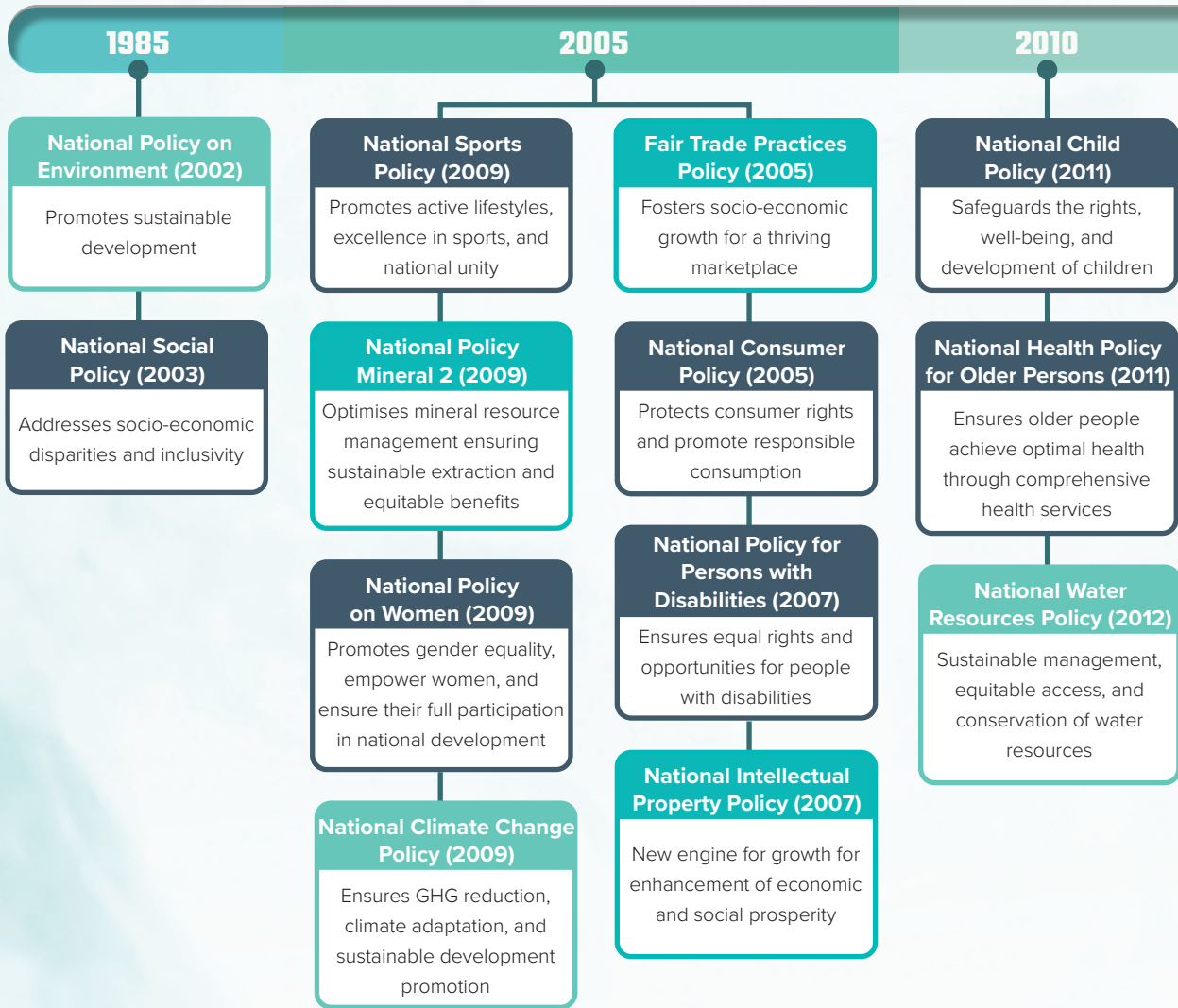
Environmental Sustainability

Industrial Development and Economic Growth

Societal Well-being

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

(National Policies)



Legend:

- Environmental Sustainability
- Industrial Development and Economic Growth
- Societal Well-being

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE



CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE



CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

The policy mapping of 49 national acts and 61 national policies, covering 486 strategies, reveals critical insights into Malaysia's approach to addressing climate and demographic transitions.

Strong governance and regulatory focus but increased potential for red tape.

As the pace of change accelerates, can these regulatory frameworks remain agile, swift, and responsive enough to effectively manage emerging challenges and opportunities in a rapidly evolving landscape?

Emphasis on developing and utilising talent but less on ageing talent.

Will current strategies be sufficient to continuously retain and upskill the population in an era of rapid technological disruption and talent flow as well as leverage on the knowledge of an ageing workforce?

Multiple efforts in awareness of climate and demographic change but awareness still remains a concern.

However, stakeholders still see awareness as the biggest concern suggesting that despite the quantity of policies, their effectiveness and implementation may not be sufficiently impactful. How can policymakers bridge this gap to ensure that awareness strategies translate into meaningful public engagement and understanding?

49

National Acts

61

National Policies

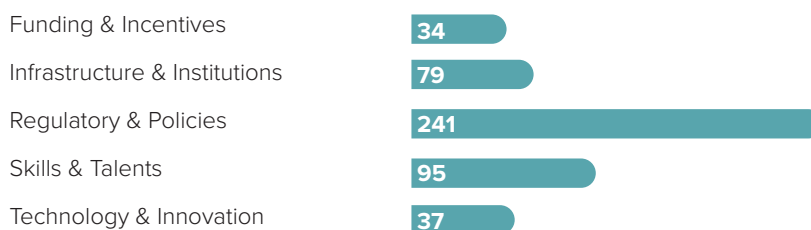
from 20 ministries identified to be related to climate and demographic transition with

486

Policy Strategies

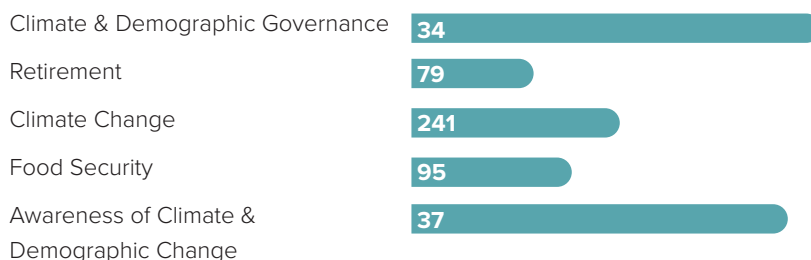
Of which employs policy mechanisms:

Policy Mechanism (Based on MIGHT F.I.R.S.T® Matrix)



Of which addresses the concerns on:

Areas of Concern



Assessing Malaysia's Preparedness: Wind-Tunnel Testing Governance Structures

As Malaysia strides towards a sustainable and resilient future, it is essential to scrutinise the robustness of our policy strategies against potential socio-economic challenges. The wind-tunneling exercise offers a window into our preparedness, examining 486 policy strategies against plausible future socio-economic implications arising from the three scenarios: Just Transition, Shock Transition, and Failed Transition. This exercise provides a critical evaluation of our policies, illuminating areas of strength and pinpointing vulnerabilities.

1. Understanding Policy Outcomes: Implemented Successfully vs. May Face Difficulties



Implemented Successfully:

These strategies are assessed as viable and effective across the tested scenarios. They possess the necessary frameworks, resources, and stakeholder support to achieve their intended outcomes.



Face Difficulties:

These strategies are likely to encounter significant obstacles under the tested scenarios. These challenges may arise from insufficient resources, lack of stakeholder support, or other contextual factors that hinder effective implementation.

2. Identifying Preparedness: Areas of Strengths vs Vulnerabilities

What We Are Preparing For:

This section highlights the policy areas where Malaysia is currently making significant progress. These are the strategies and actions that are already in place and are likely to succeed in the face of future socio-economic implications.

What Needs to Be More Resilient

Focuses on existing policies that require enhancement. These policies need to be strengthened to withstand future challenges and ensure long-term success and sustainability.

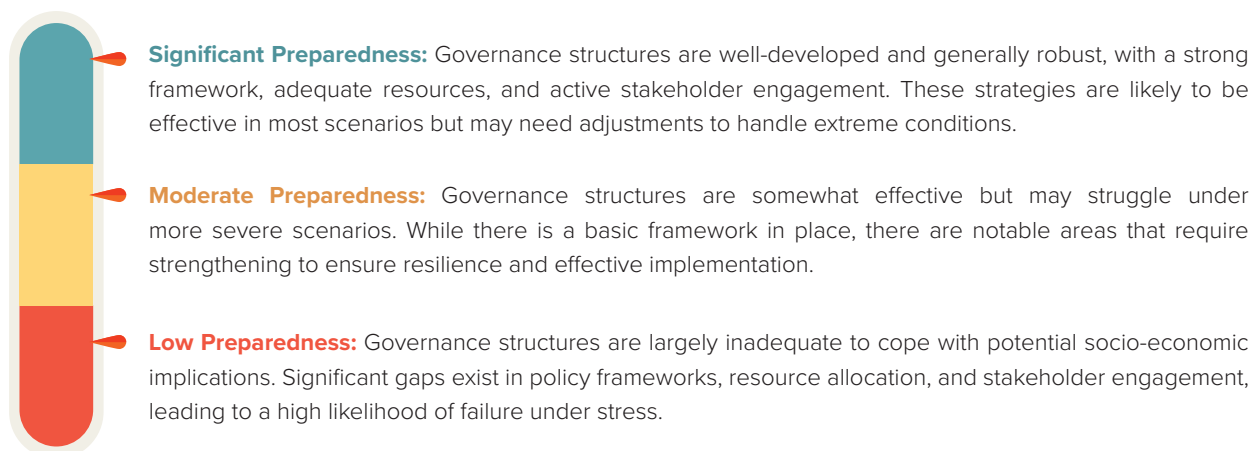
What We Have Yet to Prepare For:

Identifies critical gaps in our current policy framework. These are areas where no policies exist or where existing policies are insufficient, indicating a need for new strategies and initiatives.

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

3. Assessing Level of Preparedness: Low vs High Preparedness

To provide a nuanced understanding of Malaysia's ability to respond to future implications, we categorise the current level of preparedness into three levels:



Navigating Future Uncertainties: How Malaysia's Governance Structures Stand Against Six Potential Socio-Economic Implications in Just, Shock, and Failed Transitions of Climate and Demographic Transition.

	Implemented Successfully	Face Difficulties
ECONOMIC SHIFTS: GREENING & VULNERABILITIES	263	40
LABOUR MARKET RESTRUCTURING: TRANSFORMATION & DISPLACEMENT	257	29
FISCAL SUSTAINABILITY: RESILIENCE & PRESSURES	181	241
HEALTHCARE SYSTEM: WELLNESS & COST	109	19
QUALITY OF LIFE: SUFFICIENCY & INEQUALITIES	212	25
CLIMATE DISASTERS: ADAPTATIONS & FRAGILITY	232	28

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

FUTURE SOCIO-ECONOMIC IMPLICATIONS	WHAT WE ARE PREPARING FOR	WHAT NEEDS TO BE MORE RESILIENT
<p>ECONOMIC SHIFTS: GREENING & VULNERABILITIES</p>	<ol style="list-style-type: none"> 1. Compliance with Sustainability and ESG Practices: Robust policies in place that ensure adherence to environmental, social, and governance standards, positioning us well for a sustainable future. 2. Decarbonising Industries: Policies aimed at reducing carbon footprints across various sectors are being actively implemented, driving us towards a greener economy. 3. Catalysing New Green Growth Areas: Initiatives to foster innovation and growth in renewable energy and other green industries are well underway. 4. Reducing Carbon Emissions Through Energy Transition, Energy Efficiency, and Electrification: Comprehensive strategies are in place to transition from fossil fuels to renewable energy, enhance energy efficiency, and promote electrification. 5. Fostering Entrepreneurial Ecosystem: There are strong policies supporting the development of an entrepreneurial ecosystem that can thrive in a green economy. 6. Promoting Sustainable Agricultural Practices: Encouraging precision farming, agroforestry, and soil management to ensure sustainable agricultural growth. 7. Improving Waste Management: Implementing policies to enhance waste management practices, crucial for a sustainable environment. 8. Behavioral Change Towards Sustainability: Policies promoting sustainable lifestyles and behaviours among citizens. 	<ol style="list-style-type: none"> 1. Financial Assistance for Small-Medium Enterprises (SMEs): Strengthening financial support mechanisms for SMEs, particularly those dependent on government initiatives, to ensure they can adapt and thrive in a green economy. 2. Conversion of Hard-to-Abate Industries to Greening Activities: Enhancing policies to facilitate the transition of industries that are traditionally difficult to decarbonise, ensuring they can meet new environmental standards. 3. Managing Revenue Shifts from New Industries: Developing robust strategies to manage the revenue impact on states and organizations as new green industries emerge and traditional ones decline. 4. Ensuring Arable Land Availability: Creating resilient policies that balance agricultural needs with new industry development, ensuring sustainable land use. 5. Mitigating Supply Chain Vulnerabilities and Geopolitical Risks: Strengthening strategies to enhance supply chain resilience and mitigate geopolitical risks that could impact economic stability. 6. Building Climate-Resilient Infrastructure: Ensuring that infrastructure development incorporates resilience against climate impacts, from extreme weather events to long-term environmental changes. 7. Supporting Workforce Transition: Enhancing policies that provide comprehensive support for workers transitioning from traditional industries to green jobs, including retraining and social protections. 8. Boosting Public Awareness and Engagement: Strengthening efforts to raise public awareness and engagement in sustainability initiatives, fostering a collective movement towards a greener future.

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

WHAT WE HAVE YET TO PREPARE FOR	LEVEL OF PREPAREDNESS
<ol style="list-style-type: none"> <li data-bbox="145 363 703 483">1. New or Alternative Fundings for Entrepreneurs: There is a pressing need for policies that provide diverse funding avenues for green entrepreneurs, ensuring they have the resources to innovate and grow. <li data-bbox="145 500 703 620">2. Integrating Climate Risk into Financial Planning: Developing policies that incorporate climate risk assessments into financial and investment planning to safeguard against future uncertainties. <li data-bbox="145 637 703 725">3. Inclusive Green Transition Policies: Creating frameworks that ensure all sectors of society, including marginalised groups, can benefit from the green transition. <li data-bbox="145 742 703 862">4. Comprehensive Climate Adaptation Plans: Establishing detailed and actionable climate adaptation plans that address both immediate and long-term impacts of climate change. 	<p data-bbox="817 363 984 415">SIGNIFICANT PREPAREDNESS</p>

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

FUTURE SOCIO-ECONOMIC IMPLICATIONS	WHAT WE ARE PREPARING FOR	WHAT NEEDS TO BE MORE RESILIENT
<p>LABOUR MARKET: RESTRUCTURING: TRANSFORMATION & DISPLACEMENT</p>	<ol style="list-style-type: none"> 1. Labour Market Shifting to Green, Automation, and Skilled Jobs: Policies that facilitate the transition towards greener jobs, automation, and high-skilled employment opportunities are in place. 2. Upskilling and Reskilling Existing Talent Pool for Skills Needed Today: Robust strategies are in place to enhance the skillsets of our current workforce, ensuring they are equipped to meet the demands of modern industries. 3. Talent Development and Retention in the Workforce: Policies aimed at developing and retaining top talent within the workforce are being successfully implemented, fostering a culture of continuous learning and growth. 4. Promoting Digital Literacy and Competency: Initiatives to enhance digital skills across all levels of the workforce, ensuring adaptability in an increasingly digital economy. 5. Encouraging Women and Youth Participation: Policies that focus on increasing the participation of women and youth in the workforce, ensuring diversity and inclusion. 6. Fostering Innovation and Entrepreneurship: Strategies to support innovation and entrepreneurship, encouraging new business ventures and start-ups. 7. Creating Safe and Healthy Work Environments: Implementing policies that ensure workplace safety and promote the health and well-being of employees. 	<ol style="list-style-type: none"> 1. Social Protection for the Gig and Informal Economy Workers: Strengthening policies to provide social protection, retirement planning, and competitive wages for those in the gig and informal economies. 2. Managing an Ageing and Shrinking Workforce: Developing robust strategies to address the challenges posed by an ageing workforce, including workforce planning and retirement management. 3. Addressing Shortage of Local Talents, Especially in High-Technology Fields: Enhancing policies to boost the development of local talents in high-technology and emerging industries. 4. Enhancing Workforce Mobility and Flexibility: Implementing policies that facilitate workforce mobility and flexibility, allowing workers to adapt to changing job markets. 5. Supporting Work-Life Balance Initiatives: Strengthening initiatives that promote work-life balance, ensuring a healthy and productive workforce. 6. Integrating Climate Resilience into Workforce Planning: Developing strategies that incorporate climate resilience into workforce planning, ensuring jobs and industries can adapt to climate impacts. 7. Ensuring Competitive Salaries and Wages: Establishing policies that ensure competitive salaries and wages across industries, safeguarding against wage stagnation and ensuring fair compensation for all workers.

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

WHAT WE HAVE YET TO PREPARE FOR	LEVEL OF PREPAREDNESS
<p>1. Emphasise Need for Lifelong Learning and Upskilling: There is a pressing need to develop comprehensive policies that promote lifelong learning and continuous upskilling, ensuring the workforce remains adaptable and competitive.</p> <p>2. Addressing Reduced Tax Revenue from a Smaller Working-Age Population: Strategies to mitigate the economic impact of a shrinking working-age population, including policies that address the potential reduction in direct tax revenue.</p>	<p>MODERATE PREPAREDNESS</p>

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

FUTURE SOCIO-ECONOMIC IMPLICATIONS	WHAT WE ARE PREPARING FOR	WHAT NEEDS TO BE MORE RESILIENT
<p>FISCAL SUSTAINABILITY: RESILIENCE & PRESSURES</p>	<ol style="list-style-type: none"> 1. Public Expenditure Reviews to Improve Efficiency and Outcomes of Spending: We are actively conducting reviews of public expenditure to ensure that government spending is efficient, and outcomes are optimised. This is critical for maintaining fiscal health in the face of future economic pressures. 2. Enhancing Revenue Collection Mechanisms: Strengthening policies and systems to improve the efficiency and effectiveness of revenue collection, ensuring a stable and predictable fiscal base. 3. Promoting Fiscal Discipline and Accountability: Implementing measures to enhance fiscal discipline and accountability, reduce wasteful spending, and improve transparency in public finances. 4. Diversifying Revenue Sources: Efforts to diversify revenue streams beyond traditional sources to reduce dependency on any single revenue stream. 5. Encouraging Public-Private Partnerships: Policies promoting collaborations between the public and private sectors to leverage private capital for public infrastructure and services. 6. Investing in Digital Financial Systems: Initiatives to modernise financial systems through digital technologies, enhancing efficiency and reducing costs. 	<ol style="list-style-type: none"> 1. Malaysia's Investment Priorities: Strengthening policies to clearly define and prioritise investment areas that will yield long-term benefits for fiscal sustainability and economic growth. 2. Targeted Government Subsidies for Selected Demographics: Developing resilient policies for targeted subsidies that support socio-economic groups most affected by demographic changes, such as the ageing population, ensuring equitable distribution of resources. 3. Contingency Planning for Economic Shocks: Enhancing fiscal policies to include robust contingency planning for economic shocks, ensuring the government can respond effectively to unforeseen economic downturns. 4. Strengthening Fiscal Reserves: Policies aimed at building and maintaining fiscal reserves to provide a buffer against future economic and environmental shocks. 5. Promoting Financial Inclusion: Strengthening initiatives that promote financial inclusion, ensuring all segments of society have access to financial services and opportunities. 6. Improving Debt Management: Enhancing debt management strategies to ensure sustainable borrowing practices and maintain fiscal stability. 7. Reviewing Retirement Schemes for Parliamentarians: Developing a more sustainable approach to retirement schemes for parliamentarians, ensuring long-term viability and fairness. 8. Fiscal Measures to Support Green Economy: Establishing fiscal measures and incentives that specifically support the transition to a green economy, ensuring sustainable growth.

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WHAT WE HAVE YET TO PREPARE FOR	LEVEL OF PREPAREDNESS
<p>1. New and Alternative Sources of Revenues: There is a pressing need to identify and develop new or alternative revenue sources to ensure fiscal sustainability, particularly in the face of changing economic conditions.</p> <p>2. Integrating Climate Risk into Fiscal Planning: Developing policies that incorporate climate risk assessments into fiscal planning and budgeting processes to safeguard against future environmental impacts.</p>	<p>LOW PREPAREDNESS</p>

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FUTURE SOCIO-ECONOMIC IMPLICATIONS	WHAT WE ARE PREPARING FOR	WHAT NEEDS TO BE MORE RESILIENT
<p>HEALTHCARE SYSTEM: WELLNESS & COST</p>	<ol style="list-style-type: none"> 1. A Two-Tiered Healthcare System: We are establishing and maintaining a two-tiered healthcare system where a government-run sector coexists with a private healthcare system, ensuring broad access to healthcare services. 2. Focusing on Reactive Healthcare: Current policies emphasise reactive healthcare measures, addressing immediate health needs and acute care services. 3. Enhancing Healthcare Infrastructure: Ongoing efforts to expand and upgrade healthcare facilities to meet growing demands. 4. Improving Healthcare Accessibility: Strategies to ensure healthcare services are accessible to all regions, including rural and underserved areas. 5. Training and Developing Healthcare Professionals: Policies focused on increasing the number of trained healthcare professionals to support the system. 6. Implementing Health Information Systems: Development of robust health information systems to improve the management and delivery of healthcare services. 7. Promoting Vaccination Programs: Strong emphasis on vaccination programs to prevent communicable diseases. 	<ol style="list-style-type: none"> 1. Climate-Resilient Healthcare Infrastructures and Facilities: Strengthening policies to ensure healthcare infrastructures are resilient to climate impacts, protecting them from extreme weather events and other environmental changes. 2. Increase Demand for Healthcare Infrastructures for Palliative Care Services: Developing infrastructure to meet the rising demand for palliative care services, tailored to the needs of an ageing population. 3. Accessibility and Affordability to Public Healthcare: Ensuring that public healthcare remains accessible and affordable, particularly if national fiscal space becomes strained. 4. Rising Demand for Healthcare Workers: Enhancing strategies to meet the increasing demand for healthcare professionals, ensuring a stable workforce. 5. Rise of Mental Health Issues and Non-Communicable Diseases (NCDs): Strengthening policies to address the growing impact of mental health issues and NCDs on labour productivity and overall well-being. 6. Effectively Promote Healthy Lifestyle: Policies that robustly promote healthy lifestyles to prevent diseases and improve quality of life. 7. Financially Secure Health Model for Lifetime: Developing a financially secure and sustainable health model that supports individuals throughout their lives, ensuring long-term health security. 8. Enhancing Telehealth and Remote Care Services: Strengthening policies to expand telehealth and remote care services, ensuring continuous access to healthcare, particularly in remote areas. 9. Building Robust Data Security Frameworks: Implementing comprehensive data security policies to protect sensitive health information as digital health technologies become more prevalent

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WHAT WE HAVE YET TO PREPARE FOR	LEVEL OF PREPAREDNESS
<ol style="list-style-type: none"> 1. Healthcare Inflation: There is an urgent need for policies that address the rising costs of healthcare services and medications, ensuring affordability. 2. Financing Model for Long-Term Care: Developing a sustainable financing model for long-term care, especially in the face of an ageing population. 3. Shifting to Preventive Healthcare: Comprehensive policies that shift the focus from reactive to preventive healthcare, promoting wellness and early intervention. 4. Adopting Health Technologies: Implementing advanced health technologies such as telemedicine, electronic health records, and AI-driven diagnostics to enhance healthcare delivery. 5. Personalised Healthcare Initiatives: Developing policies that support personalized healthcare, ensuring treatments and healthcare services are tailored to individual needs and genetic profiles. 	<p>MODERATE PREPAREDNESS</p>

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FUTURE SOCIO-ECONOMIC IMPLICATIONS	WHAT WE ARE PREPARING FOR	WHAT NEEDS TO BE MORE RESILIENT
<p>QUALITY OF LIFE: SUFFICIENCY & INEQUALITIES</p>	<ol style="list-style-type: none"> 1. Urban and Suburban Township Planning: We are actively planning and developing urban and suburban areas to ensure age-friendly, sustainable and livable communities. 2. Children and Youths' Development: Policies are in place to support the holistic development of children and youth, preparing them for future challenges. 3. Enhancing Education Quality: Initiatives aimed at improving the quality of education, ensuring that all students have access to high-standard learning opportunities. 4. Promoting Rural Prosperity: Strategies to promote economic growth and improve living conditions in rural areas, ensuring balanced development across regions. 5. Protecting Consumer Rights: Implementing policies that safeguard consumer rights, ensuring fair treatment and protection in the marketplace. 6. Optimising Resource Management: Efforts to manage natural and human resources efficiently, promoting sustainability and resilience. 7. Promote Family Well-Being: Policies focused on enhancing the well-being of families, providing support systems and resources to ensure stability and happiness. 8. Enhancing Food Security: Strengthening strategies to ensure food security, making nutritious food accessible and affordable to all. 	<ol style="list-style-type: none"> 1. Bridging Digital Divide in Society: Strengthening efforts to bridge the digital divide, particularly among older adults and disabled people, ensuring equal access to technology and digital resources. 2. Addressing Issues Faced by 'Sandwich Generation': Developing policies to address the challenges faced by individuals supporting both their parents and children, ensuring they have adequate support and resources. 3. Need for Affordable Caregiver Centres/Facilities: Creating affordable and accessible caregiver centres and facilities to support families in caring for older adults and disabled members. 4. Increase Sustainable Community Programmes for Post-Retirement Activities: Expanding programmes that provide meaningful activities and contributions for retirees, promoting active ageing. 5. Explore Ways to Have Sufficient Retirement Savings: Establishing policies that help individuals accumulate wealth and save adequately for retirement, ensuring financial security in old age. 6. Address Headline Inflation: Implementing measures to mitigate the impact of inflation, ensuring the cost of living remains manageable. 7. Women Empowerment and Disabled People Inclusivity: Strengthening policies that promote the empowerment of women and inclusivity for disabled individuals, ensuring equal opportunities and rights. 8. Equal Education and Skill Trainings Rights Among Rural Population: Ensuring that rural populations have equal access to education and skill training, bridging the gap between urban and rural areas. 9. Everyone Has Access to Correct Information: Promoting access to accurate and reliable information for all, combating misinformation and ensuring informed decision-making.

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WHAT WE HAVE YET TO PREPARE FOR	LEVEL OF PREPAREDNESS
<ol style="list-style-type: none"> <li data-bbox="145 363 704 483">1. Family Institutions Strained Due to Financial Burden and Lack of Social Support System: Developing policies to support family institutions, particularly those facing financial strains and lacking adequate social support. <li data-bbox="145 500 704 620">2. Employment Opportunities in Rural Areas: Creating robust employment opportunities in rural areas, including for marginalised groups such as OKU and orang asli, to ensure inclusive economic growth. <li data-bbox="145 637 704 725">3. Intergenerational Day Care Centres: Establishing day care centres that cater to both older adults and children, providing support across generations. 	<p data-bbox="817 363 984 415">MODERATE PREPAREDNESS</p>

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FUTURE SOCIO-ECONOMIC IMPLICATIONS	WHAT WE ARE PREPARING FOR	WHAT NEEDS TO BE MORE RESILIENT
<p>CLIMATE DISASTERS: ADAPTATIONS & FRAGILITY</p>	<ol style="list-style-type: none"> 1. Implementing Policies and Regulations that Promote Emission Reductions: We are establishing and enforcing regulations aimed at significantly reducing GHG emissions. 2. Transitioning from Fossil Fuels to Renewable Energy: Policies are in place to support a transition towards renewable energy sources, reducing our dependence on fossil fuels. 3. Promoting Afforestation and Reforestation: Strategies to enhance forest cover through afforestation and reforestation initiatives are being actively pursued. 4. Encouraging Sustainable Agriculture Practices: Implementing sustainable practices in agriculture, such as precision farming, agroforestry, and soil management, to promote environmental sustainability. 5. Improving Waste Management: Policies aimed at enhancing waste management practices, including recycling and waste reduction initiatives. 6. Behavioural Change by Adopting a Sustainable Lifestyle: Efforts to promote sustainable lifestyles among citizens through education and awareness campaigns. 	<ol style="list-style-type: none"> 1. Explore Multipurpose Infrastructures: Developing infrastructures that serve multiple purposes, enhancing their utility and resilience in times of disaster. 2. Availability and Accessibility to Age-Friendly Infrastructures at Emergency Shelters: Ensuring emergency shelters are accessible and suitable for all ages, particularly the elderly. 3. Tourism Investment Zones Prone to Climate Disasters: Strengthening policies to protect and manage tourism investment zones that are vulnerable to climate impacts. 4. Building Communities' Resilience: Enhancing strategies that support community resilience, ensuring they can adapt and thrive despite environmental challenges. 5. Strengthen Climate Resilience in the Business Environment: Developing policies that mitigate the impact of climate events on businesses, including infrastructure, resources, and workforce. 6. Resilient Healthcare Services Deployed During Disasters: Ensuring healthcare services are robust and can be effectively deployed during climate disasters, addressing immediate and long-term health needs. 7. Disaster Management Plans: Strengthening disaster management plans to ensure comprehensive, coordinated, and effective responses to climate-related disasters.

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WHAT WE HAVE YET TO PREPARE FOR	LEVEL OF PREPAREDNESS
<ol style="list-style-type: none"> <li data-bbox="145 363 704 483"> 1. Climate-Resilient Infrastructures and Facilities: Developing infrastructures that can withstand climate impacts, particularly in providing essential services during disasters. <li data-bbox="145 500 704 620"> 2. Green and Blue Infrastructures to Build Communities' Resilience: Establishing green (parks, wetlands) and blue (water bodies) infrastructures to enhance community resilience. <li data-bbox="145 637 704 725"> 3. Influx of Climate Migrants: Preparing for potential migration driven by climate impacts, ensuring adequate resources and support systems. <li data-bbox="145 742 704 830"> 4. Climate Adaptation: Comprehensive policies that focus on adapting to the changing climate, ensuring long-term sustainability and resilience. 	<p data-bbox="817 363 984 416">LOW PREPAREDNESS</p>

Assessing Malaysia's Preparedness: Why it Matters

1. Enhancing Policy Resilience and Insights on Policy Implementation

The results underscore the need for resilient policies that can adapt and withstand future uncertainties. This resilience is not just about surviving future shocks but thriving amidst them, ensuring long-term stability and prosperity. By focusing on areas that need improvement, such as managing healthcare inflation and creating sustainable financing models, we can enhance our overall resilience.

The comparison between policies that can be implemented successfully and those that face difficulties offers valuable insights:



Implemented Successfully:

The exercise identified that many policy strategies can be successfully implemented across various socio-economic implications. This indicates strong foundational efforts in areas like economic shifts, labour market restructuring, and climate adaptation.



Face Difficulties:

Conversely, while a smaller amount of policy strategies is expected to face difficulties in implementation, it still highlights areas that require additional focus and support to overcome potential challenges. Notably, in the socio-economic implication of Fiscal Sustainability: Resilience & Pressures particularly arising from the Shock and Failed Transitions, a significant majority of policy strategies are anticipated to face difficulties. This is due to constraints such as lack of funding, inefficacy of proposed measures, and economic pressures that hinder the successful execution of these policies.

2. Understanding the Urgency and Strategic Allocation of Resources

Climate change and demographic shifts are pressing realities that demand immediate and strategic responses. The exercise highlights the areas where our current policies are strong and identifies critical gaps that must be addressed to ensure sustainable and equitable growth. By understanding these areas, we can prioritise efforts and resources more effectively.

Identifying our preparedness provides a clear roadmap for strategic resource allocation, prioritisation focus and political will:

What We Are Preparing For	Demonstrates our current strengths and the areas where policies are already in place. For instance, urban and suburban township planning, and promoting digital literacy in the labour market.
What We Have Yet to Prepare For:	Highlights critical gaps that need to be addressed, such as the development of climate-resilient infrastructures and sustainable long-term care models.
What Needs to Be More Resilient:	Indicates existing policies that require strengthening to withstand future socio-economic implications, such as ensuring competitive salaries and wages, and providing robust support for retirement schemes.

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Significant Preparedness:	Areas like economic shifts and industrial transformation where foundational efforts are strong but still require further enhancement to address emerging challenges.
Moderate Preparedness:	Areas such as labour market restructuring, healthcare system wellness and quality of life where substantial improvements are needed to achieve comprehensive readiness.
Low Preparedness:	Critical areas like fiscal sustainability and climate resilience, where significant policy development and resilience-building are urgently required.

3. Addressing Socio-Economic Inequities

The exercise sheds light on socio-economic inequalities that may be exacerbated by climate and demographic changes. By addressing these issues proactively, such as through targeted government subsidies or equitable healthcare access, we can promote inclusivity and social cohesion. Ensuring that no one is left behind is fundamental to a Just Transition.

4. Preparing for Complex Transitions

The complexities of transitioning to a green economy, managing an ageing population, and adapting to climate impacts require well-coordinated and forward-thinking policies. The wind-tunneling results help us anticipate these challenges and develop comprehensive strategies that address multiple dimensions of these transitions. This holistic approach is essential for effective governance and societal well-being.

5. Building Public Trust and Engagement

Transparent and informed policy-making builds public trust and encourages civic engagement. By openly addressing the strengths and gaps in our preparedness, we can foster a collaborative environment where citizens, businesses, and government work together towards common goals. This collective effort is crucial for driving meaningful change and achieving long-term sustainability.

From the wind-tunneling exercise, it is evident that successfully implementing most policy strategies requires adequate funding. Therefore, exploring sustainable funding mechanisms is crucial to weathering difficult situations. Although funding is vital, having the right resources also plays an important role in successfully implementing the strategies. Hence, the need for the right pool of talents and skills to implement these strategies is emphasised. Without the appropriate skills to keep pace with ongoing changes, progress may be hindered. Emphasising the adoption of technology and the innovation of endogenous technologies will be beneficial for addressing issues or capitalising on opportunities. Resilient infrastructure and connectivity also play a critical role. Additionally, having regulatory and policy frameworks in place to support these changes, such as those focusing on long-term care, lifelong learning, and preventive healthcare, should be considered.

4.2 Other Countries' Preparedness

Preparedness for climate and demographic changes is a multifaceted challenge that varies significantly across countries and regions. As nations anticipate the potential socio-economic implications of these transitions, they increasingly prioritise tailored approaches to enhance resilience against potential disruptions. To better understand other countries' preparedness and anticipatory actions for the oncoming climate and demographic shifts, we review the approaches employed by various countries to address the six potential future socio-economic implications that could arise from the climate and demographic transition. Recognising the diverse challenges posed by climate and demographic changes, it becomes evident that resilience cannot be standardised. Instead, countries are developing customised strategies that account for their socio-economic, environmental, and geopolitical contexts. These approaches reflect a commitment to addressing both present and anticipated needs, acknowledging that a one-size-fits-all solution is insufficient. By exploring the preparedness strategies of different countries, we highlighted selected best practices, innovative approaches, and potential areas for improvement. The global benchmarking provided, while not exhaustive, underscores the importance of tailored resilience strategies, ensuring that nations can effectively navigate the uncertainties compounded by climate and demographic transitions.

Mapping Global Preparedness: Key Takeaways

In preparing for global economic shifts, energy transition is at the forefront

Nations are integrating green practices and addressing vulnerabilities in their economic landscapes. Energy transition strategies are critical to systemic decarbonisation, with countries investing in nuclear and renewables. More targeted approaches include financial incentives for energy-intensive sectors to modernise, and investments in specific low-carbon technologies. Countries are also investing in green innovation and trade, expecting that future economic growth will align with sustainability.



In preparing for labour market restructuring, building workforce capabilities and capacity is key for competitiveness

Nations are adapting their workforces to economic changes, new technologies, and global competition. Lifelong learning is emphasised, with initiatives to promote continuous education and skills development. Green skills are integrated into training programs to prepare workers for the emerging green economy, while labour market reforms and rapid retraining ease transitions to growth sectors and ensure displaced workers can quickly re-enter the job market. Rethinking mandatory retirement ages and addressing the needs of an ageing workforce are becoming crucial, ensuring experienced workers remain active contributors. Likewise, supporting caregivers also helps to retain workers in the labour force. Nations are leveraging on opportunities from investments into new energy to create rural jobs and upskill low-income households, reducing the rural-urban gap.

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In preparing for fiscal sustainability, fiscal reforms are needed for managing national debts and deficits.

Nations are working to maintain financial health amidst evolving global challenges. Comprehensive fiscal reforms, including updated spending and revenue policies, are being implemented to manage national debts and deficits. Carbon taxes and blended financing strategies are generating revenue and attracting private capital for sustainable development projects. Developing climate-resilient financial strategies is essential to withstand environmental shocks, while stress-testing budgets and long-term fiscal planning ensure preparedness for economic downturns. By integrating social and environmental considerations into fiscal policies, countries are fostering inclusive and sustainable economic systems.

In preparing for quality of life improvements, addressing sufficiency and inequalities is critical.

Nations are changing their social landscapes to promote well-being and reduce disparities. Countries are adopting life cycle-based social protection and family-oriented policies to support population growth and ensure social stability. Investments in elderly care and active aging programs highlight a global commitment to inclusivity and support for older populations. Sustainable agricultural practices and technological advancements are being promoted to secure food resources and foster environmental sustainability in the face of climate change and population demands.

In preparing for healthcare system transformation, enhancing wellness and managing costs are paramount.

Nations are revising their healthcare systems to address current and emerging challenges and improve outcomes. Implementing universal healthcare packages ensures that all citizens have access to essential health services, reducing disparities and promoting equity. Integrated climate and health strategies are becoming a priority, as countries recognise the interconnectedness of environmental and health outcomes. Efforts to decentralize and strengthen clinical services, including rehabilitation for the elderly and integration of digital technologies for independent health monitoring, are crucial for enhancing healthcare delivery in both urban and rural areas. Social innovation, such as community-based support programs, are being introduced to address the diverse health needs of populations.

In preparing for climate disasters, enhancing resilience and reducing fragility are essential.

Nations are introducing policies to integrate adaptive measures and address vulnerabilities. Widely adopted strategies include nature-based solutions, sustainable coastal development, and inclusive disaster risk reduction plans. Significant investments underscore a global commitment to resilience, supported by comprehensive risk pooling and sovereign insurance programs. Countries are prioritising the protection of vulnerable populations by integrating inclusive approaches into disaster planning. Efforts to align preparedness with social equity are evident in community-based resilience strategies, leveraging innovative approaches to adaptation.

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Legend colour:

- | | |
|--|---|
| ■ Economic Shifts: Greening & Vulnerabilities | ■ Healthcare System: Wellness & Cost |
| ■ Labour Market Restructuring: Transformation & Displacement | ■ Quality Of Life: Sufficiency & Inequalities |
| ■ Fiscal Sustainability: Resilience & Pressures | ■ Climate Disasters: Adaptations & Fragility |

United States

- Shifting focus towards green trade and innovation

Canada

- Finances nature-based solutions
- Implements progressive taxation ensuring equitable distribution of tax burden

Brazil

- Programmes aligning economic growth with sustainable development toward a green and low-carbon economy

Chile

- Political debate includes long-term care (LTC) and plans for subsidy for working caregivers

United Kingdom

- Emphasises intergenerational fairness

Netherlands

- Development concept 'live with the water'

France

- Transition towards more sustainable, low-carbon, and climate-resilient economy.
- Reformed unemployment benefits

Morocco

- Focus on coastal economies for economic growth that could protect coastal communities

Italy

- National policies ensuring active ageing in employment, healthcare, etc.

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Germany

- Subsidies to support energy-intensive firms switching to green production
- Digital transition enables elderly people health monitoring independently

Sweden

- Invest in adult learning and skills development
- Emphasises on family-oriented policies to increase population growth

Finland

- Maintaining substantial fiscal buffers to respond to economic shocks.

Estonia

- Green skills framework

Qatar

- Pioneering digital transformation for climate action

UAE

- Investing in clean energy

Oman

- Social Protection Law that institutionalises lifecycle-based social protection

Malawi

- Developed climate-resilient water and sanitation finance strategy for financial sustainability

Bangladesh

- Prioritises older persons in risk reduction plans

India

- Emphasises on green industrial transition

Indonesia

- Blended finance to attract private capital for national development
- Establishes schools for the cognitive and social development of older person

China

- Tapping into low-carbon technology investment

Myanmar

- Elderly people included in disaster contingency plans

Thailand

- Encourage childbirth as national agenda

Singapore

- Train the unemployed and retrain workers fast
- Long-term orientation fiscal policies
- Introduced 'Many helping hands' approach

Australia

- Developed climate-resilient water and sanitation finance strategy for financial sustainability
- Implemented universal healthcare package

Japan

- Developed Trinity Labor Market Reforms: reskill, job-based wages, labour transfer to growth fields
- Introduced long-term care coverage for the elderly

Republic of Korea

- Focus on nuclear power plants and renewable energy
- Enforcing Lifelong Education Act to promote learning
- Introduced long-term care coverage for the elderly

Fiji

- Strengthen and decentralise effective clinical services, including rehabilitation for elderly

New Zealand

- Implemented universal healthcare package

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4.3 Enabling the Just Transition

In the face of looming climate change and shifting demographics, Malaysia is poised to embark on a transformative journey. The vision of a Just Transition—our best-case scenario—calls for a concerted effort to identify and harness key enablers that will drive this aspiration. To achieve this, we have identified eight critical Transition Enablers essential for shaping our transition and achieving our desired future. These enablers serve as foundational supports, facilitating necessary changes across various sectors. They reflect the earlier identified key drivers of change that will shape Malaysia’s climate and demographic transition and help bridge the gap between our current state and our envisioned future.

Building on this, we have also included Strategic Considerations and Strategic Options. These components are designed to guide our collective efforts in navigating the complexities of both current realities and future possibilities. Strategic Considerations are framed as thought-provoking questions aimed at fostering deep reflection and proactive planning. They focus on the insights derived from understanding current trends, issues, and challenges; anticipating future socio-economic implications; and assessing Malaysia’s preparedness for the transition. These questions encourage stakeholders to critically analyse how we can address socio-economic disparities, environmental threats, and technological gaps today, while preparing for the long-term impacts of climate and demographic changes.

Strategic Options aim to address the multifaceted challenges and opportunities that lie ahead. They serve as references for implementing immediate actions to tackle pressing issues and lay the groundwork for future progress. Strategic Options are framed according to the MIGHT F.I.R.S.T.[®] Matrix (Funding and Financing, Infrastructure and Institutions, Regulations and Policies, Skills and Talents, and Technology and Innovation). This framework helps in comprehensively addressing and tackling a whole-of-nation approach in developing adaptive strategies that enhance resilience and effective solutions tailored to Malaysia’s context.

The perspectives presented herein are not prescriptive directives, but thoughtful suggestions informed by current trends, issues, and challenges, as well as future socio-economic implications and Malaysia’s preparedness. The Transition Enablers, Strategic Considerations, and Options provide a clear pathway for stakeholders to understand how different elements contribute to the broader goal of sustainability and resilience. These insights have been meticulously gathered from stakeholders’ suggestions, benchmarking exercises, and rigorous analyses aimed to build Malaysia’s resilience for the climate and demographic transition.

8 Transition Enablers for A Just Transition



EQUITABLE ACCESS TO HEALTHCARE



BUILDING CLIMATE RESILIENCE



INCLUSIVE SOCIAL SAFETY NETS AND STRENGTHENING SOCIAL FABRIC



FUTURE-READY WORK AND WORKFORCE DEVELOPMENT



GREEN ECONOMIC DIVERSIFICATION AND STRENGTHENING NATIONAL FISCAL SPACE



INCLUSIVE INFRASTRUCTURE AND BALANCED URBAN-RURAL DEVELOPMENT



VISIONARY LEADERSHIP AND ACCOUNTABLE GOVERNANCE



SUSTAINABLE RESOURCE MANAGEMENT AND SELF-SUFFICIENCY



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Suggestions from stakeholders engaged



Recommended climate and demographic preparedness in the form of:

- 9% Funding & Incentives
- 19% Infrastructure & Institutions
- 36% Regulatory & Policies
- 28% Skills & Talents
- 8% Technology & Innovation

From the 206 recommendations compiled from engaged stakeholders, a resounding consensus emerged: the government must take a leading role in preparing for the long-term planning of climate and demographic transitions. This includes providing necessary incentives for business actions, developing talent pools for future skills, and emphasising the importance of raising awareness and education on these critical issues. Additionally, stakeholders highlighted the crucial need for robust policy and regulatory implementation, along with diligent follow-through, to ensure these transitions are effectively managed and sustained.

TRANSITION ENABLER 1: EQUITABLE ACCESS TO HEALTHCARE

STRATEGIC CONSIDERATIONS

How can we ensure equitable access to quality healthcare for all Malaysians, including those in rural and underserved areas?

This fundamental question calls us to reflect deeply on the disparities in healthcare infrastructure and resources between urban and rural regions. By addressing these gaps, we can create a healthcare system where quality services are universally accessible, fostering inclusivity, and ensuring that no one is left behind, regardless of socio-economic status or geographic location.

What measures can enhance our healthcare system's resilience to multifaceted threats such as natural disasters, pandemics, heatwaves, an ageing population, and the rise of NCDs?

The resilience of our healthcare system is crucial in facing a diverse array of challenges. Strengthening our healthcare infrastructure to adapt to these varied threats ensures continuity and effectiveness in healthcare delivery. This reflection invites us to consider proactive measures and necessary adaptations to safeguard our facilities, ensuring they remain robust and responsive in times of need.

How can we mitigate the socio-economic risks associated with insufficient healthcare access?

Inadequate healthcare access can significantly impact productivity, economic growth, and social stability. By anticipating these socio-economic implications, we can develop forward-thinking strategies that protect the health of vulnerable populations, including the elderly and those with chronic conditions. This consideration prompts us to think about long-term solutions that promote both health and socio-economic resilience.

How can we prepare and retain our healthcare workforce for the future?

Ensuring our healthcare professionals are equipped to meet future challenges is vital. Enhancing training and retention programs, particularly in underserved areas, and focusing on continuous education, upskilling, and reskilling initiatives are crucial. Additionally, creating a supportive and motivating work environment, ensuring fair compensation, and providing clear pathways for career advancement are essential for attracting and retaining top talent in the healthcare sector.

How can we integrate innovative technologies and practices to improve healthcare delivery and outcomes?

Embracing healthcare innovation is essential for modernising our system and enhancing patient outcomes. This includes adopting advanced medical technologies, digital health solutions, and evidence-based practices. Reflecting on this consideration encourages us to explore how technology can streamline healthcare delivery, improve efficiency, and provide better care for patients, ensuring our healthcare system is prepared for the future..

STRATEGIC OPTIONS

**Funding and Financing**

- Sustainable health financing.
- Increase investment in public health.
- Reducing out-of-pocket expenditure on healthcare.

**Infrastructure and Institutions**

- Enhance healthcare infrastructure.
- Strengthen institutional capacity.

**Regulations and Policies**

- Comprehensive healthcare policies.
- Policy support for preventive healthcare.
- Develop a long-term care act.

**Skills and Talents**

- Healthcare workforce development.
- Competitive compensation and career progression.
- Promote health literacy.

**Technology**

- Leverage digital health technologies.
- Expand telemedicine services.
- Strengthen healthcare solutions R&D and innovation ecosystem.

TRANSITION ENABLER 2: BUILDING CLIMATE RESILIENCE

STRATEGIC CONSIDERATIONS

How can Malaysia adapt to and mitigate climate change while ensuring inclusivity in its transition to an aged society?

There is a need for inclusive policies that address the dual challenges of climate change and an ageing population. Reflecting on this invites us to consider how climate adaptation and mitigation efforts can be designed to benefit all demographics, particularly the elderly and vulnerable, ensuring that no one is left behind in our transition to a sustainable future.

How can we enhance Malaysia's infrastructure to withstand the impacts of climate change?

By identifying and addressing weaknesses, we can build resilient structures capable of withstanding extreme weather events, rising sea levels, and other climate-related threats. Strengthening our infrastructure is crucial for protecting communities and ensuring the continuity of essential services.

How can we promote sustainable agricultural practices to ensure food security in the face of climate change?

Climate change poses significant risks to agricultural productivity and food security. This consideration prompts us to think about ways to promote sustainable farming techniques that enhance soil health, water efficiency, and crop resilience. By supporting farmers in adopting climate-smart agriculture, we can safeguard food supplies and support rural livelihoods.

What role can community engagement and education play in building climate resilience?

Building climate resilience requires the active participation of communities. This consideration emphasises the importance of raising awareness and educating the public about climate change impacts and adaptation strategies. By empowering communities with knowledge and resources, we can foster a collective response to climate challenges and strengthen local resilience.

How can we leverage technology and innovation to enhance climate resilience?

Technology and innovation offer powerful tools for addressing climate change. This consideration encourages us to explore how advanced technologies, such as climate modeling and early warning systems, can be utilised to build resilience. By integrating innovative approaches into climate adaptation efforts, we can develop effective and sustainable solutions.

STRATEGIC OPTIONS

**Funding and Financing**

- Secure climate finance.
- Incentivise green investments.

**Infrastructure and Institutions**

- Climate-resilient infrastructure development.
- Strengthen institutional capacity for climate adaptation.
- Promote blue and green infrastructure.

**Regulations and Policies**

- Comprehensive climate adaptation policies.
- Age-, disability- and gender-responsive disaster risk reduction.
- Fortify intergenerational support for climate action.

**Skills and Talents**

- Build climate resilience capacity
- Community education, engagement and empowerment.

**Technology**

- Leverage climate technologies.
- Look toward nature-based solutions.

TRANSITION ENABLER 3: INCLUSIVE SOCIAL SAFETY NETS AND STRENGTHENING SOCIAL FABRIC

STRATEGIC CONSIDERATIONS

How can we build demographic resilience to close the gap and foster equality, rather than letting it widen the divide?

The importance of creating policies and initiatives that promote demographic resilience is imperative. By addressing issues such as income inequality, and access to education and healthcare, we can ensure that all segments of the population are equipped to adapt to and thrive amidst socio-economic changes, thereby preventing the widening of social divides.

How can we fortify our social safety nets to effectively support marginalised groups in the face of climate and demographic transitions?

We need to consider the vulnerabilities of marginalised groups who are often disproportionately affected by socio-economic and environmental changes. By reinforcing our social safety nets, we can ensure that all members of society, especially the most vulnerable, have access to essential support systems, thus promoting social equity and resilience.

What strategies can we implement to build a robust and inclusive social fabric that fosters community resilience and unity?

We are called to think about the ways in which we can strengthen community ties and foster a sense of unity. This involves promoting inclusive policies and initiatives that encourage community engagement, support diverse populations, and build a cohesive society that can collectively withstand and adapt to future challenges.

How can we leverage technological advancements to enhance the accessibility and efficiency of social services?

We need to explore the potential of technology in modernising our social service systems. By integrating digital solutions, we can improve the delivery of social services, making them more accessible, efficient, and responsive to the needs of the population, particularly in times of crisis.

What measures can we take to address the economic disparities exacerbated by climate and demographic changes?

This consideration emphasises the importance of developing policies that mitigate economic inequalities, which are often heightened during periods of significant transition. We must identify and implement strategies that provide economic opportunities for all, ensuring that the benefits of growth and development are equitably distributed across society.

STRATEGIC OPTIONS

Funding and Financing

- Enhance funding for social safety nets.
- Financial incentives for inclusive programs.
- Innovative funding mechanisms for community initiatives.

Infrastructure and Institutions

- Strengthen social infrastructure.
- Provide affordable facilities for older persons and children.
- Build institutional capacity for social services.

Regulations and Policies

- Comprehensive, lifecycle approach to social protection policies.
- Inclusive policy frameworks.
- Policies for demographic resilience.

Skills and Talents

- Enhance financial literacy.
- Facilitate older individuals' and marginalized communities' participation and contribution.
- Youth and women empowerment programs.

Technology

- Leverage technology for social services.
- Expand digital inclusion.
- Technological innovations for social impact.

TRANSITION ENABLER 4: GREEN ECONOMIC DIVERSIFICATION AND STRENGTHENING NATIONAL FISCAL SPACE

STRATEGIC CONSIDERATIONS

How can we ensure that Malaysia have a sustainable economic structure and national fiscal space?

There is high strategic importance for establishing a resilient and adaptable economic structure that can sustain growth while safeguarding fiscal stability. By implementing policies that promote sustainable practices and by diversifying economic activities, Malaysia can build a robust foundation to withstand future challenges.

How can we catalyse innovation and investment in green industries to drive sustainable economic growth?

Fostering a vibrant sustainable economy by encouraging innovation and investment is crucial for global competitiveness. Creating an enabling environment for green technologies and businesses can spur sustainable economic growth, generate new job opportunities, and position Malaysia as a leader in the green economy. There is also a pressing need for policies that provide diverse funding avenues for green entrepreneurs, ensuring they have the resources to innovate and grow.

What mechanisms can we implement to ensure a robust and resilient fiscal space amidst the transition?

Diversifying revenue streams, adopting green financing instruments, facilitating mechanisms such as blended finance and implementing fiscal policies that support sustainable development can bolster economic resilience. Developing policies that incorporate climate risk assessments into financial and investment planning is crucial to safeguarding against future uncertainties and ensuring that Malaysia's fiscal foundation remains strong during the transition.

How can we enhance regulatory frameworks to support green economic activities?

Efforts to strengthen and modernise our regulatory frameworks to support green initiatives are keys to success. By updating environmental regulations, streamlining approval processes, and offering incentives for sustainable practices, we can create a regulatory environment that encourages businesses to adopt green practices and innovations.

How can we ensure that the benefits of green economic diversification are inclusive and equitable?

This calls for strategies that ensure all segments of society benefit from green economic growth. This involves designing inclusive policies that provide equitable access to green job opportunities, resources, and benefits, ensuring that no one is left behind in the transition to a sustainable economy. Creating frameworks that ensure all sectors of society, including marginalised groups, can benefit from the green transition is essential to fostering an inclusive and equitable economic transformation.

STRATEGIC OPTIONS

Funding and Financing

- Green financing mechanisms.
- Diverse funding avenues for green entrepreneurs.
- Integrate climate risk into financial planning.
- Facilitate innovative finance for businesses.
- Incentives for sustainable practices.

Infrastructure and Institutions

- Green infrastructure development.
- Strengthen institutional capacity for green initiatives.
- Public-private partnerships for green projects.
- Prioritise future-oriented investments for climate adaptation and mitigation.

**Regulations and Policies**

- Comprehensive green policies.
- ESG trade compliance.
- Streamline regulatory approval processes

**Skills and Talents**

- Green workforce development.
- Promote careers in green sectors.
- Community engagement and education.

Technology

- Indigenous green technology development.
- Leverage digital solutions for sustainability.
- Strengthen R&D in green technologies.

TRANSITION ENABLER 5: VISIONARY LEADERSHIP AND ACCOUNTABLE GOVERNANCE**STRATEGIC CONSIDERATIONS****How can Malaysia foster visionary governance, leadership, and political determination to adopt a forward-thinking approach towards a sustainable and inclusive future?**

Developing forward-thinking, proactive, and politically determined governance and leadership is essential to ensure implementation follow-through and accountability. Visionary leaders can effectively navigate future trends, address challenges, and seize opportunities, ensuring a sustainable and inclusive future.

What mechanisms can be implemented to ensure accountable and transparent governance?

Enhancing accountability and transparency within governance structures is vital. Implementing robust monitoring and evaluation systems, promoting transparent decision-making processes, and ensuring public access to information build public trust and ensure effective governance.

How can we strengthen institutions to support sustainable development goals?

Reinforcing institutional capacities to achieve sustainable development goals is necessary. Strengthening institutions involves improving policy implementation and enforcement, ensuring adequate resources, and fostering interagency collaboration to tackle complex socio-economic and environmental challenges.

What role can inclusive governance play in promoting social equity and cohesion?

Ensuring governance structures are inclusive and representative of all societal segments is essential. Engaging diverse stakeholders in decision-making processes and ensuring policies reflect the needs and aspirations of all community members promotes the social equity and cohesion needed to successfully navigate the climate and demographic transitions.

How can technology be leveraged to enhance governance and leadership capabilities?

Adopting digital tools and platforms can make governance more efficient, transparent, and responsive. Leveraging technology facilitates better data collection and analysis, improves public service delivery, and enables more effective communication between government and citizens. Additionally, ensuring data security and utilising real-time data for evidence-based decision making are crucial for informed and secure governance.

STRATEGIC OPTIONS



Funding and Financing

- Periodic review of government financial assistance.
- Long-term oriented fiscal policies.

Infrastructure and Institutions

- Strengthen institutional capacity and will for sustainable development.
- Legislative reform consistent with cultural norms.
- Integration of physical and cybersecurity measures.
- Effective engagement that builds societal consensus on transition measures.



Regulations and Policies

- Transparent decision-making processes.
- Robust monitoring and evaluation systems.
- Comprehensive data security and sharing policies.
- Anti-corruption measures.
- Policy implementation and follow-through mechanisms.



Skills and Talents

- Leadership development programmes.
- Inclusive governance training.
- Capacity building for digital and climate governance.

Technology

- Leverage real-time data for evidence-based decision making.
- Enhance digital public services.
- Cybersecurity and data protection.
- Increase government efficiency through technology.



TRANSITION ENABLER 6: FUTURE-READY WORK AND WORKFORCE DEVELOPMENT

STRATEGIC CONSIDERATIONS

How can Malaysia enhance social safety nets and provide protection for all workers, including those in the gig and informal economies, to manage labour market dynamics and build resilience?

Strengthening social safety nets and support systems is essential to adapt to labour market changes caused by climate change and economic transitions. This includes ensuring social protections, retirement planning, and competitive wages, safeguarding livelihoods, and building resilience against future disruptions.

What strategies can be implemented to promote lifelong learning and continuous upskilling to meet the demands of emerging industries and technologies?

Developing comprehensive policies that promote lifelong learning and continuous upskilling is crucial. This ensures the workforce remains adaptable and competitive, particularly in high-technology fields, through targeted education and training programmes that respond to evolving job market demands.

How can educational and training institutions, along with public-private partnerships, be reformed and leveraged to align with the future needs of the workforce?

Reforming educational and training institutions involves updating curricula, incorporating digital and technological skills, and fostering critical thinking. Public-private partnerships play a key role in bridging education and employment gaps by creating tailored training programmes, apprenticeships, and job placement services that prepare workers for future job markets.

How can Malaysia address the socio-economic impact of a shrinking working-age population, wage suppression, and the challenges posed by an ageing workforce?

Developing robust strategies to mitigate the economic impact of a shrinking working-age population includes addressing potential reductions in direct tax revenue, managing workforce planning and retirement, providing caregiving solutions, and ensuring competitive salaries and wages. These strategies are essential for maintaining economic stability, attracting talent, and preventing wage suppression.

How can technology and innovation be leveraged to support workforce development, enhance mobility and flexibility, and ensure climate resilience in workforce planning?

Leveraging technology and innovation can drive workforce development and create new employment opportunities. Adopting digital platforms, online learning, and innovative training methods can enhance skill development. Ensuring data security, promoting data integration among government agencies, and utilising real-time data for evidence-based decision-making are crucial. Additionally, integrating climate resilience into workforce planning will ensure jobs and industries can adapt to climate impacts, promoting long-term sustainability.

STRATEGIC OPTIONS

**Funding and Financing**

- Fund lifelong learning initiatives.
- Incentivise employer investment in employee well-being.
- Financial support for ageing workforce.

**Infrastructure and Institutions**

- Reform educational and training institutions.
- Strengthen public-private partnerships.
- Support workforce mobility and flexibility.
- Invest in caregiving infrastructure.

**Regulations and Policies**

- Enhance social safety nets.
- Competitive wages and remuneration packages.
- Develop family-friendly policies.
- Policies for ageing workforce.

**Skills and Talents**

- Promote lifelong learning.
- Upskill and reskill the workforce.
- Develop high-technology and green skills.

**Technology**

- Leverage technology for workforce development.
- Data-driven decision making in workforce planning and policy development.
- Integrate climate resilience into Workforce Planning.

TRANSITION ENABLER 7: INCLUSIVE INFRASTRUCTURE AND BALANCED URBAN-RURAL DEVELOPMENT

STRATEGIC CONSIDERATIONS

What can be done to ensure migration and urbanisation are harmonised and managed effectively to ensure sustainable development and social cohesion?

Harmonising migration and urbanisation with sustainable development and social cohesion involves creating comprehensive urban planning strategies that accommodate population growth, prevent urban sprawl, and promote the equitable distribution of resources and opportunities across urban and rural areas.

How can infrastructure development be planned and executed to promote balanced growth between urban and rural areas?

Balanced infrastructure development requires strategic planning to ensure that both urban and rural areas receive the necessary investments in transportation, communication networks, healthcare, education, and other essential services. This helps bridge the gap between urban and rural regions, fostering equitable growth and development.

What strategies can be implemented to enhance urban-rural connectivity and accessibility?

Enhancing urban-rural connectivity involves investing in transportation and digital infrastructure that links rural communities with urban centres. This improves access to markets, education, healthcare, and employment opportunities, thereby supporting economic development and reducing regional disparities.

How can inclusive and age-friendly infrastructure support the needs of diverse populations, including marginalised, vulnerable, and ageing communities?

Developing inclusive and age-friendly infrastructure means designing and implementing projects that cater to the needs of all community members, including marginalised, vulnerable, and ageing populations. This involves ensuring accessibility, affordability, and sustainability of services such as housing, transportation, public spaces, and healthcare facilities that are safe and accommodating for older adults.

What role can community engagement and participatory planning play in achieving balanced urban-rural development?

Community engagement and participatory planning are crucial for understanding the unique needs and aspirations of different regions. By involving local communities in decision-making processes, infrastructure projects can be more effectively tailored to address local challenges and leverage local strengths, ensuring sustainable and inclusive development.

STRATEGIC OPTIONS

**Funding and Financing**

- Invest in age-friendly infrastructure.
- Support regional development through industrial clusters.

**Infrastructure and Institutions**

- Enhance urban-rural connectivity.
- Develop age-friendly infrastructure and facilities.
- Strengthen industrial clusters for regional development.

**Regulations and Policies**

- Promote sustainable urban and rural development policies.
- Foster talent development and retention.

**Skills and Talents**

- Develop talent for sustainable infrastructure development.
- Community education and awareness programmes.

**Technology**

- Leverage technology for infrastructure planning and management.
- Strengthen digital infrastructure for connectivity.



TRANSITION ENABLER 8: SUSTAINABLE RESOURCE MANAGEMENT AND SELF-SUFFICIENCY

STRATEGIC CONSIDERATIONS

What is needed to ensure that we are self-sufficient in terms of the water, energy, and food nexus amidst the challenges of climate change and demographic shift?

Achieving self-sufficiency in water, energy, and food is crucial for resilience against climate change and demographic shifts. This involves integrated planning and management of resources, innovative technologies for resource efficiency, and sustainable practices to ensure reliable access to these essential resources.

How can Malaysia develop and implement policies that promote the sustainable use and conservation of natural resources?

Formulating and enforcing policies that encourage sustainable resource use is vital. This includes setting regulations that prevent over-exploitation, promoting practices that conserve biodiversity, prevent pollution, and ensuring the sustainable management of forests, water bodies, and mineral resources.

What strategies can be adopted to integrate climate resilience into resource management and conservation efforts?

Incorporating climate resilience into resource management is essential for long-term sustainability. This involves adopting practices that reduce vulnerability to climate impacts, such as drought-resistant crops, water-saving technologies, and renewable energy sources, while also protecting ecosystems and biodiversity.

What role can community engagement and technology play in enhancing resource management and conservation?

Effective resource management requires active participation from communities and leveraging technology. Strategies to enhance engagement include education and awareness campaigns, involving local communities in decision-making processes, and fostering partnerships between government, private sector, and civil society. Additionally, using advanced data analytics, remote sensing, and digital platforms can significantly improve resource efficiency and conservation efforts.

How can sustainable production and consumption patterns be promoted to ensure long-term resource availability and manage inflation and cost of living?

Encouraging sustainable consumption and production patterns is key to maintaining the availability of resources for future generations. This involves promoting efficient use of resources, reducing waste, and implementing practices that minimise environmental impact while supporting economic growth, managing inflation, and ensuring affordable cost of living.

STRATEGIC OPTIONS



Funding and Financing

- Invest in climate-resilient water infrastructure.
- Strengthen funding for renewable energy and energy-saving technologies.



Infrastructure and Institutions

- Develop sustainable water management systems.
- Promote sustainable agricultural practices.



Regulations and Policies

- Promote sustainable consumption and production patterns.
- Strengthen resource conservation and anti-pollution policies, tighten enforcement, and impose harsher penalties.



Skills and Talents

- Inculcate awareness of renewable energy and energy efficiency.
- Develop talent for sustainable resource management.



Technology

- Leverage technology for enhanced resource management.
- Strengthen R&D in water, energy, and food security.
- Integrate climate resilience into resource management technologies.

CHAPTER 4: NAVIGATING CHANGE: ASSESSING CURRENT PREPAREDNESS AND BUILDING RESILIENCE

Building A Resilient Malaysia Together

As Malaysia navigates the intertwined challenges of climate change and demographic shifts, building resilience across various sectors is paramount. This endeavour is not merely aspirational but a critical necessity for achieving a Just Transition. Each stakeholder, including government, industry, academia and research, and communities and citizens, plays a unique and indispensable role in fostering a resilient and inclusive society. By working collaboratively, we can forge a future where economic prosperity, social equity, and environmental sustainability coexist harmoniously, ensuring that the journey towards a Just Transition leaves no one behind.

**GOVERNMENT:
PILLARS OF ADAPTIVE GOVERNANCE**

In the face of escalating climate and demographic pressures, the government must embody the bedrock of resilience. Adaptive governance—characterised by flexibility, responsiveness, and inclusivity—is vital. Policymakers need to anticipate future challenges by integrating foresight and scenario planning into national strategies. Proactive legislation, incentivising green technologies, and robust social safety nets are critical.

The government's role in building resilience extends to fostering public-private partnerships, streamlining inter-agency coordination, and ensuring transparent communication with all stakeholders. By sending clear signals, and guaranteeing pathways toward sustainable development and equitable resource distribution, the government can create an environment where both the economy and society thrive amidst transitions.

**ACADEMIA AND RESEARCH:
CATALYSTS FOR KNOWLEDGE AND INNOVATION**

Academia and research institutions are the intellectual powerhouses driving Malaysia's resilience in the face of climate and demographic changes. Their role involves pioneering research in climate science, sustainable technologies, and social innovations. Universities and research bodies must foster interdisciplinary approaches, bridging gaps between science, technology, and society.

Through education, these institutions can cultivate a new generation of leaders equipped to tackle future challenges. Integrating climate and sustainability studies into curricula, promoting experiential learning, and encouraging community engagement are vital. Collaboration with industry and government ensures that research is aligned with real-world needs, translating knowledge into actionable solutions.

**INDUSTRY:
ENGINES OF INNOVATION AND SUSTAINABILITY**

Industries stand at the forefront of Malaysia's economic transformation, holding the keys to innovation and sustainability. To build resilience, industries must adopt sustainable practices, invest in green technologies and commit to corporate social responsibility. Embracing principles of circular economy, reducing carbon footprints, and enhancing supply chain resilience are imperative steps.

Industries play a crucial role in supporting workforce transitions through upskilling and reskilling programmes. By nurturing a culture of continuous learning and adaptability, industries can empower their employees to navigate new technologies and shifting job landscapes. Collaboration with the government and academia in research and development initiatives further bolsters resilience, driving the creation of sustainable products and services.

**COMMUNITIES AND CITIZENS:
STEWARDS OF LOCAL RESILIENCE**

At the heart of resilience lies the strength of communities and the proactive engagement of citizens. Empowered communities, aware of their vulnerabilities and equipped with adaptive capacities, are essential for a Just Transition. Grassroots initiatives, community-led projects, and local climate action plans are pivotal in fostering resilience at the micro level.

Citizens play a critical role by adopting sustainable lifestyles, participating in local governance, and advocating for climate justice. Building social cohesion, fostering mutual support networks, and promoting awareness about climate and demographic issues strengthen community resilience. By embracing the values of sustainability, inclusivity, and solidarity, communities and citizens become active contributors to a resilient and equitable future.

4.4 Final thoughts

This report on the forthcoming climate and demographic transition is crafted by Malaysians for Malaysians. The envisioned futures, as seen by stakeholders nationwide, reflect their unique contexts. Yet, together, they weave a cohesive narrative about the future of our economic structures, the labour market, and the well-being of the elderly and their families. These stakeholders have also provided strategic considerations for a holistic approach, enhancing our collective preparedness and adaptability. Our governance structures must be robust and agile enough to pivot in response to emerging challenges. The volatility and complexity of these challenges necessitate urgent, strategic, and integrated responses, which cannot be managed in silos by individual ministries or even by federal and state governments alone.

Systemic transformations needed to navigate these transitions will require re-envisioning our social contract around work, social protection, and retirement, as well as our economic systems and structures. Early signs of these changes are evident in the serious reconsideration of long-standing subsidy programmes, healthcare system reforms, movement towards lifecycle social protection, and development of mechanisms to support green and low-carbon investments. While technocratic solutions are necessary, they are insufficient to drive these transformations. Broad societal buy-in is crucial to sustain the investments and sacrifices necessary to secure our collective future.

Foresight must be complemented by stronger public-private collaboration, empowering communities and civil societies to provide proactive solutions to healthcare demands, disaster reduction and recovery, and other effects of climate and demographic shifts. Unique to Malaysia is the enduring strength of community and family bonds, along with the potential to harness traditional knowledge and wisdom of the elderly to bolster resilience against these shifts. If these elements come together to form a collective, consensus vision for the nation, then proactive, integrated anticipatory governance becomes possible.

While this report represents a preliminary exploratory study, it underscores the necessity for a comprehensive and continuous effort to detail actionable steps. The journey ahead involves deeper engagement with key champions and those with pivotal roles in enabling a Just Transition through the development of specific strategies to address the identified current and future challenges.

As the impacts of climate and demographic change grow, this foresight report aims to drive the conversation across all facets of Malaysian society as we navigate this era of polycrisis. In the coming months, we anticipate these findings will stimulate dialogues, cross-sector engagements, planning revisions, in-depth studies, and collaborations for anticipatory actions. By openly acknowledging our strengths and vulnerabilities, we can foster a collaborative environment, engage in honest conversations about difficult decisions, and uphold the “leave no one behind” principle. We aim not just to survive future shocks but to thrive amidst them.

The foresight journey does not end with the publication of this report. Our journey has just begun. As we embark on transitioning futures and anticipating change, let us move forward with a shared vision, a commitment to resilience, and a dedication to ensuring a Just Transition for all Malaysians for generations to come.



Appendix

APPENDIX 1: WORKING DEFINITIONS

Appendix 1: Working definitions

TERM	DESCRIPTION
AREA OF CONFLUENCE	Areas impacted by the intersections or overlap of climate and demographic changes could give rise to multiplied consequences with significant implications for society, the economy, the environment, regulatory frameworks etc.
AREA OF CONCERN	Key areas of impact from climate and demographic transitions are of high concern to Malaysians looking toward 2050.
AREA OF UNCERTAINTY	Sub-domains within the focus areas of this study (Labor Market and Well-Being of the Elderly Population & Their Families) explore potential future impacts arising from climate and demographic changes under different scenarios.
CLIMATE CHANGE	Climate change, attributed directly or indirectly to human activity altering the global atmosphere's composition, alongside natural variability, will directly or indirectly affect Malaysia by 2050. Key concerns include impacts on local agriculture, early effects of sea level rise on Malaysian coastal areas, and food prices due to climate change's impacts on local and global production.
CLIMATE TRANSITION	The economic restructuring that will need to take place in Malaysia for: i. Climate mitigation, ii. Climate adaptation, and iii. Responding to climate change impacts on the global economy's behavior.
DEMOGRAPHIC TRANSITION	The shift toward an aging population in Malaysia, impacting caregiving, the dependency ratio, and the working population, including migrant labor.
DRIVER OF CHANGE	Factors that will shape future development and influence its implications are crucial forces in the macro-environment, driving important trends and issues. These factors have the potential to bring about significant future changes but are inherently unpredictable due to their dependence on various factors. They are derived from thematic analysis of signals and can represent a combination of several signals.
JUST TRANSITION	Greening the economy inclusively aims to create decent work opportunities and ensure no one is left behind in meeting climate goals toward a net-zero future. Especially concerning are: i. How workers are impacted by climate change and climate transition, and ii. How the elderly who have limited options to generate income will be cared for in Malaysia's journey toward a net-zero economy amidst climate change.

APPENDIX 1: WORKING DEFINITIONS

TERM	DESCRIPTION
LABOUR MARKET	<p>"The supply of human capital (quality and quantity) and sector-driven demand determine labour market efficiency. It depends on a quality workforce (high-skilled jobs and high labour productivity), labour market flexibility (supportive regulation), and a modern labour market support system (comprehensive labour market information and efficient job matching)."</p> <p>"The supply (including migrant labour) and demand for labour in the Malaysian context encompass various types and qualities of job opportunities (e.g., skilled, semi-skilled, and unskilled), as well as the geographical and sectoral distribution of job creation or loss. It also considers how wages are adjusting to meet the cost of living."</p>
ELDERLY POPULATION & THEIR FAMILIES	Malaysia defines the elderly as those 65 years old and above. Their families encompass relatives who are tasked with ensuring their welfare, which involves caregiving and providing financial support.
TRIFECTA OF WORK, SOCIAL PROTECTION & RETIREMENT	Key issues revolve around just transition and the social contract. How will Malaysia create good jobs with decent work conditions and ensure OSHA safety, while providing comprehensive social protection across the lifecycle to prevent poverty, particularly for those displaced by climate change or transition? What expectations should the elderly, who have contributed to the economy through their work, have for their retirement?
SIGNAL	Signal could encompass trends, events, issues, challenges, technologies, new policies or regulations, new products, practices, or market strategies with the potential to scale or expand in geographical reach. Such signals could have both positive and negative impacts and implications

APPENDIX 1: WORKING DEFINITIONS

ABBREVIATION	DEFINITION
3D	Dirty, dangerous, and demeaning
AI	Artificial intelligence
ASEAN	Association of Southeast Asian Nations
COVID-19	Coronavirus disease 2019
DDI	Domestic direct investment
EPF	Employees Provident Fund
ESG	Environmental, social and governance
F.I.R.S.T.[®]	Funding and Financing, Infrastructure and Institutions, Regulations and Policies, Skills and Talents, and Technology and Innovation
FDI	Foreign direct investment
GDP	Gross Domestic Product
GHG	Greenhouse gas
HiFy	High-frequency
IOM	International Organisation for Migration
LFPR	Labour force participation rate
LTC	Long-term care
MIGHT	Malaysian Industry-Government Group for High Technology
NADMA	Agensi Pengurusan Bencana Negara
NCD	Non-communicable diseases
OECD	Organisation for Economic Co-operation and Development
OKU	Orang kurang upaya
R&D	Research and development
SMEs	Small-medium enterprises
SSR	Self-sufficiency ratio
STI	Science, technology and innovation
WEF	Water, energy, food
WHO	World Health Organization

APPENDIX 2: LIST OF NATIONAL POLICIES RELATED TO THE CLIMATE AND DEMOGRAPHIC TRANSITION

Appendix 2: List of National Policies Related to the Climate and Demographic Transition

NO.	POLICY
1	National Policy on Environment
2	National Social Policy
3	Fair Trade Practices Policy
4	National Science, Technology and Innovation Policy 2021-2030
5	National Consumer Policy
6	Disabled Person Policy
7	National Social Policy
8	National Social Policy
9	National Policy Mineral 2
10	National Policy on Women 2009
11	National Sports Policy
12	National Health Policy for Older Persons
13	National Child Policy
14	National Water Resources Policy
15	National Education Blueprint (2015-2025) Higher Education

NO.	POLICY
16	National Youth Policy
17	National Child Protection Policy
18	National Family Policy
19	National Policy on Environment
20	National Social Policy
21	Fair Trade Practices Policy
22	National Science, Technology and Innovation Policy 2021-2030
23	National Consumer Policy
24	Disabled Person Policy
25	National Social Policy
26	National Social Policy
27	National Policy Mineral 2
28	National Policy on Women 2009
29	National Sports Policy
30	National Health Policy for Older Persons

NO.	POLICY
31	National Entrepreneurship Policy
32	Security and Public Order Policy
33	National Automotive Policy 2020
34	Iron Steel Industry Policy
35	National Tourism Policy 2020 - 2030
36	National Forestry Policy
37	National Marine Litter Policy and Action Plan 2021-2030
38	National Nutrition Policy of Malaysia 2.0
39	National Agrofood Policy 2021-2030
40	Urban Community Farm Policy
41	National Security Policy 2021- 2025
42	National Fourth Industrial Revolution (4IR) Policy
43	National Nanotechnology Policy and Strategy 2021-2030
44	National Nuclear Technology Policy 2030

APPENDIX 2: LIST OF NATIONAL POLICIES RELATED TO THE CLIMATE AND DEMOGRAPHIC TRANSITION

NO.	POLICY
45	National Culture Policy
46	National Construction Policy 2030
47	National Agricommodity Policy
48	National Sports Vision 2030
49	National Policy on Biological Diversity 2022-2030
50	Malaysian National Medicines Policy (MNMP) Fourth Term
51	National Oral Health Policy
52	National Reproductive Health and Social Education Policy and Action Plan 2022-2025
53	National Energy Policy 2022-2040
54	National Biotechnology Policy 2.0
55	New Investment Policy
56	The Health White Paper
57	New Industrial Master Plan 2030

NO.	POLICY
58	National Industry Environment, Social and Governance (ESG) Framework
59	MADANI Youth Development Model 2030
60	Malaysia Cooperative Policy 2030
61	National Digital Education Policy

APPENDIX 3: LIST OF ACTS OF PARLIAMENT OF MALAYSIA RELATED TO THE CLIMATE AND DEMOGRAPHIC TRANSITION

Appendix 3: List of Acts of Parliament of Malaysia Related to the Climate and Demographic Transition

NO.	ACT
1	Employment Act 1955
2	Land Development Act 1956
3	Land Conservation Act 1960
4	Control of Supplies Act 1961
5	Padi Cultivators (Control of Rent and Security of Tenure) Act 1967
6	Petroleum (Income Tax) Act 1967
7	Income Tax Act 1967
8	Employees' Social Security Act 1969
9	Medical Act 1971
10	Environmental Quality Act 1974
11	Pesticides Act 1974
12	Destruction of Disease-Bearing Insects Act 1975
13	Plant Quarantine Act 1976
14	Pensions Adjustment Act 1980
15	Pensions Act 1980
16	Akta Pencen Pihak Berkuasa Berkanun Dan Tempatan 1980

NO.	ACT
17	Food Act 1983
18	Medicines (Advertisement and Sale) Act 1956 (Revised - 1983)
19	Exclusive Economic Zone Act 1984
20	Fisheries Act 1985
21	Prevention and Control of Infectious Diseases Act 1988
22	Sale of Drugs Act 1952 (Revised 1989)
23	Employees' Minimum Standards of Housing, Accommodations and Amenities Act 1990
24	Employees Provident Fund Act 1991
25	Tourism Industry Act 1992
26	Care Centres Act 1993
27	Control of Padi and Rice Act 1994
28	Mineral Development Act 1994
29	Occupational Safety and Health Act 1994
30	Private Healthcare Facilities and Services Act 1998
31	Mental Health Act 2001
32	Protection of New Plant Varieties Act 2004

NO.	ACT
33	Water Services Industry Act 2006
34	Retirement Fund Act 2007
35	Renewable Energy Act 2011
36	Minimum Retirement Age 2012
37	Medical Device Act 2012
38	Traditional and Complementary Medicine Act 2016
39	Allied Health Professions Act 2016
40	Access to Biological Resources and Benefit Sharing Act 2017
41	Self-Employment Social Security Act 2017
42	Tourism Tax Act 2017
43	Employment Insurance System Act 2017
44	Service Tax Act 2018
45	Sales Tax Act 2018
46	Private Aged Healthcare Facilities and Services Act 2018
47	Dental Act 2018
48	Housewives' Social Security Act 2022
49	Energy Efficiency and Conservation Bill 2023

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ENGAGEMENTS WERE HELD ACROSS MALAYSIA

PHYSICALLY



VIRTUALLY



Youth Survey:
26th June – 16th July 2023

Youth Validation Workshop:
26th October 2023

Across **13** states and **3** federal territories

Over **80** hours of discussion

Over **1000** inputs received

Stakeholders Engaged

540+

279
Civil Society

Federal & State Government

170

71 Academia Researchers

22 Industry

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