Innovative Policy Recommendations:
Advancing Malaysia Through High-Quality Development

Malaysia Stay & Build 2024
Project Report

GIFT GLOBAL INSTITUTE FOR TOMORROW.

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Executive Summary

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Executive Summary (1/5)

Malaysia is on a transformative growth path guided by the Madani Framework, aiming to build an inclusive and prosperous nation. This growth is not merely about development for its own sake; it focuses on achieving high-quality development. This emphasis on quality is often overlooked, as traditional development approaches typically focus on quantitative metrics such as GDP growth and infrastructure expansion.

In light of this, the 2024 Malaysia Stay & Build Programme aims to develop a set of innovative policy recommendations that would spur **high-quality development in Malaysia**.

High-quality development, a concept that varies by country signifies, in the Malaysian context, not only progress that improves the wellbeing of its population but also recognises the existential threats facing societies, and thus the potential to do more by capitalising on its cultural and geographical strengths. High-quality development transcends the over-reliance on conventional economic indicators such as GDP, labour productivity, and consumer spending. It prioritises the quality of progress, highlighting environmental protection, social fairness, access to basic needs, and the literacy and educational attainments of the population, thereby addressing the broader needs of all Malaysians.

As part of the programme, 20 young leaders from various organisations completed a classroom Module in Kuala Lumpur and as part of their experiential learning journey, travelled to Kuching, Sarawak for the project-based learning.

This report summarises the cohort's project and fieldwork, during which they engaged with local community members and stakeholders from the public, private, and nonprofit sectors. Through these interactions, the cohort gained valuable grassroots insights that have shaped the findings and recommendations presented in this report.

Executive Summary (2/5)

The field work required the cohorts to develop policy recommendations for four key focus areas: **combating child malnutrition, developing quality teachers for the digital era, strengthening resilience against climate risks, and positioning Malaysia as a global biodiversity hub.**

The cohort's recommendations are organised in the following way:

- A unifying **Vision** for Malaysia, anchored on the concept of High-Quality Development
- **Guiding Principles** which describes broad objectives of each focus area
- Actionable **Targets**, each with measurable **Indicators**.
- A defining **Innovation Idea** that has the potential to reshape the landscape and drive transformative development, benefiting all Malaysians

The following summarise the overarching vision for Malaysia:

The Vision

To be an ASEAN leader by creating a model tropical economy, the foundations of which are: a healthy population, equitable access to quality education for all, effective environmental resource stewardship, a science-based approach to development and the use of appropriate technologies to deliver on a high-quality of life for all Malaysians.

Executive Summary (3/5)

The guiding principles for each focus areas are summarised below:

	Combating Child Malnutrition	Developing Quality Teachers for the Digital Era	Strengthening Resilience Against Climate Risks	Positioning Malaysia as a Global Biodiversity Hub
Guiding Principles	• Develop comprehensive early interventions from the onset of pregnancy to improve the long-term health and development of children. • Invest in health-tech innovations to monitor and analyse data to inform interventions. • Improve nutritional literacy to foster mindset shifts and behavioural change among children, parents and caretakers to nurture a healthier generation.	• Develop digital competencies among teachers skilled in utilising technology to integrate information in a meaningful way to enhance students' comprehension • Boost digital adoption of tools and technology devices among teachers and students to enhance the learning experience. • Improving access to digital infrastructure to ensure equitable access to learning opportunities	• Develop institutional capabilities and strengthen climate action rooted in scientific knowledge and data. • Enforce private sector accountability to mobilise resources and develop a comprehensive approach towards climate action. • Enhance civic engagement in climate resilience initiatives to empower community-driven responses.	• Valuing Biodiversity as Natural Capital and recognise the protection of critical ecosystems as a national imperative, underscoring the necessity of preserving habitats that deliver essential services • Invest in biodiversity research to encompass a broad spectrum of scientific inquiries, attracting both local and international talent • Enhance stakeholder ownership and empower them to act as stewards of biodiversity within their respective spheres of influence

Executive Summary (4/5)

The targets for each focus areas are summarised below:

	Combating Child Malnutrition	Developing Quality Teachers for the Digital Era	Strengthening Resilience Against Climate Risks	Positioning Malaysia as a Global Biodiversity Hub
Targets	• Introduce the MyMama App and the centralised data hub for children's nutrition in Sarawak by 2027 • Reduce stunting rate in Sarawak to 5% within the next 15 years • Establish public service announcement budget related to nutrition by 10% of the allocated health budget of Sarawak • Implement compulsory nutritional check and record for children under 5 years and increase participation to more than 80% by 5 years.	• To establish training centres in 6 regions by 2027 • To boost the usage of DELIMa in schools by 2025 and raise the digital competency of teachers to at least an intermediate level from 40% to 60% by 2027 • Ensure that 60% of public schools are equipped with sufficient digital infrastructure by 2027	• To allocate at least 10% from the National Annual Budget specifically for R&D in climate science in 2025 • Setting emission reduction target of 30% by 2035 • Implement green procurement practices 30% of all private sector companies starting in 2027 • Increase awareness among Malaysians on climate change to inspire mindset shifts and behavioural change.	• To establish the leading tropical rainforest Biodiversity R&D centre by 2030 • Zero incursion of designated biodiversity hotspot by 2030 • Increase awareness among civil servant and policy makers by incorporating mandatory course on biodiversity by 2030 • Increase accountability within corporate sectors

Indicators tied to each target can be found later in this report

Executive Summary (5/5)

The cohort came up with a defining innovation idea that could change the landscape of the four focus areas. The innovation ideas are summarised below:

	Proposed Innovation Idea	Description		The Value Add
Health	 MyMama App & Centralised Nutrition Hub	Develop a platform that collects key nutritional information from expecting women and mothers of newborns, providing tailored advice for mothers to make informed nutritional decisions.	>	Establish a mechanism for the government to collect nutritional data to support better decision-making and implement timely interventions to prevent child malnutrition .
Education	 Digital Teachers Training Academy	Establish a training academy that provides targeted programmes to bridge the gap in teachers' digital skills to prepare future generations for a hyper-digital environment.	>	Empower teachers to become tech-savvy innovators, while providing them with an avenue for upskilling and professional development. Their salaries will commensurate their proficiency levels as they progress.
Climate Change	 National Data Repository for Climate Sciences	Establish a centralised national repository to gather, monitor, and record real-time climate science data to strengthen the nation's resilience against climate risks.	>	Adopt a science-based approach to facilitate decision making among government authorities, leveraging on the technological capabilities of mobile network operators.
Biodiversity	 Global R&D Centre on Tropical Rainforest Biodiversity	Introduce a Biodiversity Tax on corporations in the resource sector to establish a global R&D Centre with the purpose of advancing scientific knowledge on tropical rainforests and preserve the region's valuable biodiversity.	>	Preserve Malaysia's natural capital and position the country as a leader in environmental stewardship and tropical scientific advancement.

Malaysia Stay & Build 2024 Programme Introduction

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Programme Background

The Global Institute For Tomorrow (GIFT) is an independent pan-Asian think tank based in Kuala Lumpur and Hong Kong. Its core mission is to enhance understanding of the most crucial drivers of change in our world, and foster thinking to reshape societies, paving the way for a more sustainable future and resilient society particularly in Southeast Asia.

The annual Malaysia Stay & Build (MS&B) leadership development programme is designed to motivate young Malaysian leaders from both the public and private sectors to become effective leaders and active citizens with a "new vision" for Malaysia.

The cohort convened in Kuala Lumpur from 10th to the 14th of June for classroom sessions, followed by site visits, stakeholder meetings, and policy guideline development sessions in Sarawak from 29th of June to the 5th of July.

Cohort Background

A group of 20 participants from across Malaysia representing various sectors, including business and government, came together to take part in the MS&B Programme. Participants came from a wide range of roles, including Scientists, Agricultural Experts, Human Resource Professionals, Function Heads, Finance and Strategy Directors, among others.

Participating Organisations:

INTER-PACIFIC SECURITIES SDN. BHD.
SD Guthrie
KWAP
UN Global Compact Network Malaysia & Brunei
BEP AKITEK SDN BHD architecture, planning + landscape consultancy
FGV
KEMAIH
BERJAYA
GIFT .ed
Boustead Holdings Berhad
Sapura Secured Technologies
CIMB
PETROS
MSM
TABUNG HAJI

Project Stakeholders

The stakeholders represent a diverse array of institutions, including various ministries from the Government of Sarawak, civil societies, social enterprises, local communities, policymakers, educators and health practitioners.

This broad representation ensures a wide range of perspectives, including experts within each Key Focus Area, were taken into account as part of data collection and grassroot insights.

- Sarawak Eco Warriors
- Institute of Biodiversity and Environmental Conservation UNIMAS
- Lawyer Kamek
- Kg Bako Tengah Community & Kg Bako Hilir Community
- Bako National Park
- Sarawak Biodiversity Centre
- Ministry of Energy and Environmental Sustainability Sarawak
- Natural Resources and Environment Board, Sarawak
- Ministry of Natural Resources & Urban Development
- Angkatan Pertahanan Awam Malaysia
- Ministry of Public Health, Housing and Local Government Sarawak
- Chumbaka
- Sarawak Teachers' Union
- Kampung Tringgus
- UNIMAS Teaching Hospital
- Sekolah Kebangsaan Buntal, Kuching, Sarawak.
- Ministry of Education, Innovation and Talent Development Sarawak
- Centre for Technology Excellence Sarawak
- Sarawak Digital Economy Corporation Berhad
- Yourgut BB, Kuching
- Dr. Chin (Children Specialist)
- Ministry of Women, Early Childhood and Community Wellbeing Development
- Jabatan Kesihatan Negeri Sarawak
- Normah Medical Specialist Centre

Project Background

High-Quality Development in Malaysia

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About Malaysia

Malaysia, a Southeast Asian nation with a population of approximately 34 million people, covers an area of about 330,000 square kilometres. The country is divided into two main regions: Peninsular Malaysia and Malaysian Borneo, separated by the South China Sea.

Since gaining independence in 1957, Malaysia has significantly transformed its economy, evolving from reliance on agriculture and commodities to becoming a powerhouse in manufacturing and services. This shift has positioned Malaysia as a leading global exporter of electrical appliances, parts, and components, facilitating rapid economic growth that elevated the nation from low-income to upper-middle-income status within a generation.

Malaysia's strategic geographic location at the crossroads of major shipping routes between the East and West makes it an ideal hub for international trade. The country has established extensive global trade ties, engaging with 90% of countries worldwide, which exceeds the reach of many regional competitors. The Malaysian economy is projected to grow between 4% - 5% in 2024, driven mainly by continued expansion in domestic demand and resilient expenditure, along with additional support from the expected export recovery.

The nation’s geography is defined by its tropical climate and varied landscapes, boasting lush rainforests, extensive mangrove forests along the coastlines, and rolling hills with mountainous regions. The coastline features sandy beaches and vibrant coral reefs, providing rich marine habitats. Numerous rivers and lakes traverse the land, supporting agriculture and daily life. Abundant rainfall from monsoon seasons fosters fertile lands and diverse ecosystems, making the country a hub for tourism, agriculture, and fishing.

The Concept of "High-Quality Development"

As Malaysia continues on its developmental trajectory in the pursuit of attaining high-income status, it is important to consider what the nation is ultimately trying to achieve. While high-income status is a crucial indicator of economic health and provides the necessary resources for development, it does not automatically equate to a high-quality of life for its citizens or narrow the inequality gap in access to healthcare, education, livelihoods, and wellbeing.

To genuinely progress, Malaysia must broaden its development framework beyond mere economic output. Economic growth is essential, but it should be integrated with policies that promote environmental protection, social equity, and equitable access to basic needs. A narrow focus on economic metrics alone risks neglecting these fundamental human wellbeing and sustainable development aspects.

Efforts to move beyond traditional economic growth metrics like GDP and focus on a more holistic approach to development have since birthed other developmental concepts and approaches. One such example is the Chinese concept of high-quality development, where the government has shifted its focus from sheer economic expansion to a balanced approach that incorporates social equity, environmental sustainability, and improved quality of life

Applying the concept of high-quality development in the Malaysian context means enhancing the wellbeing of its people while leveraging cultural and geographical strengths. This approach, which is comprehensive in nature, moves beyond traditional economic metrics like GDP, labour productivity, and consumer spending to prioritise the quality of progress. It emphasises environmental protection, social equity, access to essential needs, and improvements in literacy and education, thereby addressing the comprehensive needs of all Malaysians.

By embracing a high-quality development paradigm, Malaysia can achieve more meaningful and sustainable advancement, ultimately improving the overall quality of life for its population.

The Rationale for the Selected Key Focus Areas

While many other areas can be considered under the over-arching theme of high-quality development, this programme has narrowed down **four focus areas** based on their **urgency, significance and potential to propel Malaysia** into a future of high-quality development, where progress is synonymous with the wellbeing and advancement of all its citizens.

Each focus area has been chosen for its ability to address pressing local challenges and harness opportunities that align with the vision of high-quality development for Malaysia.

Health is the foundation of a thriving society. Addressing child malnutrition is not only crucial for ensuring physical and cognitive development but also for fostering a capable and productive population. A well-nourished generation will drive Malaysia's future economic growth and innovation.

Education is equally vital for national development. Providing children with essential skills for the digital era through quality teachers and modern educational infrastructure will prepare Malaysia's youth to meet global challenges and seize new opportunities. Investing in education will create a knowledgeable and skilled workforce ready to compete on the world stage.

Climate change presents significant risks, with **natural disasters** becoming increasingly frequent and severe. Enhancing resilience against climate risks is essential for protecting lives, preserving livelihoods, and maintaining economic progress. Proactive measures to combat climate change will safeguard Malaysia's development gains and ensure long-term sustainability.

Biodiversity is a key component of Malaysia's natural wealth and ecological balance. By preserving its biodiversity, Malaysia not only protects its natural heritage but also promotes a healthy environment that supports the wellbeing of its people and contributes to global biodiversity conservation efforts.

The Project Location: Sarawak

Sarawak, Malaysia's largest state, stands out due to its distinct historical, political, and administrative context.

The state enjoys a significant degree of legislative autonomy compared to Peninsular Malaysian states, enabling it to enact laws on matters typically under federal jurisdiction. This autonomy extends to unique powers such as immigration control and the management of its natural resources.

Sarawak's policies strongly emphasise rural development, reflecting the state's geographical and demographic characteristics. Significant efforts have been made by the state government there to improve infrastructure, healthcare, and education in interior regions, aiming to bridge the development gap between urban and rural areas. While healthcare and education are federally managed in Peninsular Malaysia, Sarawak plays a complementary role by addressing local challenges and supporting the state's developmental objectives.

In recent years, Sarawak has recognised the importance of sustainable development, integrating climate action into its core policies. The state's focus on decarbonisation, energy transition, and green economy development has positioned it as a regional leader in hydrogen fuel and renewable energy initiatives. This shift towards sustainability is environmentally prudent and essential for long-term economic resilience.

Sarawak's distinct policies are reflective of its unique status within Malaysia. The state enjoys greater autonomy in resource management and cultural preservation, which directly contributes to formulating better policies. As a result, Sarawak serves as an excellent starting point for innovating new policies that can be applied not only within the state but also across the entire country, ultimately contributing to a more prosperous Malaysia. It is precisely this distinctiveness that led to Sarawak being chosen as the project location.

The Innovation Model and Vision

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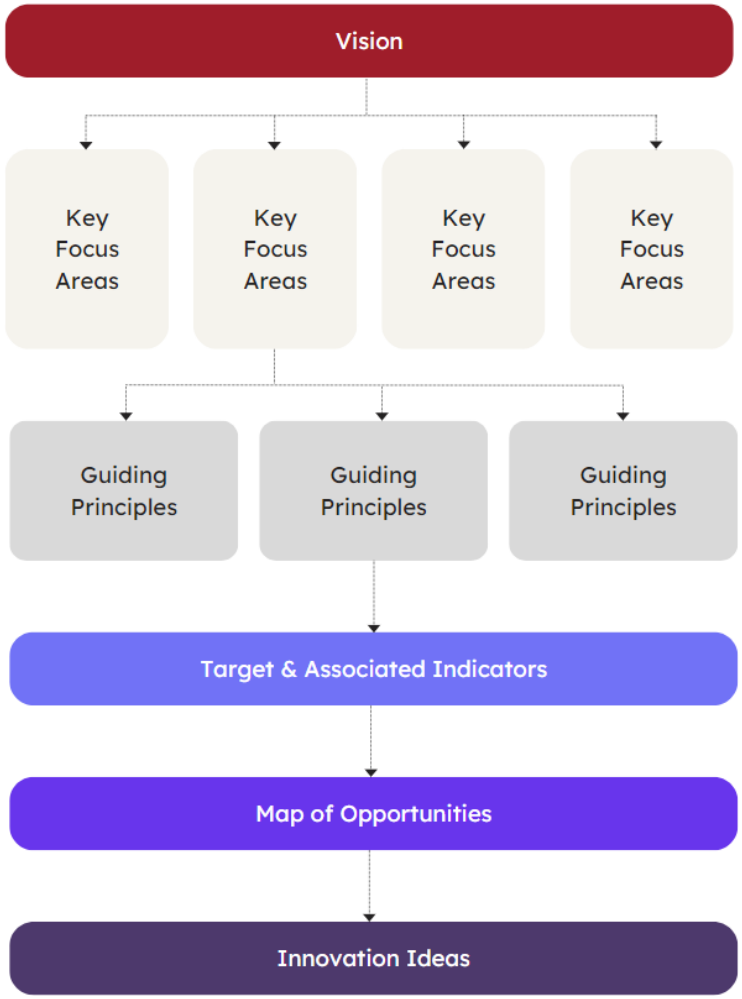
Project Approach: The Innovation Model

The objective of the 2024 Malaysia Stay and Build programme is to develop a set of innovative policy recommendations that would advance Malaysia through high-quality development. These recommendations include practical targets and measurable indicators to achieve the proposed vision.



The Innovation Model

1. The process starts with developing a single **Vision** that designates a clear overarching goal for high-quality development in Malaysia.

2. This vision is elaborated through **Guiding Principles**, which describe broad objectives in four Key Focus Areas: Child Malnutrition, Education, Climate Resilience and Biodiversity.

3. A set of **Targets** is then developed to convert these guiding principles into actionable objectives, each backed by a series of measurable **Indicators**. These targets and indicators are used to inspire new innovations for high-quality development in Malaysia.

4. A target is then chosen to develop into a **Map of Opportunities** that illustrates the relationships and pain points between key stakeholders. This map shows particular areas where innovation can play a major role in achieving the vision for high-quality development in Malaysia.

5. Finally, pain points highlighted in the Map of Opportunities are used to inspire social, policy or technological **Innovations** that would in turn support achievement of the targets.

The Vision

To be an ASEAN leader by creating a model tropical economy, the foundations of which are: a healthy population, equitable access to quality education for all, effective environmental resource stewardship, a science-based approach to development and the use of appropriate technologies to deliver on a high-quality of life for all Malaysians.

Combating Child Malnutrition in Malaysia

Guiding Principles, Targets, Indicators, Innovation Idea

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Combating Child Malnutrition: Introduction

Malaysia faces a triple burden of child malnutrition, categorised by the simultaneous presence of wasting, stunting, and overweight.

The average Malaysian rate of child wasting is 9.7%, stunting at 21.8%, and overweight at 5.2%, highlighting the severity of the malnutrition issue in Malaysia, which poses significant challenges to the nation's public health and future development.

The first 1,000 days of a child's life are critical for physical and mental development and establishing lifelong health. Malnutrition during these early years can have irreversible consequences, leading to prolonged health issues, non-communicable diseases, obesity, and developmental delays in cognitive and intellectual abilities. Thus, there is a clear impetus to ensure adequate nutrition during this crucial window for children to reach their full potential.

Key contributors to child malnutrition in Malaysia include low nutrition literacy levels, financial poverty, and time poverty. Low nutrition literacy means many parents and caregivers are unaware of what constitutes a balanced diet for their children, leading to poor dietary choices. Financial poverty restricts access to nutrient-rich foods, while time poverty – resulting from long working hours and other commitments – limits the ability to prepare healthy meals at home. The pervasive presence and access to cheap industrialised foods with empty calories and the lack of healthier alternatives exacerbate these issues. Together, these factors create a challenging environment for achieving proper child nutrition.

In light of these challenges, this report section presents policy recommendations, supported by a map of opportunities that illustrates the relationship and key pain points between key stakeholders and a technological innovation to combat child malnutrition using Sarawak as the project pilot.

Combating Child Malnutrition: Guiding Principles

Develop Comprehensive Early Interventions

Drive effective and targeted initiatives from the onset of pregnancy to improve the long-term health and development of children

Invest in Health-Tech Innovation

Utilise appropriate technology to monitor and analyse data to inform interventions

Improve Nutritional Literacy

Develop literacy to foster mindset shifts and behavioural change among children, parents and caretakers to nurture a healthier generation

Combating Child Malnutrition: Targets & Indicators

Guiding Principle 1: Develop Comprehensive Early Interventions

To prevent further cases of stunting in Malaysia, comprehensive and early interventions are crucial in enhancing the long-term health and development of the entire population.

	Target	Indicators
Develop Comprehensive Early Interventions	To reduce stunting rate in Sarawak to 5% within the next 15 years	• To achieve stunting rate of 15.8% in 3 years • To achieve stunting rate of 11.7% in 6 years • To achieve stunting rate of 5.0% in 15 years
	Implement compulsory nutritional check and record for children under 5 years and increase participation to more than 80% by 5 years	• Increased programme participation to exceed 50% within three years. • Increased programme participation to exceed 80% within five years.

Combating Child Malnutrition: Targets & Indicators

Guiding Principle 2: Invest in Health-Tech Innovation

Availability of data is critical for targeted interventions against child malnutrition. It enables timely and efficient resource allocation, supports informed decision-making to ensure that interventions carried out to improve child nutrition can be more precise, effective, and impactful.

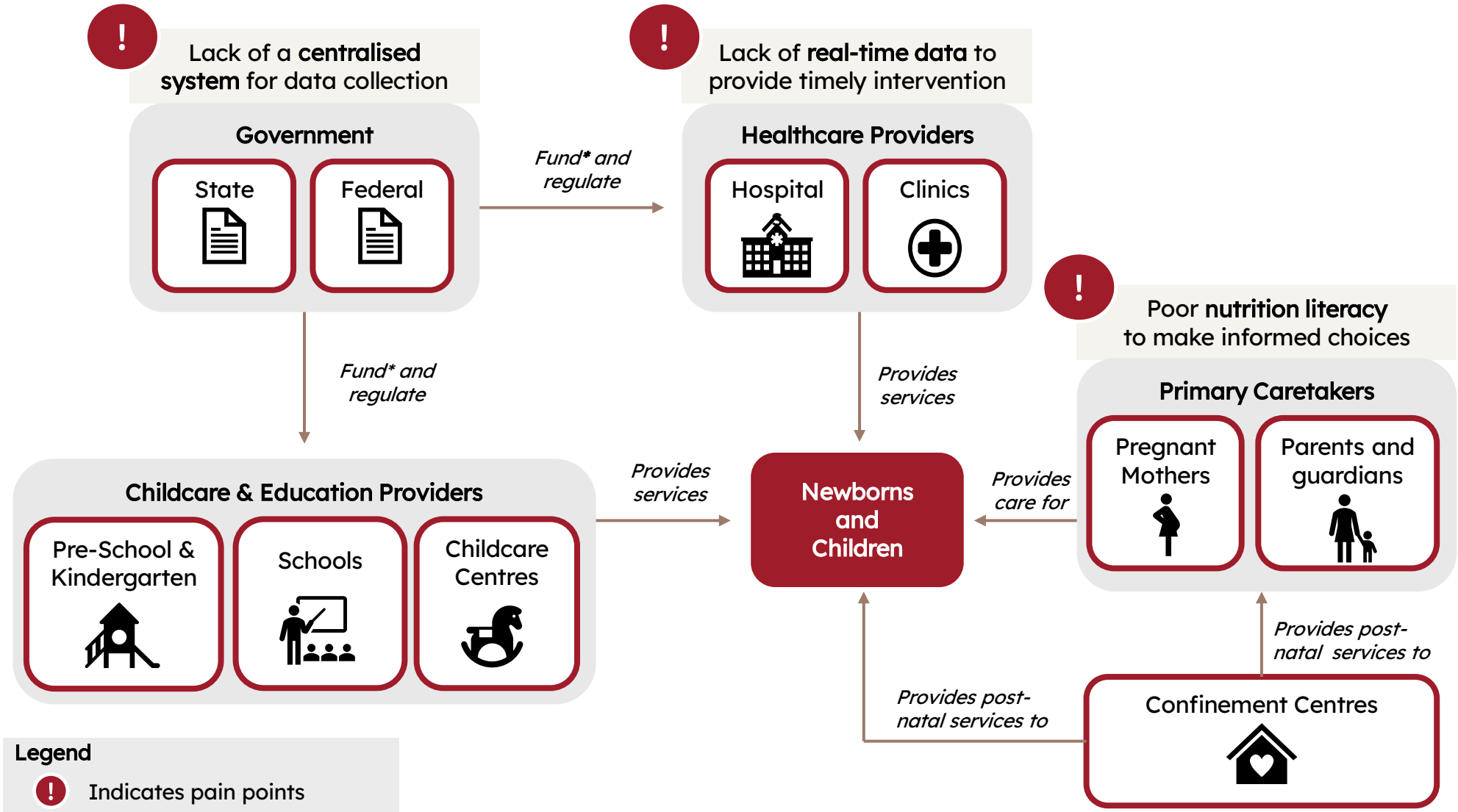
	Target	Indicators
Invest in Health Tech Innovation	Introduce the MyMama App and the centralised data hub for children's nutrition intake to be utilised by the Sarawak government by 2027	• 2025: Procurement & Approval • 2026 Q1: Introduction of MyMama App to pregnant mothers and mothers of newborn • 2026 Q4: Introduction of MyMama App to early childhood institutions • 2027 1H: 90% adoption among pregnant mothers and mothers of newborn; 50% adoption in early childhood institutions

Guiding Principle 3: Improve Nutritional Literacy

Public service announcements (PSAs) on good nutrition play a crucial role in raising awareness about the importance of balanced diets. They encourage healthier eating habits, enhance public health, and support informed food choices by parents and caretakers. By effectively leveraging PSAs, governments and health advocates can drive significant improvements in national eating behaviours and overall public health outcomes.

	Target	Indicators
Improve Nutritional Literacy	Establish public service announcement budget related to nutrition by 10% of the allocated health budget of Sarawak to boost community.	• Increased awareness of above 50% on targeted Sarawak population in 3 years. • Increased awareness of above 80% on targeted Sarawak population in 5 years.

Combating Child Malnutrition: Map of Opportunities



Combating Child Malnutrition: Innovation Idea (1/3)

The first 1,000 days of life are crucial for human development, and the diets of pregnant mothers and newborns during this period greatly impact a child's growth, learning, and overall development. Early monitoring of these diets is essential for effective intervention.

The proposed MyMama mobile application, supported by a Centralised Data Hub, is a targeted approach to combat child malnutrition. The MyMama app will be introduced by healthcare providers to all registered mothers from the onset of pregnancy. It offers a platform for mothers to log their pregnancy progress weekly and receive tailored dietary recommendations through in-app notifications and reminders to consult a doctor.

Post-delivery, the app continues to serve by allowing mothers to input their newborn's food intake and health information. This data is securely managed by the Ministry of Health (MOH) and used by the government to facilitate timely and effective interventions to enhance public health strategies and address child malnutrition.

Expecting mothers and mothers of newborns will be incentivised to log their progress through the following:

- Food vouchers and discounts to encourage healthy eating choices through MOH's collaboration with health food industries.
- Dietary supplements will also be provided by healthcare professionals during routine check-ups

Data input

For pregnant mothers

- Food intake
- Medicine intake
- Supplement intake
- Blood pressure
- Sleep patterns
- Exercise routines
- General Mood

For children

- Breastfeeding and formula feeding frequency and duration
- Food intake
- Weight and height measurements
- Duration and frequency of naps

Combating Child Malnutrition: Innovation Idea (2/3)

Centralised Data Hub

Equipped with AI capabilities to make predictive analyses, the Centralised Data Hub aims to support the government's efforts in policy and decision making by generating the following insights:

- Guide the allocation of resources to areas and populations that is in need.
- Facilitate the identification of trends and patterns in child nutrition over time.
- Assess the effectiveness of nutrition programmes and interventions.
- Enable early detection of nutritional deficiencies and malnutrition issues, while promoting timely and targeted initiatives

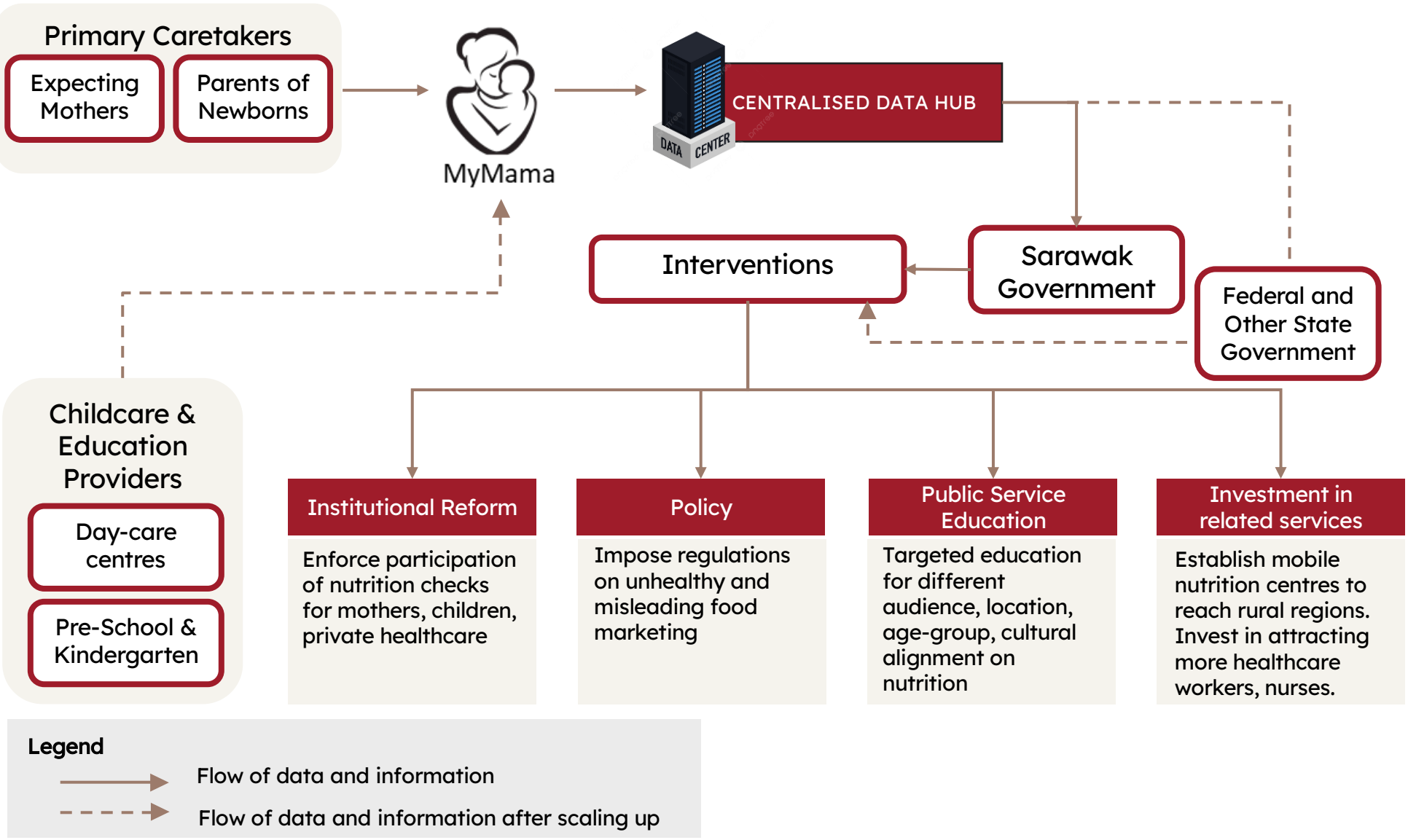
<u>Scaling up across early childhood institutions and across the state</u>

Upon successful implementation, the MyMama app can be extended to pre-schools, kindergartens, and day care centres to further monitor and support children's nutritional intake beyond the initial stages of early childhood. By integrating the app into these educational and care settings, we can ensure continuous oversight of children's diets as they transition from home to early education environments. To facilitate and encourage the adoption of the app, grants and food incentives could be provided to participating institutions. These incentives would help cover the costs of integrating the app into their daily routines and motivate staff to actively use the app for tracking and improving children's nutrition.

Demonstrating the success of the MyMama app in reducing child malnutrition in Sarawak will provide a valuable proof of concept. Positive outcomes from this initial implementation can be used to justify and support the expansion of the app's use across the entire nation. By showcasing tangible improvements in child nutrition, this pilot phase will build confidence in the app's effectiveness and pave the way for a broader rollout. This nationwide adoption will further strengthen the comprehensive approach to child nutrition, ensuring consistent support for healthy development throughout early childhood.

This broader application of the MyMama app would enhance its impact, fostering a comprehensive approach to child nutrition that supports healthy development throughout early childhood.

Combating Child Malnutrition: Innovation Idea (3/3)



Developing Quality Teachers in the Digital Era

Guiding Principles, Targets, Indicators, Innovation Idea

GIFT

Developing Quality Teachers for the Digital Era: Introduction

In today's educational landscape, teachers are expected to navigate a complex array of digital tools and platforms, from learning management systems to virtual classrooms. However, a staggering 85% of Malaysian teachers reported feeling ill-prepared for this digital shift in a survey conducted by Microsoft and IDC Asia Pacific. This alarming statistic underscores the pressing need for holistic digital training programmes to equip educators with the requisite skills to thrive in the digital age.

Currently, courses taught at Institut Pendidikan Guru (IPG), or Teacher Education Institutions, include digital and technological components within various subjects but lack standalone courses to develop deeper familiarity with these tools. Furthermore, many teachers who have left IPGs years ago have limited opportunities to develop an understanding of the capabilities and potential of technology that can be integrated into classrooms. Without proper training, teachers cannot fully leverage the potential of digital technologies, leaving students at a significant disadvantage.

The Malaysian Education Blueprint 2013-2025 outlines a comprehensive roadmap for transforming the nation's education system to meet the challenges of the 21st century. This blueprint encompasses improvements in curriculum and assessment, teacher quality, school leadership, and infrastructure. It also emphasises the importance of leveraging technology and innovation to enhance teaching and learning experiences. However, as the timeline approaches its conclusion, the anticipated results of the Malaysian Education Blueprint 2013-2025 have yet to fully materialise.

This section of the report presents policy recommendations supported by a map of opportunities that illustrates the relationships and key pain points among stakeholders within the education sector. Additionally, it explores an innovative idea that goes beyond providing teachers with digital training recognised by industry experts. This proposal introduces a progressive wage system that aligns teachers' professional development with their compensation, incentivising continuous learning and skill enhancement

Developing Quality Teachers for the Digital Era: Guiding Principles

Develop Digital Competencies among Teachers

Cultivate digitally literate and competent teachers who excel not only in the technical skills of their subject but also in utilising technology to integrate information in a meaningful way to enhance students' comprehension

Boost Digital Adoption

Foster the adoption of digital tools and technology devices among teachers and students to enhance the learning experience.

Improving Access to Digital Infrastructure

Ensure the availability of basic digital infrastructure in schools nationwide for equitable access to learning opportunities.

Developing Quality Teachers for the Digital Era: Targets & Indicators

Guiding Principle 1: Develop Digital Competencies among Teachers

Promote digital literacy as a core skill for all subject teachers such that they are able to effectively integrate technology into teaching practices and prepare students for a digitally driven world. This helps bridge the digital divide among teachers to ensure that students nationwide have access to digitally trained teachers to prepare them for the digital era.

Develop Digital Competencies among Teachers

Target

To raise the digital competency of teachers to at least an intermediate level* from 40%** to 60% by 2030 through the establishment of a Digital Teacher Training Academy (DiTTA) in 6 regions

- Central (Kuala Lumpur, Selangor and Negeri Sembilan)
- North (Penang, Perlis, Kedah, Perak)
- South (Johor, Malacca)
- East (Kelantan, Pahang, Terengganu)
- Sabah
- Sarawak

Indicators

- Enroll 20,000 school teachers across primary and secondary schools in DiTTA by 2027 to develop basic levels of digital competencies, with an increase in enrolment rate of 8% annually
- 80,000 school teachers graduate from DiTTA's intermediate course by 2030.

*outlined by the European Framework for Digital Competence of Educators
**based on findings from the 2023 Digital Education Policy

Developing Quality Teachers for the Digital Era: Targets & Indicators

Guiding Principle 2: Boost Digital Adoption

Digital adoption among teachers and students is crucial as it not only maximises the use of existing available resources but also enhances learning experiences and engagement through interactive resources.

	Target	Indicators

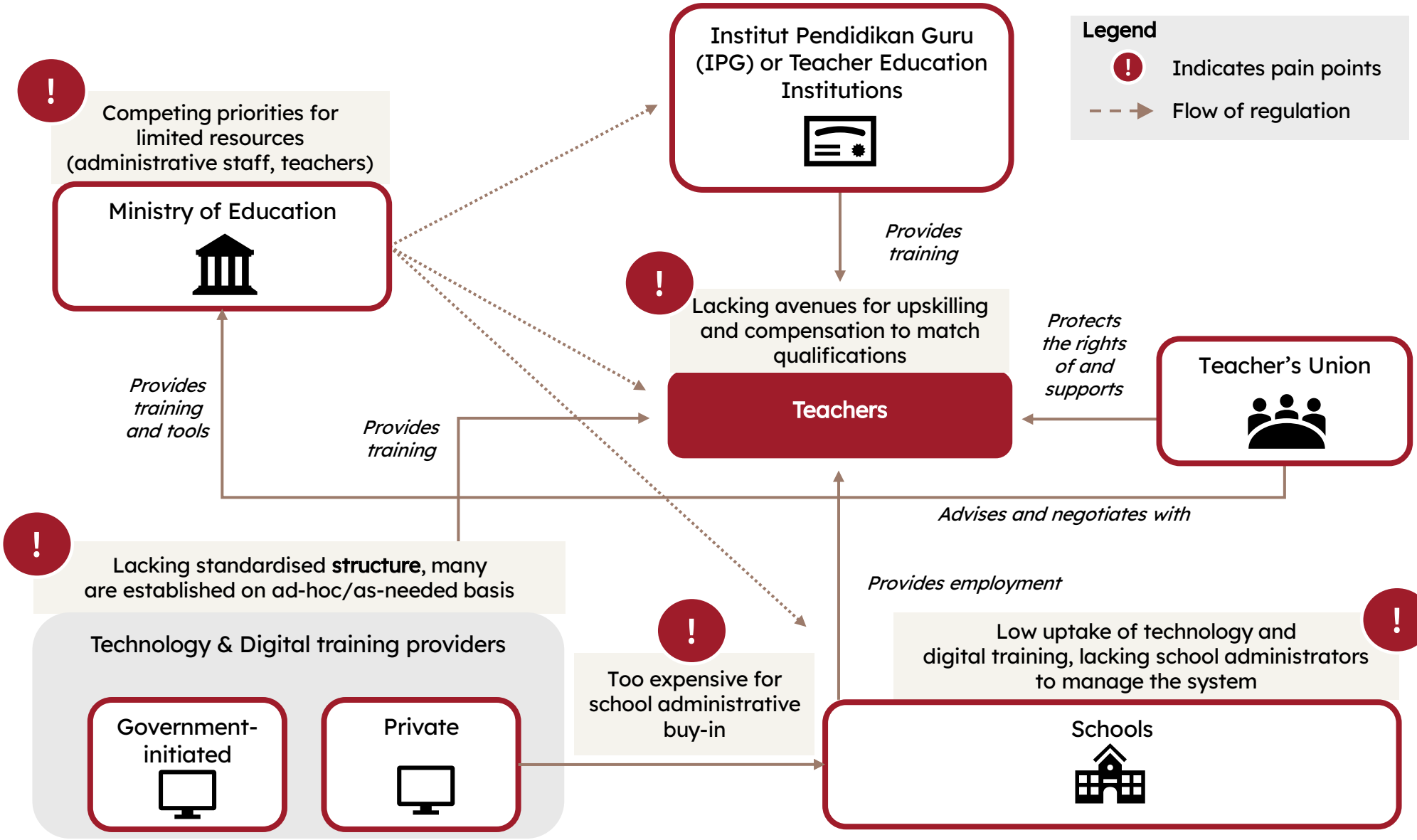
Boost Digital Adoption	To boost the usage of DELIMa to 100% in schools amongst students and teachers by 2025	• DELIMa usage grows:
		  • From 85% to 95% among students by 2025
		  • From 99.5% to 100% among teachers by 2025

Guiding Principle 3: Improving Access to Digital Infrastructure

Increasing investments in digital infrastructure such as computers, laptop and internet connectivity such that all students, regardless of their location and socio-economic background, have equitable access to digital resources and learning opportunities.

	Target	Indicators
Improving Access to Digital Infrastructure	Ensure that 60% of public schools are equipped with sufficient digital infrastructure by 2027 with a computer to student ratio of 1:10	• Partner with technology companies to equip schools with digital infrastructure such as computer, laptops, broadband and internet connectivity. • Achieve a computer to student ratio of 1:12 by 2026

Developing Quality Teachers for the Digital Era: Map of Opportunities



Developing Quality Teachers for the Digital Era: Innovation Idea (1/2)

The proposed establishment of the Digital Teaching Training Academy (DiTTA) transcends basic digital literacy by focusing on practical skills essential for the modern educational landscape. DiTTA aims to equip teachers with the ability to plan digital learning, utilise educational technology platforms, and integrate interactive multimedia content effectively.

A core feature of DiTTA is introducing a progressive wage system by the Ministry of Education. This system recognises and rewards teachers as they advance through various course levels. Upon completion of each level, teachers receive a certificate of achievement, and their salaries are adjusted to reflect their new qualifications.

Teachers will have access to industry-recognised courses that impart the necessary tools and skills for the digital era. This structured training ensures teachers from diverse subject fields can collaborate, share innovative ideas, and enhance classroom delivery using digital tools.

DiTTA is not merely about imparting digital skills; it is about empowering teachers to become champions of digitalisation within the education system. By fostering a supportive community through workshops and collaborative opportunities, DiTTA fuels teacher innovation and facilitates a platform where educators can share ideas, ask questions, and learn from each other.

Academy features

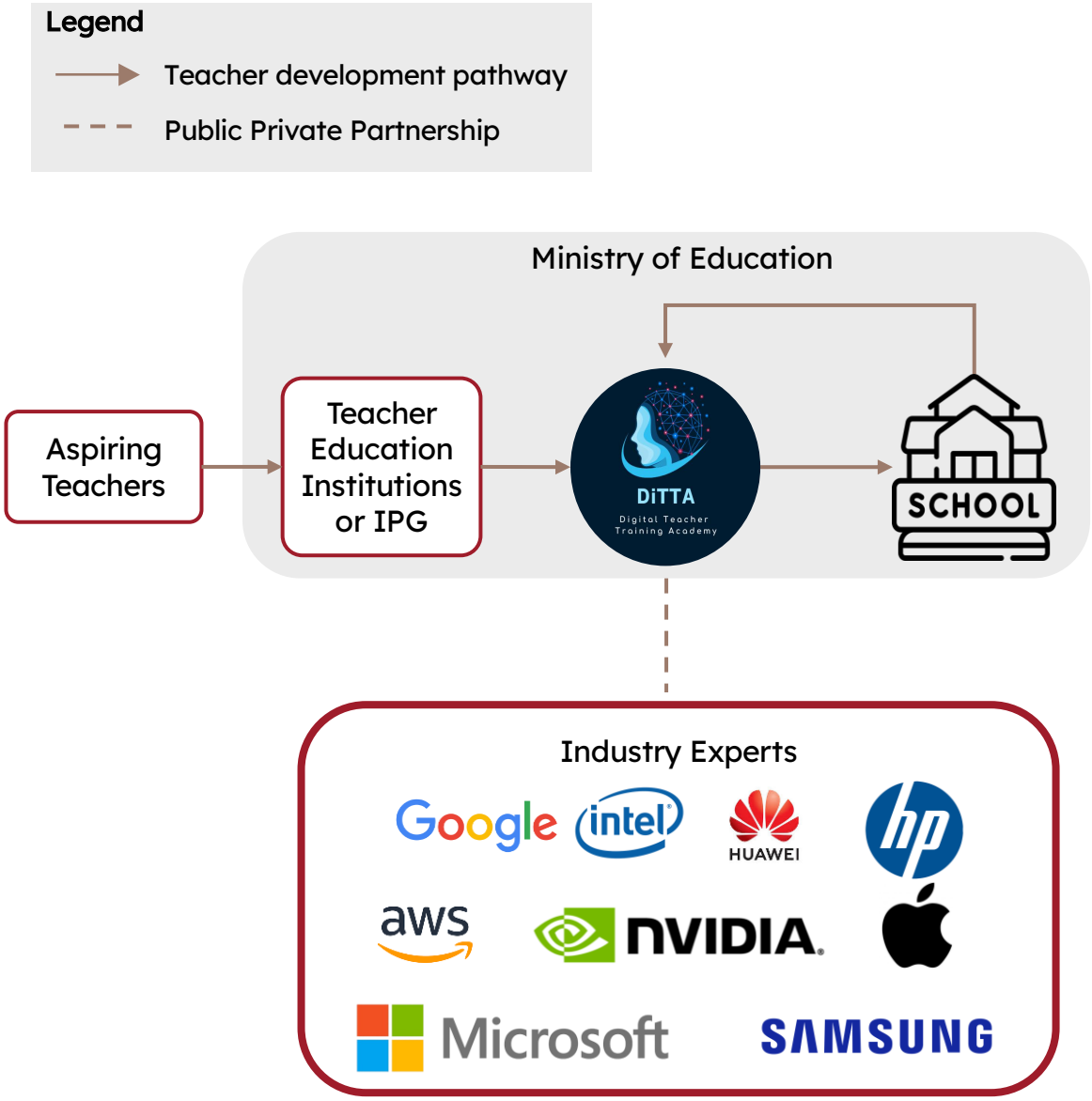
Structured syllabus
- Curriculum designed based on competency levels
- Progressive learning paths tailored to different skill sets

Digital tools and pedagogical integration
- Training to use cutting-edge digital tools
- Emphasis on integrating technology with teaching methodologies

Subject-specific digital applications
- Custom applications for various subjects
- Resources and tools tailored to enhance subject-specific teaching

Incentivised teacher development
- Compensation adjustments based on qualifications
- Progressive wage system to reward continuous professional development

Developing Quality Teachers for the Digital Era: Innovation Idea (2/2)



By fostering collaboration with the industry, the Ministry of Education can significantly enhance access to digital devices in schools, thus helping to bridge the digital divide.

A robust public-private partnership can facilitate the involvement of tech experts who conduct training sessions, imparting industry-specific and technical knowledge to teachers enrolled in the Digital Technology and Teaching Academy (DiTTA). This collaboration ensures that educators remain adept with the latest digital tools and technologies. Moreover, it provides teachers with industry-recognised qualifications, bolstering their professional credentials and equipping them with the necessary skills to integrate advanced digital methodologies into their teaching practices. Such a partnership not only uplifts the quality of education but also prepares students to thrive in an increasingly digital world.

Strengthening Resilience Against Climate Risk

Guiding Principles, Targets, Indicators, Innovation Idea

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Strengthening Resilience Against Climate Risks: Introduction

Climate risks refer to the potential adverse effects and hazards that arise due to climate change, impacting both natural and human systems. These risks encompass a wide range of consequences, affecting ecosystems, human health, infrastructure, and economies, with long-term implications for economic stability and public health.

While Malaysia is geographically shielded from natural disasters such as earthquakes, tsunamis, and typhoons, it is vulnerable to frequent floods and landslides caused by monsoon seasons and human activities. Despite the implementation of proactive measures like the Flood Mitigation Plan unveiled by the government in 2022, recent assessments by environmental experts suggest that Malaysia remains inadequately prepared for future flood events. The Flood Mitigation Plan marked a significant step towards addressing these challenges by focusing on infrastructure improvements, early warning systems, and community preparedness. However, the scale and frequency of recent disasters have underscored gaps in current strategies and highlighted the need for more comprehensive, science-based approaches.

This section of the report presents policy recommendations and a map of opportunities that illustrates the relationships and impacts of climate change. It also proposes public-private partnerships, leveraging the existing capabilities of mobile network operators, to better prepare for climate risks. This collaborative effort aims to enhance early warning systems, improve infrastructure resilience, and foster community preparedness, ensuring a more robust response to future climate challenges.

Strengthening Resilience Against Climate Risks: Guiding Principles

Develop Institutional Capability

Develop **institutional capabilities** and strengthen climate action rooted in scientific knowledge and data.

Enforce Private Sector Accountability

Enhance **private sector engagements** and public-private partnerships to mobilise resources and develop a comprehensive approach towards climate action.

Enhance Civic Engagement

Encourage **active civil involvement** in climate resilience initiatives to empower community-driven responses.

Strengthening Resilience Against Climate Risks: Target and Indicators

Guiding Principle 1: Develop Institutional Capability

Malaysia's insufficient action on climate risks is largely due to a lack of institutional capacity to integrate scientific knowledge into policymaking, coordinate across sectors, and mobilise resources effectively. This shortfall is evident in the rising frequency of flash floods and landslides despite existing government initiatives and warnings from climate scientists. Therefore, investing in the necessary talent, infrastructure, and technology is essential to improve data analysis, policy development, and disaster management capabilities.

	Target	Indicators
Develop Institutional Capability	Mandate all government agencies to employ a minimum number of personnel with specialised qualifications in climate science and sustainability	Increase the number of climate-qualified personnel across all government agencies starting with 100 by the end of 2025, and increasing it annually by 10%
	To allocate at least 10% from the National Annual Budget specifically for R&D in climate science in 2025	Increased number of deployable technology by 25% from the amount invested in the following sector by 2027: a) Agriculture and food b) Energy generation c) Transportation d) Built environment

Strengthening Resilience Against Climate Risks: Target and Indicators

Guiding Principle 2: Enforce Private Sector Accountability

Without robust incentives and regulatory frameworks that mandate accountability, private sector efforts will remain misaligned with national climate goals, leading to fragmented and short-term solutions. Therefore, enhancing private sector engagement is crucial for mobilising resources and fostering public-private partnerships essential for comprehensive climate action.

	Target	Indicators
Enforce Private Sector Accountability	Setting emission reduction target of 30% by 2035	Companies working on these sectors must report annual decreases in their emissions a) Transport b) Agriculture c) Construction
	Mandate that all private sector companies, including Small and Medium Enterprises, allocate at least 30% of their procurement budgets to environmentally friendly products and services by 2027	Provide all companies with green procurement guidelines by 2025 and extend provisional support to connect companies to Green Purchasing Network to support their transition. Enforce annual reporting of green procurement supplemented with justification for purchase, and provide proof of the company's environmental impact

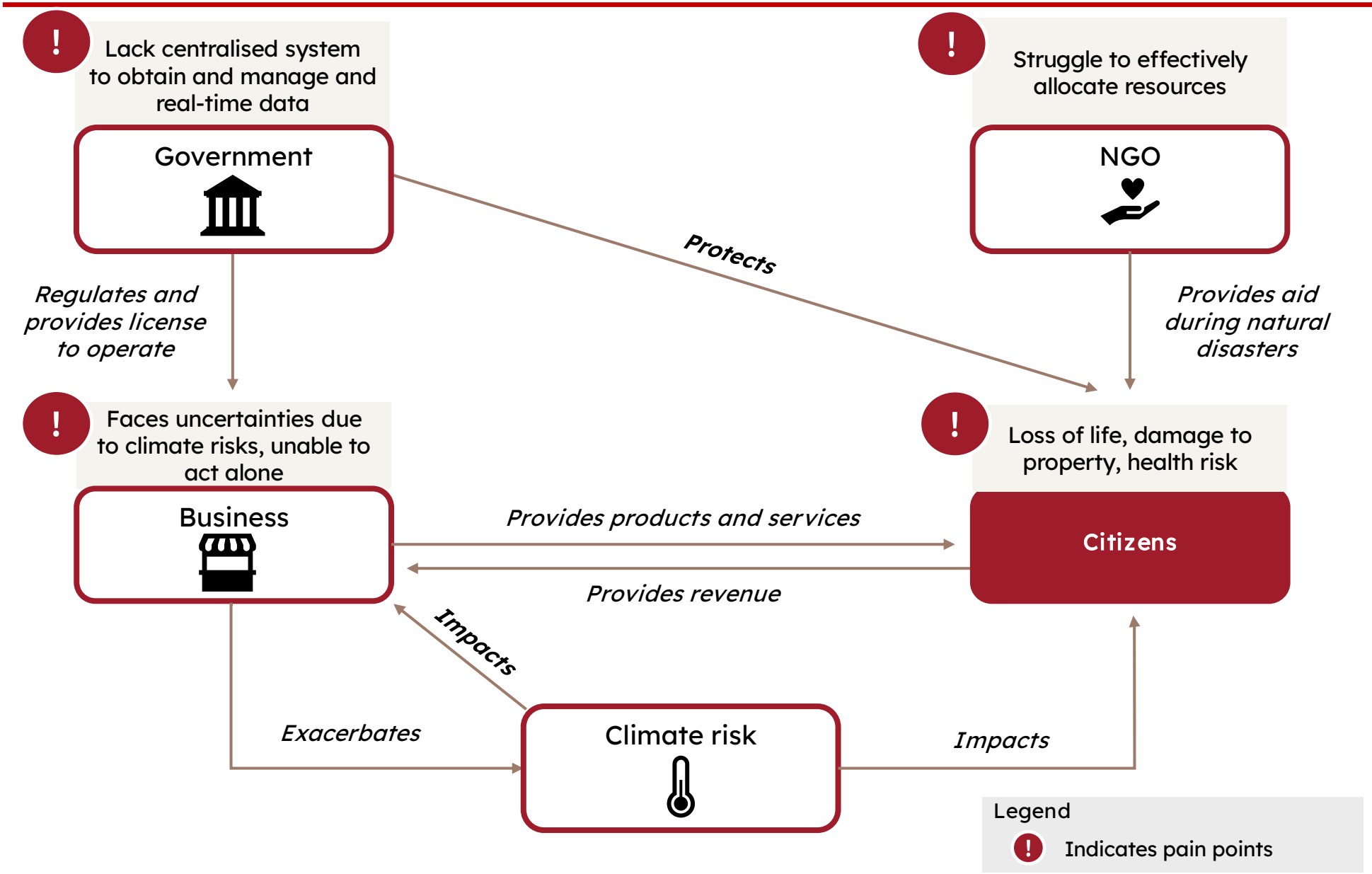
Strengthening Resilience Against Climate Risks: Target and Indicators

Guiding Principle 3: Enhance Civic Engagements

Public awareness of climate change in Malaysia has increased, but disparities in understanding, behavioural responses, and media preferences remain. Despite government efforts like climate education in schools and community projects, challenges persist in targeting education campaigns, boosting public engagement, and enhancing collaboration with grassroots movements. Enhancing community engagements is crucial for fostering a society ready to take meaningful action towards a sustainable future.

	Target	Indicators
Enhance Civic Engagement	Progressively introduce impactful projects within the community and encourage community-led initiatives to empower community-driven responses to climate change in 2025	Adoption rate by community members achieves 15% by 2028 through one of the following: • Recycling programme – community members are incentivised through a buy back system • Community garden – seeds and plant starters are provided at a subsidised rate for community members to grow their own food. • Solar panel installation – community members 'rent' their roofs to energy companies for the installation of solar panels.

Strengthening Resilience Against Climate Risks: Map of Opportunities



Strengthening Resilience Against Climate Risks: Innovation Idea (1/2)

The current fragmented systems for addressing climate risks hinder effective monitoring and response to climate-related crises. Access to high-quality, localised data is essential to build resilience against these risks in Malaysia.

The proposed Public-Private Partnership (PPP) is the establishment of a National Data Repository (NDR) in collaboration with local mobile network operators. As part of the 5G roll-out, the Malaysian government should mandate that mobile network operators include data collection on meteorology, atmospheric science, geology, land use, and ecology within their concession contracts. This data will be aggregated and processed by the NDR, managed by the government, which will analyse climate information to enable early detection of disasters, inform land use planning, and enhance conservation efforts through continuous monitoring.

Incorporating digital technologies like satellites and drones will further improve data collection and analysis, providing detailed insights into Malaysia's climate changes. This integrated approach will facilitate more dynamic and effective climate responses, allowing the government and businesses to make informed decisions and optimise resource allocation to mitigate the impacts of climate change effectively.

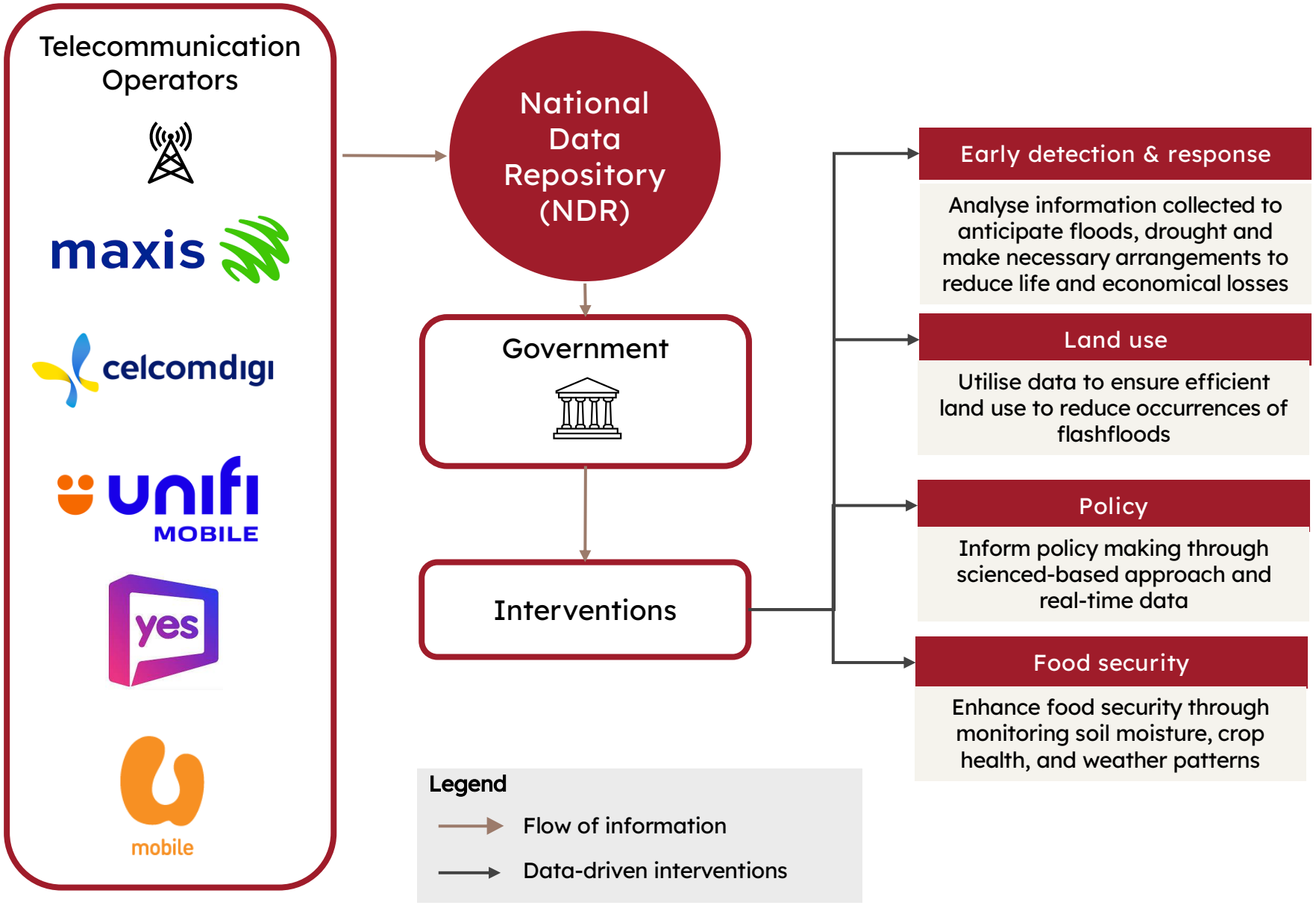
Data types

Early detection and response to climate disaster
- Weather sensors
- Environmental sensors

Response to climate disaster
- Network usage patterns
- Location data
- Outage reports
- Signal strength and quality

Land use planning
- Mobile user density
- Movement patterns
- Network traffic analysis
- Crowdsourced data collection

Strengthening Resilience Against Climate Risks: Innovation Idea (2/2)



Positioning Malaysia as a Global Biodiversity Hub

Guiding Principles, Targets, Indicators, Innovation Idea

GIFT

Positioning Malaysia as a Global Biodiversity Hub: Introduction

Biodiversity studies are critical for understanding an ecosystem's structure and function. They help predict future changes and ensure the survival of plants, animals, and humankind. These studies highlight specific roles each species plays in maintaining the intricate balance of ecosystems and illustrate how invasive species can disrupt this balance. By understanding these interactions, we gain insights into the complex web of life, where every element is interconnected and influences others.

As one of the world's 17 megadiverse countries, Malaysia holds rich ecosystems ranging from lush rainforests and mangroves to coral reefs and mountainous regions. It is home to an astonishing variety of flora and fauna, many of which are endemic. This exceptional biodiversity is not only a treasure trove for scientific research and ecological study but also a critical resource for global conservation efforts. Malaysia's diverse habitats support species crucial for maintaining global biodiversity, making it an indispensable player in the conservation landscape.

This report section presents policy recommendations and a map of opportunities that illustrates the relationships between key stakeholders and their pain points. It also proposes the establishment of a Global Research and Development Centre on Tropical Rainforest Biodiversity, financed by introducing the Biodiversity tax levied on resource-based corporations.

Positioning Malaysia as a Global Biodiversity Hub: Guiding Principles

Valuing Biodiversity as Natural Capital

Recognise the protection of critical ecosystems as a national imperative, underscoring the necessity of preserving habitats that deliver essential services

Invest in Biodiversity Research

Invest in biodiversity research to encompass a broad spectrum of scientific inquiries, attracting both local and international talent

Enhance Stakeholder Ownership

Empower a diverse array of stakeholders – from communities to corporations and NGOs – to act as stewards of biodiversity within their respective spheres of influence

Positioning Malaysia as a Global Biodiversity Hub: Targets & Indicators

Guiding Principle 1: Valuing Biodiversity as a Natural Capital

Preserving, protecting, and managing biodiversity in Malaysia is vital for maintaining a healthy ecosystem that supports all forms of life, including humans. Biodiversity enhances resilience against environmental changes and disturbances while safeguarding species and habitats stabilises essential processes such as pollination, water purification, and climate regulation. Effective biodiversity management fosters sustainable development and ensures that future generations inherit a rich array of natural resources and ecological services.

	Target	Indicators
Valuing Biodiversity as a Natural Capital	Zero incursion of designated biodiversity hotspot by 2030	• To increase by 20% number of fully protected areas by 2030 • To protect at least 10% of marine protected area (MPA) in Malaysia by 2030

Guiding Principle 2: Invest in Biodiversity Research

Investing in biodiversity research is essential for advancing conservation efforts and underscores Malaysia's commitment to global sustainability. Such investment not only enhances conservation strategies but also positions Malaysia as a leader in the field, attracting international collaborations and funding to preserve its natural heritage.

	Target	Indicators
Invest in Biodiversity Research	To launch the leading tropical rainforest Biodiversity R&D centre by 2030 and be fully operational by 2032	• Publish 50 research findings in internationally recognised publications within 5 years of establishment • Nurture 50 leading biodiversity scientists from the R&D centre within 10 years of establishment • To partner with 10 leading academic institutions in biodiversity research to foster student exchange and expert knowledge transfer

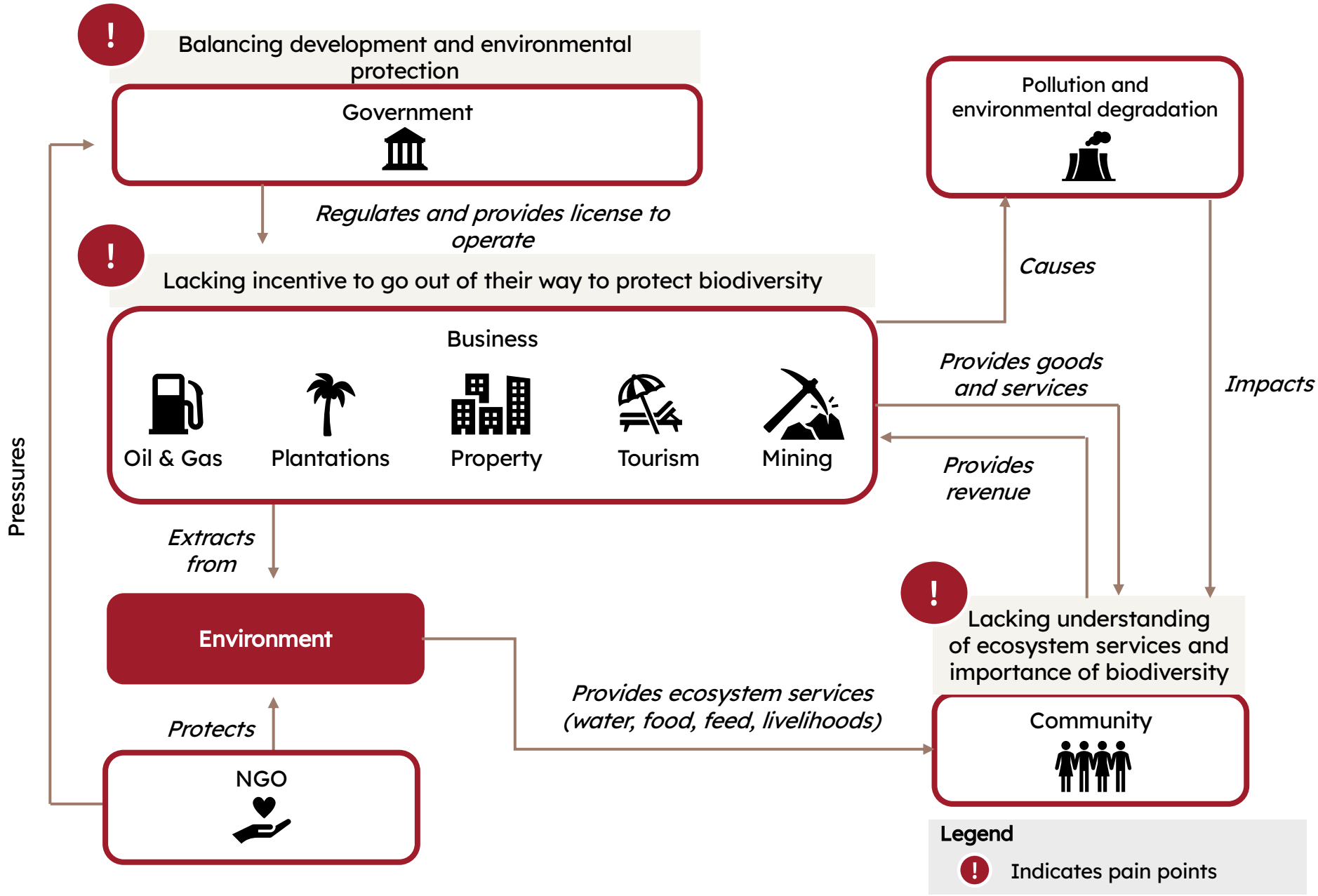
Positioning Malaysia as a Global Biodiversity Hub: Targets & Indicators

Guiding Principle 3: Enhance Stakeholder Ownership

Empowering key stakeholders in biodiversity conservation involves engaging communities, government agencies, NGOs, and the private sector, offering a valuable opportunity to lead in environmental stewardship. This collaborative approach harnesses diverse perspectives to develop effective and culturally sensitive strategies, thereby strengthening community resilience and enhancing efforts to preserve biodiversity.

	Target	Indicators
Enhance Stakeholder Ownership	Increase awareness among civil servants and policies makers across the government by mandating a course on biodiversity by 2030	At least 15% of civil servants in grade 41 and above have taken a mandatory biodiversity course by 2030
	Increase accountability within corporate sectors whose business activities have impact on biodiversity	Introduction of a biodiversity tax on companies in the resource sector (Energy, Plantation, Industrial, Property, Tourism Services) based on their revenue by 2030.

Positioning Malaysia as a Global Biodiversity Hub: Map of Opportunities



Positioning Malaysia as a Global Biodiversity Hub: Innovation Idea (1/2)

Global R&D Centre on Tropical Rainforest Biodiversity

The Global Research and Development Centre on Tropical Rainforest Biodiversity aspires to lead pioneering research efforts to understand and protect the unique ecosystems of tropical rainforests. It will evolve into a world-class hub for comprehensive studies on plant and animal species, ecological processes, and the impacts of climate change. By generating critical insights, the centre will significantly contribute to global efforts to preserve these vital ecosystems for future generations, positioning itself as a beacon of excellence in biodiversity research and conservation.

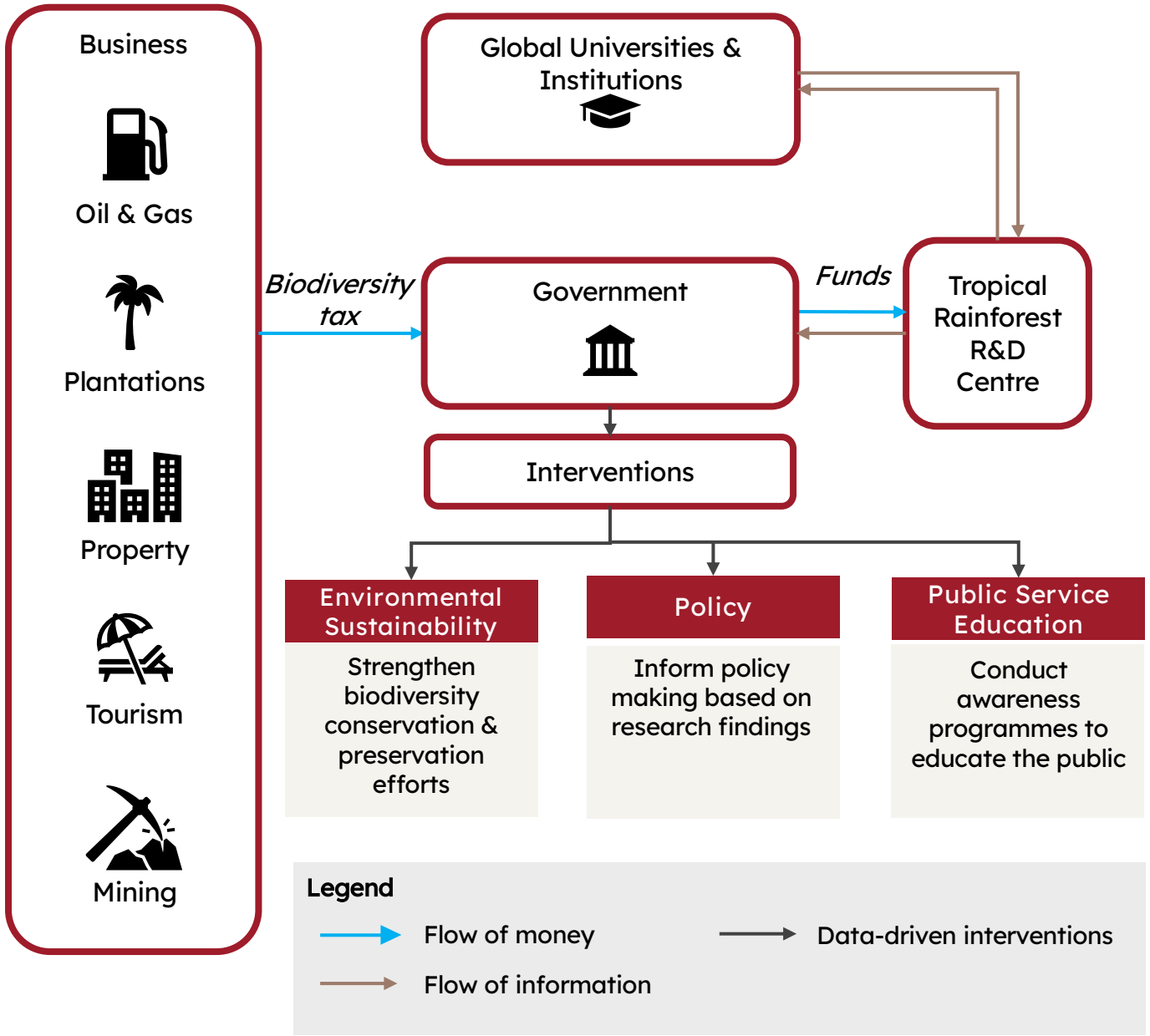
The establishment of the Global R&D Centre will be financed through a biodiversity tax levied on resource-based corporations, including those in the Oil & Gas, Plantations, Mining, Property Development, and Tourism sectors. This tax ensures that companies benefiting from natural resources contribute to the preservation and study of biodiversity, fostering private sector accountability, sustainable development and environmental stewardship.

Beyond leading research, the Global R&D Centre will facilitate robust collaborations between local universities and international institutions. This synergy will enhance the exchange of knowledge and expertise, fostering innovative solutions to complex ecological challenges. Additionally, the centre will nurture local talent and attract international experts, creating a dynamic environment for groundbreaking research breakthroughs. The centre will solidify Malaysia's position as a global leader in tropical rainforest biodiversity conservation by developing local scientific expertise and drawing in leading global researchers.

Global R&D Centre features

- The Global R&D Centre will be financed through a biodiversity tax levied on resource-based corporations
- Conduct comprehensive studies on plant and animal species, ecological processes, and the impacts of climate change
- Nurture local and attract international talents

Positioning Malaysia as a Global Biodiversity Hub: Innovation Idea (2/2)



To attract experts from prestigious global universities and institutions, the Tropical Rainforest R&D Centre can offer unparalleled access to Malaysia's protected areas, enabling these experts to conduct in-depth research in unique and biodiverse environments. To streamline the process and facilitate their stay, the introduction of a specialised research visa could be implemented. This dedicated visa would not only simplify administrative procedures but also demonstrate Malaysia's commitment to fostering international collaboration. By creating such an inviting environment for global experts, the Centre can encourage significant knowledge transfer and capacity building, benefiting local talents in Malaysia. This exchange of expertise will enhance local research capabilities, drive innovation, and contribute to the sustainable management and conservation of Malaysia's invaluable tropical rainforests.

Conclusion

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Conclusion

The policy recommendations proposed in this report adopt an innovative approach to address pressing social and environmental challenges in Malaysia, anchored on the concept of High-Quality Development.

It establishes a unified vision and proposes guiding principles for each focus area: Health, Education, Climate Change and Biodiversity. These are supported by actionable targets and measurable indicators that would quantify progress. The following innovations were also proposed to realise the vision:

- The development of the MyMama mobile application, supported by a centralised nutrition hub, aims to combat child malnutrition by providing food and dietary supplements from the onset of pregnancy based on the information logged by expecting and new mothers.
- The establishment of the Digital Teacher Training Academy (DiTTA) seeks to develop digitally proficient teachers. As teachers progress through various levels in DiTTA, they can expect to receive a certification that acknowledges their professional development and salary adjustments commensurate with their qualifications.
- The National Data Repository for Climate Science will serve as a crucial resource for researchers and policymakers, enabling effective climate action in collaboration with local mobile network providers.
- The Global Research and Development Centre for Tropical Rainforest Biodiversity, financed through a Biodiversity Tax on resource-based corporations, will advance scientific research in the field and contribute towards existing efforts to preserve vital ecosystems for future generations.

Together, these initiatives will catalyse significant advancements in their respective fields, driving progress and innovation to achieve a high-quality of life for Malaysians.

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