

NATIONAL
POLICY ON

BIOLOGICAL DIVERSITY

2022-2030



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LIST OF ABBREVIATIONS

ABS	Access and Benefit Sharing
AGC	Attorney General Chamber
ASEAN	Association of Southeast Asian Nations
ATM	Malaysian Armed Forces
CBD	Convention on Biological Diversity
CEPA	Communication, Education and Public Awareness
CFS	Central Forest Spine
CHM	Clearing-House Mechanism
CSOs	Civil Society Organisations
DOA	Department of Agriculture
DOE	Department of Environment
DOF	Department of Fisheries
DOSM	Department of Statistics Malaysia
DVS	Department of Veterinary Services
DWNP	Department of Wildlife and National Parks Peninsular Malaysia
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
ESA	Environmentally Sensitive Areas
ESG	Environmental, Social and Governance
FMU	Forest Management Units
FRIM	Forest Research Institute Malaysia
GDP	Gross Domestic Product
HCV	High Conservation Value
HoB	Heart of Borneo
IAS	Invasive Alien Species
IPLCs	Indigenous Peoples and Local Communities
IPTA	Public higher learning institutions
IPTS	Private higher learning institutions
IUU	Illegal, Unreported and Unregulated
JAKOA	Department of Orang Asli Development
JBK	Department of Biosafety
JKM	Department of Social Welfare
JKR	Public Works Department Malaysia
JMG	Department of Mineral and Geosciences
JPA	Public Services Department
JPSM	Forestry Department Peninsular Malaysia
KASTAM	Royal Malaysian Customs
KePKAS	Ministry of Tourism, Culture and Environment Sabah
KMGBF	Kunming-Montreal Global Biodiversity Framework
LMOs	Living Modified Organisms
MAQIS	Malaysian Quarantine and Inspection Services
MARDI	Malaysia Agriculture Research and Development Institute



MBC	Malaysia Biodiversity Centre
MEXCOE	Meeting of Ministers of the Environment
MPAs	Marine Protected Areas
MPBB	Malaysian Platform for Business and Biodiversity
MPOB	Malaysian Palm Oil Board
MPOCC	Malaysian Palm Oil Certification Council
MTCC	Malaysians Timber Certification Council
MUDeNR	Ministry of Natural Resources and Urban Development Sarawak
NBC	National Biodiversity Council
NBR	National Biodiversity Roundtable
NGOs	Non-Governmental Organisations
NPBD	National Policy on Biological Diversity
OECMs	Other Effective Area-Based Conservation Measures
PDRM	Royal Malaysia Police
PLANMalaysia	Town and Country Planning Department
PRF	Permanent Forest Reserve
REDD Plus	Reducing Emissions from Deforestation and Forest Degradation
RFF	REDD Plus Finance Framework
SaBC	Sabah Biodiversity Centre
SDGs	Sustainable Development Goals
SFM	Sustainable Forest Management
UNDP	United Nations Development Programme





EXECUTIVE SUMMARY

Malaysia is a megadiverse country. On land, Malaysia's natural ecosystems consist of an immense variety of wild plants and animals including dipterocarp forests and montane forests, while its coastal and marine areas house important ecosystems such as mangrove forests and coral reefs. These natural ecosystems contain a diverse array of flora and fauna communities. There are an estimated 15,000 species of vascular plants in Malaysia, with about 8,300 species in Peninsular Malaysia and about 12,000 in Sabah and Sarawak. Fauna diversity includes 306 species of mammals, 742 species of birds, 242 species of amphibians and 567 species of reptiles, as well as 2,068 species of freshwater and marine fish. Malaysia's rich biodiversity constitutes an extraordinary natural capital that maintains its natural environment and the life-support systems that give us food, water, and numerous economic benefits.

The first National Policy on Biological Diversity (NPBD) was formulated in 1998. Following the introduction of Aichi Biodiversity Targets 2010-2020, the policy has been reviewed and introduced as NPBD 2016-2025. It also forms part of Malaysia's response to the Convention on Biological Diversity's Strategic Plan for Biodiversity 2011-2020.

Since then, Malaysia has experienced rigorous development in terms of numerous housing and industrial areas, townships, and infrastructure. The country's transition to becoming a developed, high-income nation has exerted various pressures on its biodiversity, leaving many species vulnerable, with some even facing threats of extinction. Nearly half of the nation's plant diversity is facing various levels of threat. Other pressures that threaten Malaysia's biodiversity include habitat fragmentation, invasive alien species, pollution, poaching, increasing competition for land, and climate change.

Until today, there has been a general lack of awareness of the importance of biodiversity throughout the country, as well as significant knowledge gaps. There are also weaknesses in management capacities and issues of funding, both of which are crucial to ensuring that Malaysia's biodiversity is effectively conserved for its future generations. There is a need to integrate the global biodiversity agenda with Malaysia's current policy on biological diversity with the adoption of the Kunming- Montreal Global Biodiversity Framework, which was agreed upon by the 15th Conference of Parties to the Convention on Biological Diversity (CBD COP15) in December 2022. The NPBD 2022-2030, through its 5 goals, 17 targets, and 61 actions, provides the direction and framework for Malaysia to conserve its biodiversity, promote its sustainable use, and ensure fair and equitable sharing of its benefits in the face of increasingly complex challenges now and in the future.

The National Policy on Biological Diversity 2022–2030, through its 5 goals, 17 targets, and 61 actions, provides the direction and framework for Malaysia to conserve its biodiversity, promote its sustainable use, and ensure fair and equitable sharing of its benefits in the face of increasingly complex challenges now and in the future.





Deramakot Forest Reserve, Sabah



SECTION 1 : INTRODUCTION

OUR SHARED RESPONSIBILITY

The responsibility of conserving our national and natural treasures should shift away from a whole-of-government approach and instead steer towards an inclusive, whole-of-society approach.

Our natural ecosystem provides a multitude on provisions, regulation, support and cultural services to ensure that we receive the essential needs to substantially live and function in society. To ensure a long-lasting and continuous future that is sustainable, inclusive, and equitable, it is our shared responsibility to safeguard, conserve, and protect our natural treasures.

THE NEED FOR THIS POLICY

The Malaysian economy has undergone significant transformation since gaining independence. As the nation entered the 21st century, Malaysia successfully diversified its economy, transitioning from its initial reliance on agriculture and commodities to a more dynamic structure encompassing thriving sectors such as manufacturing, services, and tourism.

The country is now focusing towards becoming a high-income nation backed by an advanced economy. The World Bank reported that Malaysia is expected to reach the high-income threshold sometime between 2020 and 2024. However, challenges remain for Malaysia to sustain this rapid growth and has stagnated in the middle-income status. Advancing towards a high-income nation will require extensive developments in various aspects such as (i) having well-developed institutions and state capability; (ii) a robust knowledge-based economy; (iii) high-quality human capital; and (iv) modern infrastructure.

Malaysia's progression towards becoming a high-income nation must consider various trends that may drastically change in the future. These include population growth (and changing demographics), increased and changing patterns of consumption, climate change, and advancements in technology. It is evidently important for Malaysia to continue leveraging on its commodities and natural resources, going into the next decade of growth and beyond. As such, there is a need to synergise increasing developmental plans together with international frameworks including Sustainable Development Goals (SDGs) to ensure the continuity and sustainability of Malaysia's natural resources.

The first NPBD was launched in 1998 and subsequently revised for the year 2016-2025 to conserve Malaysia's biological diversity and to ensure its natural resources are utilised in a sustainable manner. Since then, the nation has undergone significant population increase and socio-economic changes. At the same time, pertinent biodiversity issues have yet to be fully addressed or resolved in a holistic manner. At the same time, emerging biodiversity issues such as zoonotic diseases, climate change, and implementation gaps in biodiversity mainstreaming across all sectors of society must be addressed in a holistic manner.





Sungai Kooi Waterfall,
Royal Belum State Park, Perak

Moving forward, the Policy will address present and emerging challenges with a revised framework and actions to sustainably and inclusively conserve Malaysia's biodiversity. The Policy will also form part of Malaysia's response to the Kunming-Montreal Global Biodiversity Framework (KMGBF). This framework replaces the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets 2010-2020.

The Framework is guided by a shared vision of "Living in Harmony with Nature by 2050". More specifically, the CBD has identified four long-term goals of the KMGBF:

GOAL	ASPECTS
A	<ul style="list-style-type: none"> • Maintaining, enhancing, or restoring integrity, connectivity, and resilience of all ecosystems • Halting human-induced extinction of threatened species, reducing extinction rates, and restoring population of native wild species to healthy and resilient levels • Safeguarding genetic diversity of wild and domestic species
B	<ul style="list-style-type: none"> • Ensuring sustainable usage and management of biodiversity • Valuing, maintaining, enhancing, and restoring ecosystem services and functions
C	<ul style="list-style-type: none"> • Fair and equitable sharing of monetary and non-monetary benefits from utilisation of genetic resources, digital sequence information, and traditional knowledge with local and indigenous communities • Protection of traditional knowledge associated with genetic resources
D	<ul style="list-style-type: none"> • Ensuring adequate means to implement the Global Biodiversity Framework including financial resources, capacity building, technical and scientific cooperation, and access to and transfer of technology



BIODIVERSITY TREASURES OF MALAYSIA

Malaysia is recognised as one of the 17 world's megadiverse countries, listed among the top 12 biodiversity rich countries in terms of species richness and endemism. This biological diversity spans through ecosystems, species, and genetic diversity.

TERRESTRIAL HABITATS

Approximately 54.58% of Malaysia's total land area remains forested which includes national parks, Stateland Forest (SLF), Permanent Reserved Forest (PRF), and wildlife sanctuaries. These forested habitats are home to a diverse species of plants, wild animals, and micro-organisms resulting in a complex structure of a co-existence. One of the many main genera found in this forest type are *Dryobalanops*, *Hopea*, and *Shorea*, which can sometimes tower over 80m. The world record for the highest dipterocarp belongs to *Shorea faguettiana*; the latest record in 2019 was at 100.7 m in the Danum Valley Conservation Area in Sabah. Previous records ranged from 88m to 97m and were documented in important conservation areas in Sabah i.e. Maliau Basin and Tawau Hills National Park.



Merbau
Intsia palembanica

The hill dipterocarp, upper dipterocarp, and montane forest comprise diverse species where high levels of endemism are found. The montane forest showcases elevated endemism in invertebrate fauna and herbaceous plants (e.g., orchids, begonias, mosses, etc.) Fraser's Hill, for example, is rich and diverse and is known as one of the three localities worldwide to harbour ancient and rare trig oak (*Trigonobalanops verticillata*). It is locally known as the Mempening Babi and is a living fossil of ecological and taxonomic importance. To date, there are an estimated 15,000 species of vascular plants in Malaysia, with about 8,300 species in Peninsular Malaysia, and about 12,000 in Sabah and Sarawak. In Sabah, the iconic Mount Kinabalu has recorded plant species richness to be over 5,000 species, with 40% of endemic species.

Distinctive from the climax forests, the edaphic forests also have their own unique characteristics. They are found where there are unique factors such as water content, acidity, aeration, and availability of nutrients that determines the type of edaphic forest. These types of forests are typically found in limestone hills, heath, peat swamp, mangrove, beach vegetation, brackish-water, and fresh-water swamp. Despite differences from dipterocarp forests, edaphic forests are also high in biodiversity, often containing unique and high levels of endemism due to their isolative habitats and evolutionary pressures.

To date, there are an estimated 15,000 species of vascular plants in Malaysia, with about 8,300 species in Peninsular Malaysia, and about 12,000 in Sabah and Sarawak



Limestone karsts, in particular harbour unique biodiversity where 60% of the 73 flora species recorded in Mulu karsts in Sarawak could not be found in any other forest types. Invertebrates on the other hand make up the majority of limestone fauna where a study in karst caves in Peninsular Malaysia have noted 6% of 53 invertebrate's species to be newly discovered. Additionally, bats are another prominent limestone fauna as they prefer limestone as roosting habitats. Mulu karsts have one of the region's richest bat faunas, comprising of 28 species.

Freshwater swamps and peatlands are crucial habitats for a variety of plants and animals. Malaysia has some of the most extensive tropical peatlands in the world, covering approximately 2.4 million hectares, mainly consisting of peat swamp forests. Peatlands are a vulnerable category of wetland characterised by deep layers of peat soil and highly acidic waters, that many of the plants and animals found in them do not occur in the other tropical forests. Our peatlands play a critical role in preserving water supply, regulating and reducing flood damage, providing fish, timber, and other resources for local communities, and storing large amounts of carbon. Freshwater swamps, including renowned sites such as Tasek Bera in Pahang (Malaysia's first Ramsar site), Loagan Bunut in Sarawak, Ulu Sedili in Johor and Setiu in Terengganu host a plethora of unique flora and fauna, contributing to the rich biodiversity of these ecosystems.

MARINE & COASTAL HABITATS

Malaysia has one of the largest continental shelf areas in the tropics. In comparison with other continental areas, this region is rich in biodiversity, housing the greatest species diversity of marine life globally. Malaysia has a coastline of approximately 4,800 km². Marine and coastal biodiversity habitats comprise coral reefs, seagrass beds, and mud flats, as well as coastal hill forests and mangrove forests. It is estimated that the coral reefs in Malaysia covers about 4,006 km² with an average coral cover of 41.3%. With the extensive blanketing of coral reefs, the habitat provides habitat support for at least 700 species of fish. In Malaysia, Marine Protected Areas (MPAs) are coastal and sea zones that have been legislated and regulated to manage and protect marine natural resources and biodiversity where a total of 53 MPAs have been gazetted.



Source: Sabah Tourism
Tun Sakaran Marine Park in Sipadan, Malaysia gazetted as a Marine Protected Area

It is estimated that the coral reefs in Malaysia ranges about 4,006 km² with an average coral cover of 41.3%

Malaysia has approximately 641,886 ha of mangrove forest where Peninsular Malaysia accounts for 106,554 ha for both the east and west coast, while Sabah and Sarawak amounts to an estimate of 553,312 ha of mangrove areas. In Sabah, mangrove forests cover approximately 73% of its 1,800 km coastline, covering more than other states in Malaysia. Malaysia has about 14 species of seagrasses from a total recorded of 20 species in the Southeast Asia. There are about 7 dominant genera and considered as the most highly diverse seagrass flora in the world. Seagrass forms dense beds which cover large areas of coastal waters and perform a wide spectrum of biological and physical functions, serving as habitat and nursery areas for fish, invertebrates, turtles, and dugongs.



BIODIVERSITY TREASURES OF MALAYSIA

The nation hosts an array of species diversity where approximately 306 species of mammals are known

FLORA AND FAUNA DIVERSITY

Malaysia's rich biodiversity is evident in its diverse flora and fauna, which thrive in a multitude of terrestrial and marine habitats. The country is home to a wide variety of species, with approximately 306 known mammal species. Notably, Peninsular Malaysia is home to three prominent big cats: The Malayan tiger, the Indochinese leopard, and the clouded leopard. Additionally, East Malaysia is home to around 11,300 orangutans, contributing to the nation's impressive mammalian population.



Source: Department of Wildlife and National Parks Peninsular Malaysia & Pertubuhan Pelindung Alam Malaysia

The Malayan tiger, melanistic Indochinese leopard and clouded leopard are all found in Malaysia; however population is on a downward trend due to habitat loss and poaching.



The avifauna of Malaysia boasts a total of 742 recorded bird species. The Malayan Whistling-Thrush stands out among the many bird species endemic to the mountains in Peninsular Malaysia. Meanwhile, the Bornean forests exhibit a remarkable level of endemism, with 38 species found exclusively in this region. Examples of these endemic bird species within Bornean rainforests include the white-crowned shamas and the black-browed babblers. Malaysia is also home to ten species of hornbills, with the great hornbill being the largest among them.

Source: Paul Jones

Great Hornbill perched in a tree in Tasik Kenyir, Terengganu



BIODIVERSITY TREASURES OF MALAYSIA

Herpetofauna records indicate an unequal distribution of 242 amphibian species and 567 reptile species across Peninsular Malaysia, Sabah, and Sarawak, with new discoveries being consistently added to the growing list of species. Out of the documented 150 species of snakes in Malaysia, 16 of the land snakes are venomous. Notable venomous snakes are the Malayan pit viper and king cobras.

A total of 2,068 species of freshwater and marine fish belonging to 704 genera and 186 families have been recorded. Of these, 470 species are found in freshwater habitats, 81 in brackish water, and 1,400 in marine habitats. Herpetofauna records indicate an unequal distribution of 250 amphibian species and 567 reptile species across Peninsular Malaysia, Sabah, and Sarawak, with new discoveries being consistently added to the growing list of species. Furthermore, three species of marine turtles are known to nest in Malaysia: the Green, Hawksbill, and Olive Ridley turtles.

As for Malaysia's floral community, Malaysia's rainforests are believed to be at least 130 million years old harbouring approximately 8,500 species of vascular plants in the Peninsular and 12,000 in the East of Malaysia. These rainforests host one of the world's largest flowers belonging to the genus *Rafflesia*.



Largest in Malaysia, the *Rafflesia keithii* is found endemic to Sabah.



THE CALL FOR BIODIVERSITY CONSERVATION

Malaysia's biodiversity provides substantial ecological services, enabling us to appreciate and marvel at natural environments while also providing direct access to clean air and water. Plants, animals, and microorganisms all provide food, medicine, and other beneficial products that are essential to our livelihood. These services collectively demonstrate the importance of biodiversity in sustaining our economy.



REGULATING SERVICES

Biodiversity and our ecosystem of landscapes, plants, and animals provide important ecological services by acting as regulators. This includes regulating the air quality that we breathe through the sequestration of carbon. Landscapes such as rainforests, mangroves, and the ocean regulate global climate by storing and sequestering greenhouse gasses as well as removing pollutants from the atmosphere.

Landscape ecosystems play a crucial role in regulating extreme weather events and natural disasters through buffer systems, as exemplified by mangroves, coastal peat swamps, seagrass beds, and coral reefs. which prevent further coastline damage. Rainforests moderate flooding by acting as a water catchment where water is retained during heavy rainfall. This also helps prevent further soil erosion and damage to residential areas, public amenities and such in nearby villages or cities in the event of flooding.



SUPPORTING SERVICES

Ecological landscapes are significant in supporting the diversity of animals and plants. The variety of biological organisms in ecosystems helps to stabilise the environment, providing human societies with a wide range of essential and basic amenities such as habitable environments, building materials, water supply, flood mitigation, productive soils, and recreational opportunities.

Ecosystems not only support thriving habitats for animals and plants but also play a vital role in maintaining biodiversity, creating hotspots that are significant and rich in species. These hotspots are found across varying landscapes globally and support nearly 60% of the world's plant, bird, mammal, reptile, and amphibian species.

The Danum Valley Conservation Area in Sabah for example, is a world-renowned biodiversity hotspot and a supporting landscape for the Bornean orangutans, pygmy elephants, sun bears, hornbills, and a myriad of other iconic endemic species contributing to their natural ecological functions.



The Millennium Ecosystem Assessment defined four categories of ecosystem services that provide these essential needs, each underpinned by biodiversity thus signifying the importance of conserving and protecting our biodiversity.



PROVISIONING SERVICES

Biodiversity is an important component of agriculture, providing us with main sources of food such as plants, animals, and fish. Biodiversity also offers raw materials for goods such as cotton and wool; timber for construction materials and economic trade; traditional herbs for medicinal purposes; and materials deriving from plants and animal biomass for biofuel.

Faunal biodiversity is essential for the development of fruits, vegetables, and seeds as evidenced by the pollination by wild animals. Many species of mammals, insects, birds, and bats are pollinators and dispersal agents of fruits and other crops. Frugivorous bats like flying foxes are important pollinators in ensuring the successful production of durians which is an essential economic drive for Malaysia. Livestock species and breeds are also important in the provisioning services. Their unique ability to convert non-human feed into products suitable for human consumption, as well as other by-products like organic waste needed for composting crops, underscores their importance. Livestock's ability to respond to fluctuations in resource availability and climate also plays an essential role in ensuring the nation's food security and poverty eradication. Products such as rice are an example where livestock (i.e., cattle) is utilised for its supporting role in the production of manure for organic fertilisers.

Malaysia's fisheries industry has grown significantly over the last two decades. Marine catches have been steadily rising from about 800,000 tonnes in 1980 to over 1.48 million tonnes in 2013. Notably, mangrove forests and seagrass beds serve as feeding and nursery grounds for fisheries, serving as habitats for several of our important commercial fish and shrimp species.



CULTURAL SERVICES

Biodiversity provides a sense of cultural identity to the people living in and residing in nearby ecological landscapes. These cultural identities are significantly linked to the natural heritage, traditional knowledge, traditional customs, and spirituality of the indigenous communities. For instance, the Penan in Sarawak have a profound affinity with the forest as the forest plays a central role in their lives by providing their staple diet, which consists of lekak (edible palm-leaf bud), uvud (young sago plants), and bearded pigs (*Sus barbatus*). The Batek semi-nomads in Kelantan have a cosmological sense and social principles towards the forest they live in. Known as Bateq Hep among themselves, meaning 'forest people', they highly regard forests as their true home and living within them is a natural order.

Ecological landscapes offer a sense of cultural identity not only to indigenous peoples but also to urban dwellers. Urban forests such as the Shah Alam Community Forest, which ecologically connects to Bukit Cerakah Forest Reserve provide local communities with opportunities to partake in nature recreational activities for physical, mental, and spiritual benefits. The Shah Alam Community Forest Society often highlights the forests' ecological benefits through organising programmes for their communities.

Biodiversity plays an important role in Malaysia's thriving tourism sector, which stands as the second highest foreign currency earner. In 2019 alone, Malaysia welcomed around 26.10 million tourists contributing a substantial RM86.1 billion in receipts. Malaysia, with its outstanding biodiversity and scenic natural environment has been successfully promoted as an ecotourism and nature-oriented tourism destination in recent years. For example, recreational diving is a high value form of tourism that attracts tourists from all over the world. This type of tourism depends on the diversity of coral reefs and the quality of the environment. Sipadan, Layang-Layang, and the oceanic islands in the South China Sea are recognised as among the world's best diving sites. Additionally, UNESCO World Heritage sites like Mulu National Park and Kinabalu National Park boast biodiversity of global significance, contributing significantly to Malaysia's tourism industry.





THE CHALLENGE BEFORE US

Economic trends have shifted the way Malaysia utilises its natural resources. The country's ongoing transition to becoming a high-income and developed nation with the need to uplift the quality of life has exerted various pressures on our biodiversity.

Additionally, pressures from climate change have also been increasingly observed. These threats to biodiversity leave many species vulnerable and some to the brink of extinction. While the impact on biodiversity may be apparent particularly in species reduction and loss of habitat, the cascading repercussions from such actions will be felt by society at large, given the direct and indirect roles biodiversity plays in various areas.



DEMOGRAPHIC CHANGES

POPULATION GROWTH

Globally, population growth remains the leading driver of biodiversity loss. Since 2010, Malaysia's population has increased by approximately 4 million and is expected to reach 38 million by 2030 and 41.5 million by 2040. This growth is expected to exert pressures on biodiversity particularly on habitat and species loss due to land-use change. An additional six million people in the country will require substantial developments to be made:

- Residential infrastructure will have to be significantly increased;
- Increasing urbanisation rates leads to the transformation of more sub-urban zones into fully urbanised areas and leading to the development of new towns and cities. These will increase land use pressures, especially for the east coast states in Peninsular Malaysia (e.g., Pahang, Terengganu, Kelantan, East Johor), as well as the other districts in Sabah and Sarawak besides major cities like Kota Kinabalu and Kuching; and
- Linear infrastructure will also increase with population growth. More roads and highways will be required to improve connectivity between rural and urban areas. In certain circumstances, new roads and highways may cut through forested areas, which increases habitat fragmentation pressures. If not planned responsibly, new roads and highways will increase wildlife mortality rates and result in increased human-wildlife conflicts.

FOOD CONSUMPTION DEMAND

Food consumption in Malaysia is expected to increase in line with population growth. Rice will continue to be the staple source of carbohydrate intake, with projections indicating that consumption will surpass 3 million metric tons (MT) by 2030. Gaps in demands will be satisfied through rice imports since there will be no more expansion of paddy areas throughout the country. This generally benefits

conservation efforts; however, there are concerns that more water resources and reservoirs will be required to enhance production levels.

Malaysia's poultry consumption is projected to increase in the next decade, albeit at slower rates, with projections estimating that consumption will surpass 2 million MT by 2030. Fortunately, the poultry industry has been consistently self-sufficient in the past decades to meet domestic demands. However, there are concerns about the impacts of the poultry industry on greenhouse gas emissions, as well as its role as a pollution source for rivers.

Similarly, Malaysia's beef consumption is projected to increase potentially exceeding 300,000 MT by 2030. However, the country's production and self-sufficiency levels remain below par due to high investment costs, inadequate land for grazing and sustaining populations, and a low supply of nutritious feeds locally. As such, there will be growing needs to enhance beef production to meet domestic demands to reduce import costs, notably through increasing grazing grounds. This will increase land use pressures as the country does not have sufficient pastures for cattle grazing. This conflicts conservation efforts, especially when proposed areas include intact forests. Moreover, the beef industry stands out as a major contributor to greenhouse gas emissions and boosting the industry may potentially exacerbate climate change impacts in the country.



Maliau Basin Conservation
Area, Sabah



Increasing the need for production and consumption of beef, poultry, and agricultural crops will ultimately lead to increasing land-use change pressures, which may then cause further habitat fragmentation, habitat, and species loss.

WATER CONSUMPTION

Population growth will undoubtedly drive higher water consumption levels in the coming decade. As such, the need to ensure water security will be placed as a high priority, especially as urban centres and residential communities continue to grow. As water extraction and storage activities continue to increase, the impacts of such activities on biodiversity, especially freshwater biodiversity, must be carefully monitored and managed.

Intensive river and groundwater extraction will eventually alter flow regimes over time. This will subsequently affect water quality and biodiversity if left unchecked. Unprecedented alterations to flow regimes will alter the concentration of nutrients and pollutants in rivers, whereby reduced peak flows may affect in-stream habitats and sediment transport. In turn, this may affect the composition, abundance, and diversity of freshwater biological communities.

There may also be a possibility of more dam reservoirs being established in the future to enhance water security. While undoubtedly important, establishing new reservoirs will further complicate terrestrial conservation. Most of the major lakes and dams in Peninsular Malaysia have already impounded substantial forested landscapes in the past. Recent dam projects such as the Bakun dam have been controversial due to the impoundment of large areas of forests, some of which are also indigenous peoples' lands.

ENERGY USAGE

Energy consumption is expected to continually increase in the coming decade to cater for an additional six million people. Ensuring sufficient energy supply to new and expanding city centres, as well as increased households, will undoubtedly require more power plants to be established. Conventional coal-fired power plants will increase the demand for coal extraction, thus increasing pressures from mining activities on sensitive habitats and landscapes. Furthermore, additional power plants will also result in increased greenhouse gas emissions, which will exacerbate climate change impacts on Malaysia's biodiversity.

More solar plants/ farms may be established to meet the country's commitments to lower greenhouse gas emissions. However, solar farms require sufficient land in order to generate the required energy levels for distribution. This may impose more land use pressure on forested landscapes. At the same time, the need for more energy reserves may lead to more hydropower dams to be proposed.

Although such projects are in the nation's best interest, these large-scale projects have significant impacts on biodiversity conservation as large forest areas will be sacrificed during the impoundment of the dam, which only increases the loss of rare, endangered, and threatened species.

CLIMATE CHANGE

Climate change is a growing global threat not only to biodiversity and ecosystems but ultimately to the world. These threats pose severe impacts on livelihoods through increasing natural disasters, drought, increasing temperatures, increasing sea level rise, erosion of shorelines, reduced crop yields, coral reef bleaching, decreased water availability, increasing incidences of diseases, and many more. There is a need to recognise the potential environmental impacts caused by land-based climate mitigation approaches.

The Intergovernmental Panel on Climate Change (IPCC) has released a sixth report confirming that human activities are one of the major causes of climate change. The burning of fossil fuels such as coal, oil, wood, and natural gas during the pre-industrialised years has been responsible for the rise in temperature. The global temperature has increased by 1.1 °C since the 19th century and will continue to increase if emissions are not controlled. The global sea level has also risen by an estimated 20 cm, further aggravating the crumbling, and melting of ice sheets in Antarctica.

In Malaysia, the impacts of climate change are also expected to intensify. Climate change projections in Malaysia show an increasing rise in temperature and increasing rainfall towards the end of the 21st century. A projected rise in temperature may impact rice production in Malaysia, estimating a yearly economic loss of RM162.53 million with a 2°C increase in temperature. Climate change is also expected to aggravate high flow in watershed rainforests specifically in Kelantan, Terengganu and Pahang during the Northeast monsoon. A shortage of water flow into Klang Valley from watershed rainforests during the Southwest monsoon between 2025 and 2050 is also to be expected. With the increased water flow, affected States are expected to face flooding, structural damage, landslides, and public health issues. Subsequently, with reduced water flow, water resources become scarce which leads to public health issues, and industrial and manufacturing halts that depend on water.

Climate change is foreseen to affect all aspects of our lives and Malaysia is no exception. Acknowledgement of climate change needs to be mainstreamed across all sectors, while mitigation and adaptation measures needs to be seriously considered and implemented to alleviate these disastrous impacts.



THE CHALLENGE BEFORE US



EMERGING ISSUE

MINERAL EXTRACTION

Mineral extraction will foreseeably increase in the next decade to supplement the construction and industrial sectors. Furthermore, the mineral industry is also expected to undergo extensive developments under the new Mineral Industry Transformation Programme. The first phase (2021-2023) will see major revisions to existing legislation and governing institutions on mineral resources, as well as intensive mapping of key mineral resource areas. The second phase (2024-2026) entails strengthening value chain development and strategic partnerships with investors from both foreign and domestic relations. The final phase (2027-2030) intends to complete the development of the entire mineral industry supply and value chain.

Exploration and exploitation of mineral reserves will have to be responsibly planned to ensure existing protected areas and sensitive habitats are not encroached upon and subsequently degraded. Future mining and extraction of mineral resources from the Mineral Industry Transformation Programme will impose pressure on Malaysia's environment and biodiversity resources if they are not managed responsibly.

For example, while limestone is a necessary resource for cement, various outcrops have been studied to harbour rare and endemic flora and fauna. Additionally, many gold and precious deposits are found within key forest habitats including PRF and protected areas in the Central Forest Spine (CFS). Sand and silica sand mining will also increase to supplement the construction industry. These activities will have significant impacts on river morphology, as well as sensitive freshwater and wetland ecosystems.

ZOONOTIC DISEASES

Zoonotic diseases are infectious diseases contracted by humans which are caused by pathogens transmitted between humans and animals. The transmission of harmful pathogens from animals has affected humans in health issues ranging from smallpox, tuberculosis, Ebola, severe acute respiratory syndrome (SARS), and very recently, the COVID-19 pandemic. Human impacts such as land-use changes from deforestation, agricultural conversion and the increasing illegal wildlife trade were noted to result in the emergence of zoonotic viruses where land-use change increases contact between humans and a pool of diverse pathogens. Livestock and the wildlife trade have also shown the possibility of pathogen transmission as well. The COVID-19 pandemic has certainly brought better awareness on the need for better land-use planning and conserving our natural habitats to minimise the potential emergence of more zoonotic diseases.

INVASIVE ALIEN SPECIES

Invasive alien species (IAS) are animals, plants, pathogens, and various other organisms that are not native to a region's ecosystem. The introduction of IAS to non-native environments can cause economic and environmental harm, which may affect human health. IAS prey upon, or compete with native species on common resources, thus modifying the natural ecosystem and eventually leading to the extinction of native species. For example, the Kariba weed (*Salvinia molesta*), a floating aquatic fern, native to south-eastern Brazil is now found in many of our aquatic habitats such as lakes, rivers and paddy fields, which can greatly alter aquatic ecosystems.



As the mature plant entwines and grows into a thick, floating mat on top of the water surface, oxygen and light are blocked from the water preventing native plants from thriving. This leads to over-competition with native plants which reduces the species diversity of natives as the population decreases. The rapid spread of this pest threatens cultivated aquatic crops, and it can clog irrigation as well as drinking water lines.

POLLUTION

Pollution is the introduction of harmful contaminants into the natural environment which can impact the quality of air, water, soil, and others. This can ultimately result in negative impacts such as reduced productivity of agricultural crops due to increased plant susceptibility to diseases caused by toxic and hazardous wastes from the industrialisation sector. These toxic substances may also affect the aquatic environment, damaging the natural ecosystem as well as reducing aquatic species upon intentional or non-intentional spilling of substances. The industrialisation and agro-commodity sectors also contribute to the air pollution issue in Malaysia due to fossil fuel combustion and transboundary haze respectively.

Plastic waste pollution is another issue in Malaysia where mismanagement of waste threatens the terrestrial and marine ecosystem as well as human health. The plastic manufacturing industry in Malaysia is one of the highest growing industries since 2000 and one of the fastest plastic producers globally. The nation has produced more than 0.94 million tonnes of mismanaged plastic per year since 2018. Due to the increasing number of plastic productions in Malaysia, the waste management systems are presently inadequate, thus leaning towards solutions such as domestic burning and disposals at landfills.

With a rapidly increasing population and increasing usage of plastics, current landfill sites are close to their maximum capacity which prompts more land-use changes in establishing more landfill areas. Land scarcity in Malaysia is unfortunately discernible which may lead industry players to take unsustainable routes such as plastic waste dumping in ecosystem habitats.

DECLINING FISH STOCKS

Malaysia's fish stock is currently facing pressures from excessive fishing, pollution, and climate change. This is concerning as the fisheries sector in Malaysia is an important supplier of food sources, economic exports, and job employment.

Plausible reasons indicating the excessive exploitation of fisheries in Malaysia are the overinvestment in fishing capacity (i.e., incentives or subsidies for new fishing vessels, fuel, etc. to reduce fishing costs), and increasing non-selective commercial fishing gear such as trawlers. While incentives are beneficial, they may also create perverse incentives for continued fishing despite the declining rate of fish stocks. This then leads to overfishing, vessel overcapitalisation, and reduced economic efficiency as more resources are being pooled into incentives rather than acquiring more fish stocks for economic growth. The encroachment of more foreign fishing vessels into Malaysian Exclusive Economic Zone (EEZ) waters may also explain the state of excessive exploitation.

Additionally, developmental pressures from land-based activities including agriculture and industries release pollutants such as sewage and sediment that harm marine ecosystems and alter marine water quality. Climate change also pushes the decline in fish stocks through the alteration of rising sea temperatures (i.e., coral bleaching), sea level rise (i.e., coastal fisheries to be impacted through coastal erosion), and many more.



THE CHALLENGE BEFORE US



IMPLEMENTATION CHALLENGES

MAINSTREAMING

Mainstreaming biodiversity refers to having biodiversity recognised and included in all aspects of planning, decision-making, and execution of developmental projects, policies, and systems within the nation. This integration encompasses all relevant stakeholders including government agencies, businesses from the private sector, and international organisations. By having biodiversity mainstreamed into all aspects of society, this may help to minimise the negative impacts that the manufacturing and productive sectors exert on biodiversity.

Notable efforts have been made to mainstream biodiversity in Malaysia through state conservation strategies developed by the state economic planning units and the 2010 publication of the guidebook, "The Common Vision on Biodiversity" by the former Ministry of Natural Resources and Environment. However, despite being a Federal Government document, it is not widely used by stakeholders in other sectors. Documents such as the National Physical Plan, the Environmentally Sensitive Area (ESA) framework, and the upcoming National Coastal Physical Plan, as well as revised State Structure Plans and Local Area Plans are set to incorporate more efforts in biodiversity mainstreaming. However, full implementation will require cooperation from multiple sub-regional government stakeholders including State Governments and district councils.

AWARENESS

Poor understanding of what biodiversity is, why it is important and how we should manage it has been a constant obstacle to effective biodiversity conservation in Malaysia. The low level of awareness is compounded by the fact that public budget allocation for biodiversity is very low, although biodiversity and ecosystem services generate significant value for the Malaysian economy. These significant values are ill-understood and poorly appreciated by most people.

According to the Baseline Study on Biodiversity Conservation, 64% of surveyed respondents in the public category (e.g., household members, students at primary, secondary and tertiary levels) have heard of biodiversity. However, only 9% were noted to have a basic or advanced understanding of what biodiversity is. Therefore, there is a need for more concerted efforts to enhance biodiversity mainstreaming to improve awareness among the public as well as shed light on the NPBD.

FUNDING CAPACITY

Funding for biodiversity conservation is a long-term challenge for Malaysia and is considered low as compared to the significant values that biodiversity and ecosystem services generate for the Malaysian economy and population. The government sector was identified as the primary source of biodiversity-related expenditure, followed by the Non-Governmental Organisation (NGO) and private sectors respectively whereas public budget allocations remain relatively low. Although, the financing capacity has been diversified over the last decade, various trust funds (e.g., the National Conservation Trust Fund for Natural Resources, the Marine Parks Trust Fund, and the Taman Negara Trust Fund) have been set up to act as a long-term sustainable financing mechanism. Multilateral organisations such as the United Nations Development Program (UNDP), the Global Environment Facility (GEF) and the International Tropical Timber Organisation (ITTO) as well as bilateral agencies such as the Danish International Development Agency (DANIDA) and the Japan International Cooperation Agency (JICA) have been notable in providing funds to conserve biodiversity in the past and present. However, Malaysia is transitioning from its developing country status and will find it challenging to tap into multilateral and bilateral aid funds in the future. Therefore, there is an urgent need to explore alternative financial sources to better conserve and protect biodiversity in Malaysia.






Source: Forest Department Sarawak







SECTION 2:
KEY ELEMENTS
OF THE POLICY

Jeram Berungut, Kenaboi State Park,
Jejebu, Negeri Sembilan



POLICY STATEMENT

The policy statement of the NPBD 2022-2030 will ensure that:

“Malaysia is committed to conserve its biological diversity, promote its sustainable use, and ensure the fair and equitable sharing of benefits arising from the utilisation of biological resources.”

The NPBD 2022-2030 will continue to provide guidance in conserving Malaysia’s biological diversity and to ensure that it is utilised in a sustainable manner for the continued progress of the nation. In keeping with Malaysia’s international commitments, the Policy still embodies the spirit of the SDG and has been aligned with all the key elements of the CBD’s KMGBF.

PRINCIPLES

The Policy is guided by the previous five principles to ensure that the goals, targets and actions support Malaysia’s vision for sustainable development:

PRINCIPLE 1: **HERITAGE**

Biological diversity is a national heritage and it must be sustainably managed and wisely utilised today and conserved for future generations.

PRINCIPLE 2: **PRECAUTIONARY**

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

PRINCIPLE 3: **SHARED RESPONSIBILITY**

The conservation and sustainable utilisation of biodiversity are the shared responsibility of all sectors of society. Planning & management of biodiversity must be carried out in a participatory manner.

PRINCIPLE 4: **PARTICIPATORY**

The role of indigenous peoples and local communities in the conservation, management and utilisation of biodiversity shall be recognised and their rightful share of benefits shall be ensured.

PRINCIPLE 5: **GOOD GOVERNANCE**

Good governance, including accountability and transparency in decision-making, is crucial to biodiversity conservation.





GOALS, TARGETS AND ACTIONS

The NPBD 2022-2030 retains the goal-target-action framework to guide our efforts to conserve our biodiversity, promote its sustainable use and ensure fair and equitable sharing of benefits from the use of biological resources.

The Policy contains five overarching goals which closely mirror the goals of the CBD's KMGBF.



Each goal is accompanied by specific targets totalling 17 targets to be achieved by 2030. These targets are closely aligned with the KMGBF Targets and based on national circumstances. The timeline of the Policy has also been revised to 2030, aligning with the mid-term reporting of countries to the CBD on the implementation of country biodiversity strategies and action plans, as well as meeting other national priorities and targets.

The targets are accompanied by a set of actions that spell out the steps that need to be taken to meet the targets and ultimately, the goals. There are a total of 61 actions in this Policy. These actions have been revised based on a review of the progress of the previous NPBD as well as taking into account new and emerging challenges and issues that need to be addressed in Malaysia. The Policy is also in line with and will support the 12th Malaysia Plan with regards to Sustainable Development (Thematic Area 3). More specifically, the Policy will support various strategies such as Shared Responsibility in Reducing Pollution, Improving Resilience towards Climate Change and Natural Disasters, Conservation of Natural Ecosystems, Protection and Conservation of Species and Genetic Resource, Sustainable Usage and Benefit Sharing, Strengthening Environmental Management, and Increasing Green Financing and Investments.



GOAL 1 **WE HAVE EMPOWERED & HARNESSSED THE COMMITMENT OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY**



Safeguarding Malaysia's biodiversity will require every citizen to contribute towards conservation. Empowering every segment of our society and harnessing their commitment remains a fundamental principle for the conservation of our biodiversity.

The Federal and State governments will continue to play leading roles in terms of direction, coordination, and implementation of high-level conservation initiatives. While agencies related to biodiversity and environment along with academia will remain focal agencies in managing the country's biodiversity, other sectoral agencies overseeing land use planning, infrastructure, transportation, agriculture, fisheries, mining, tourism, and economic and human development need to be empowered more to actively support biodiversity conservation initiatives.

Civil society will continue to be an active partner in biodiversity conservation. Partnerships and opportunities between civil society and the government are anticipated to significantly increase in implementing key conservation activities. The involvement of IPLCs in biodiversity conservation has also significantly increased due to strong partnerships and empowerment through continuous dialogue, awareness raising, and capacity building. These efforts need to continue in order to secure them as key partners in biodiversity conservation.

We envisage more direct participation from the private sector towards biodiversity conservation in the coming future. Environmental, Social, and Governance (ESG) principles, as well as the SDGs are slowly being incorporated as guiding principles for the private sector, which has created more awareness and interest in contributing to conserving Malaysia's biodiversity. The private sector thus needs to be engaged directly through relevant agencies that empower and enable them through coordinated efforts with Federal and State Governments to become active partners in conservation.

Goal 1 has 2 targets:

- **TARGET 1:**

By 2030, more Malaysians are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably

- **TARGET 2:**

By 2030, the roles of indigenous peoples and local communities, civil society, the private sector, and academia in biodiversity conservation have been significantly strengthened







GOALS, TARGETS AND ACTIONS

GOAL 1

WE HAVE EMPOWERED & HARNESSED THE COMMITMENT OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 1:

BY 2030, MORE MALAYSIANS ARE AWARE OF THE VALUES OF BIODIVERSITY AND THE STEPS THEY CAN TAKE TO CONSERVE AND USE IT SUSTAINABLY

WHY IS THIS TARGET IMPORTANT?

Conservation is more effective when the full importance of biodiversity is recognised and acknowledged. The level of awareness and understanding of biodiversity among Malaysians remains poor. More efforts are needed to improve biodiversity consciousness across society before empowerment can take place. Awareness-raising, as well as continuous dialogues among different segments of society is important to advocate behavioural change in individuals, organisations, sectors, and governments to support and contribute to biodiversity conservation.

MEETING THE TARGET

Improving the awareness levels of Malaysians will require varying approaches for different segments of society. Opportunities for public participation can help to increase the general knowledge and awareness of civilians about the values of biodiversity and what they can do to protect and conserve it.



Target 1 has 2 Actions:

- **ACTION 1.1:**
Enhance biodiversity consciousness across all segments of society
- **ACTION 1.2:**
Ingrain biodiversity consciousness within children and youth

ACTION 1.1:

ENHANCE BIODIVERSITY CONSCIOUSNESS ACROSS ALL SEGMENTS OF SOCIETY

We need to continuously create and enhance awareness across all segments of our society. Effective communication will require the dissemination of accurate and comprehensible information to all segments of society. This ranges from decision makers like Member of Parliaments (MPs), State Legislative Assemblies (ADUNs), politicians, councillors, business directors, and resource managers, down to the general public and local communities.

We need to:

- Develop collaborative communication, education and public awareness (CEPA) programmes to reach all segments of society.
- Increase opportunities for public participation in biodiversity research and conservation such as through citizen science.
- Leverage global biodiversity events as platforms for building targeted awareness and participation.
- Enhance the use of digital tools including social media platforms and mobile applications to communicate biodiversity.
- Increase publication that exemplifies Malaysia's biodiversity to all segments of society (e.g., coffee-table books, magazines, novels)

Key Indicator:
By 2030, public awareness levels of the importance of biodiversity have increased compared to 2024 levels



GOAL 1

WE HAVE EMPOWERED & HARNESSSED THE COMMITMENT OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 1:

BY 2030, MORE MALAYSIANS ARE AWARE OF THE VALUES OF BIODIVERSITY AND THE STEPS THEY CAN TAKE TO CONSERVE AND USE IT SUSTAINABLY

ACTION 1.2:

INGRAIN BIODIVERSITY CONSCIOUSNESS WITHIN THE CHILDREN AND YOUTH

It is crucial for the future generation of Malaysia to be well-educated and nurtured in various aspects of biodiversity. At the same time, there is also a need to strengthen the capacities and skills of educators who will be nurturing and developing interests in biodiversity conservation.

We need to:

- a. Strengthen biodiversity elements within the curriculum and co-curriculum of schools (including pre-schools) and other educational institutions .
- b. Develop biodiversity-related training for educators across all levels of education.
- c. Expand and strengthen nature education centres in protected areas and areas of high biodiversity value.
- d. Expand programmes that enable youths to be exposed to and involved in biodiversity conservation.

Key Indicator:
By 2030, the number of children and youths participating in biodiversity conservation activities has increased by 50% compared to 2024 levels



Asian elephant
Elephas maximus



GOALS, TARGETS AND ACTIONS

GOAL 1

WE HAVE EMPOWERED & HARNESSED THE COMMITMENT OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 2:

BY 2030, THE ROLES OF INDIGENOUS PEOPLES AND LOCAL COMMUNITIES, CIVIL SOCIETY, THE PRIVATE SECTOR, AND ACADEMIA IN BIODIVERSITY CONSERVATION HAVE BEEN SIGNIFICANTLY STRENGTHENED



WHY IS THIS TARGET IMPORTANT?

The participation of IPLCs, civil society, the private sector, and academia in biodiversity conservation has been steadily increasing. This is due to the continued effort from conservationists to empower and harness the commitments of these major stakeholder groups. As Malaysia continues to develop in this rapidly modernising age, we must increase efforts to empower and harness the full commitments of key players to fulfil our shared responsibility and ensure that Malaysia's biodiversity is not neglected.

MEETING THE TARGET

This target will require effective and lasting partnerships to be established between the important stakeholder groups. Civil society organisations (CSOs) need to be empowered through effective working platforms to ensure that their efforts are recognised and are in line with this Policy, while also identifying avenues for more initiatives to be developed. The private sector needs more recognition for its role as a crucial partner in conservation. Avenues need to be in place for them to contribute, be it through resource mobilisation, capacity building, awareness raising, and reporting achievements. Communication and engagements with the IPLCs also need to be continued and sustained to nurture local champions for biodiversity conservation on the ground.

Target 2 has 5 actions:

- **ACTION 2.1:**
Empower and support indigenous peoples and local communities
- **ACTION 2.2:**
Develop long-term partnerships with civil society
- **ACTION 2.3:**
Harness the strength of the private sector
- **ACTION 2.4:**
Enhance stakeholder participation in the decision-making process
- **ACTION 2.5:**
Strengthen collaborations with the academic community

GOAL 1

WE HAVE EMPOWERED & HARNESSED THE COMMITMENT OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 2:

BY 2030, THE ROLES OF INDIGENOUS PEOPLES AND LOCAL COMMUNITIES, CIVIL SOCIETY, THE PRIVATE SECTOR, AND ACADEMIA IN BIODIVERSITY CONSERVATION HAVE BEEN SIGNIFICANTLY STRENGTHENED

ACTION 2.1:

EMPOWER AND SUPPORT INDIGENOUS PEOPLES AND LOCAL COMMUNITIES

The IPLCs are regarded as stewards of nature. Being close to nature means that they have an intricate relationship with their environment, as well as a wealth of knowledge on biodiversity. It is thus crucial for them to be empowered as stewards to help conserve biodiversity in their localities.

We need to:

- a. Review relevant legislations, procedures, and policies to empower IPLCs across all genders to contribute towards the management and conservation of biodiversity.
- b. Develop smart partnership arrangements and programmes that facilitate the involvement of IPLCs in biodiversity conservation, including women and children.
- c. Enhance capacity building and support to enable IPLCs (including women and children) to play more effective roles in biodiversity conservation, especially with regards to the recognition of basic human and land tenure rights.
- d. Continue to identify, nurture, and recognise local champions for biodiversity conservation through relevant platforms.

Key Indicator:
By 2030, policies to empower IPLCs have been developed and implemented

ACTION 2.2:

DEVELOP LONG-TERM PARTNERSHIPS WITH CIVIL SOCIETY

The CSOs are key partners in conservation as their unrelenting and continued involvement in long-term programmes and projects has helped increase awareness, support, and action towards biodiversity conservation. As such, there is a need to increase avenues for civil society to partner with other stakeholders in conservation, as well as protecting their rights as environmental defenders.

We need to:

- a. Encourage the active participation of NGOs and CSOs to utilise national financial instruments and voluntarily report their conservation projects, including outputs and outcomes.
- b. Acknowledge and legally support NGOs and CSOs in implementing programmes that are in line with the Policy.
- c. Develop smart partnership arrangements with NGOs and CSOs to enable the implementation of conservation initiatives

Key Indicator:
By 2030, the number, size, and duration of collaborative projects with civil society have increased by 50% compared to 2024 levels



GOALS, TARGETS AND ACTIONS

GOAL 1

WE HAVE EMPOWERED & HARNESSSED THE COMMITMENT OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 2:

BY 2030, THE ROLES OF INDIGENOUS PEOPLES AND LOCAL COMMUNITIES, CIVIL SOCIETY, THE PRIVATE SECTOR, AND ACADEMIA IN BIODIVERSITY CONSERVATION HAVE BEEN SIGNIFICANTLY STRENGTHENED

ACTION 2.3:

HARNESS THE STRENGTH OF THE PRIVATE SECTOR

Malaysia's thriving private sector has begun to be more actively involved in biodiversity conservation as part of increasing requirements for sustainable development and ESG principles. We need to leverage recent efforts and foster effective partnerships to empower them to be allies towards achieving the country's goals in biodiversity conservation.

We need to:

- Embed biodiversity conservation into the ESG commitments and strategies of all public-listed companies to ensure transparent disclosure.
- Scale up Corporate Social Responsibility (CSR) and ESG commitments and strategies of Small-Medium Enterprises (SMEs) that relate to biodiversity conservation.
- Strengthen the role of the Malaysia Platform for Business and Biodiversity (MPBB) in harnessing private sector participation in biodiversity conservation.
- Develop and implement a Business and Biodiversity Action Plan in line with the Business and Biodiversity Strategic roadmap to ensure private sector participation in biodiversity conservation.
- Develop smart partnership arrangements for implementing programmes that are in line with the Policy, especially by leveraging the technical expertise and human resources of the private sector.
- Encourage the active participation of the private sector in reporting their initiatives on biodiversity conservation, as well as disclosures based on international standards and initiatives through national platforms.
- Encourage direct impact funding channels for conservation activities.
- Empower and enable private sector engagement through active collaboration with federal agencies in establishing transparent long term commitments.

Key Indicator:
By 2030, all public-listed companies are reporting on biodiversity conservation initiatives

ACTION 2.4:

ENHANCE STAKEHOLDER PARTICIPATION IN DECISION-MAKING PROCESSES

All Malaysians have a stake in ensuring that our nation's biological resources and ecosystem services are conserved and well-managed. We need to ensure that all Malaysians have the opportunity to participate and contribute to decision-making processes so that all plans, actions and outcomes are democratic and reflect our common vision for biodiversity.

We must:

- Strengthen the public consultation process in the formulation of legislation, policies, plans and projects that are related to, or have an impact on biodiversity.
- Strengthen the public consultation process in the gazettment, management, and excision of areas that are important for biodiversity.
- Strengthen the public consultation process in planning approvals and impact assessments of development projects that affect biodiversity.
- Strengthen the Free, Prior, and Informed Consent (FPIC) process in projects that affect indigenous peoples and local communities.
- Increase public access to key documents related to biodiversity such as Federal and State government gazettes, management plans, and Environmental Impact Assessments (EIAs).

Key Indicator:
By 2030, stakeholder participation in public consultation processes has led to positive outcomes towards biodiversity conservation



GOAL 1

WE HAVE EMPOWERED & HARNESSED THE COMMITMENT OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 2:

BY 2030, THE ROLES OF INDIGENOUS PEOPLES AND LOCAL COMMUNITIES, CIVIL SOCIETY, THE PRIVATE SECTOR, AND ACADEMIA IN BIODIVERSITY CONSERVATION HAVE BEEN SIGNIFICANTLY STRENGTHENED

ACTION 2.5:

STRENGTHEN COLLABORATIONS WITH THE ACADEMIC COMMUNITY

The academic community has an important role to play in biodiversity conservation. Continuous research is essential in biodiversity conservation in order to fill knowledge gaps through the science-policy interface. However, research findings will only benefit everyone if they are communicated to other key stakeholders. We must endeavour to include the academic community in all forms of biodiversity conservation, including policy planning.

We need to:

- a. Strengthen research efforts to address knowledge gaps in critical areas to facilitate policy planning.
- b. Communicate scientific findings regularly and in a synthesised and easily understood manner to key stakeholders.
- c. Establish partnerships between the private sector, local communities, and academia to support this Policy through various research opportunities and projects.
- d. Strengthen the national Clearing-House Mechanism (CHM) as a platform for sharing information between researchers, resource managers and other stakeholders.
- e. Establish a network of depositories of specimens and records through collaborations between the Natural History Museum and the Malaysia Biodiversity Centre (MBC) to safeguard Malaysia's immense biodiversity collections.
- f. Support a local journalism network in disseminating academic research into public-friendly information.

Key Indicator:
By 2030, at least 30% of research is effectively translated and implemented into policy papers



Mount Wullersdorf,
Tawau, Sabah





Madai - Baturong Forest Reserve, Sabah



GOALS, TARGETS AND ACTIONS

GOAL 2 **WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY**



As Malaysia continues to develop and grow, the direct and indirect pressures on biodiversity will continue to persist. Timber harvesting, agriculture and commodity expansion, fisheries extraction, and infrastructure development have long been the common causes of biodiversity loss and ecosystem degradation. Renewed interest in mining, as well as expanding tourism, will add more pressure on our biodiversity and natural habitats.

Mainstreaming biodiversity conservation across all economic sectors remains an utmost priority. The goal is to ensure that these sectors are planned and managed sustainably and take the necessary measures to minimise pressure on our biological resources. While we recognise that each sector has its own mandate and aspirations, we need to work together to harmonise biodiversity conservation and sector-specific development, thus working towards actual sustainable development. We realise that changes to the management of our resources and planning need to occur for effective mainstreaming to happen.

Goal 2 has 5 targets:

- **TARGET 3:**
By 2030, terrestrial and marine spatial planning fully incorporate elements of biodiversity conservation
- **TARGET 4:**
By 2030, biodiversity conservation has been effectively mainstreamed into development frameworks
- **TARGET 5:**
By 2030, our forest governance and management has been strengthened for biodiversity conservation
- **TARGET 6:**
By 2030, our agrofood, agricommodity, and fisheries production are managed and harvested sustainably
- **TARGET 7:**
By 2030, the synergies between tourism and conservation are fully realised



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 3:

BY 2030, TERRESTRIAL AND MARINE SPATIAL PLANNING FULLY INCORPORATE ELEMENTS OF BIODIVERSITY CONSERVATION

WHY IS THIS TARGET IMPORTANT?

Traditionally, biodiversity conservation focused on very specific areas and habitats with diverse flora and fauna communities. However, long-term research and studies have shown that there is a need for conservation to be done at the landscape level as biodiversity depends on the various interconnected ecosystem services which help sustain life. As such, there is a need to change our spatial planning and management processes. Being the guiding documents for our nation's development, our spatial plans need to start incorporating principles for biodiversity and habitat conservation, which will also boost ecosystem resilience to climate change.



MEETING THE TARGET

This target specifically focuses on mainstreaming biodiversity conservation into our planning documents. In particular, it calls for better spatial planning across important landscapes and seascapes, specifically when it comes to the management of our land, and coastal areas for future development. We also need to strengthen conservation in our urban areas. New townships should incorporate natural areas into their design to leverage their recreational and aesthetic values. Our landscaping measures also need to be strengthened so that urban areas can be a refuge for wildlife, especially pollinators and seed dispersers.

Target 3 has 2 Actions:

- **ACTION 3.1:**
Strengthen biodiversity conservation elements in national, state and local development plans
- **ACTION 3.2:**
Enhance urban biodiversity conservation

ACTION 3.1:

STRENGTHEN BIODIVERSITY CONSERVATION ELEMENTS IN NATIONAL, STATE AND LOCAL DEVELOPMENT PLANS

Biodiversity conservation elements need to be mainstreamed further in all spatial plans so that future developments are properly planned and executed without imposing more pressure on our biological and natural resources. We also need to increase the recognition of important biodiversity areas in these spatial plans to ensure major development projects do not encroach on these areas.

We need to:

- a. Incorporate principles for protecting and managing biodiversity at the landscape and seascape levels within national development plans, state structure plans, and local district plans.
- b. Expand spatial planning to include all marine areas, notably at the state and local district levels, as well as beyond Malaysia's EEZ up to international marine borders.
- c. Incorporate important biodiversity areas as ESA within national, state, and local development plans.
- d. Ensure that development zones in local district plans avoid ESA and important biodiversity areas, especially during the review and updating process.
- e. Support implementation of the National Action Plan on Peatlands (NAPP) and ASEAN Peatland Management Strategy 2023-2030 (APMS), in particular the objectives related to assessment, protection and rehabilitation, integrated management, fire prevention, and control.

Key Indicator:
By 2030, important landscapes and seascapes have been integrated and recognised in the national, state, and local development plans



GOALS, TARGETS AND ACTIONS

GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 3:

BY 2030, TERRESTRIAL AND MARINE SPATIAL PLANNING FULLY INCORPORATE ELEMENTS OF BIODIVERSITY CONSERVATION

ACTION 3.2: ENHANCE URBAN AND RURAL BIODIVERSITY CONSERVATION

Urban and rural areas have great potential for contributing to biodiversity conservation. Green space and remnant forest patches can still serve as viable habitats for a wide range of wildlife, including migratory birds and pollinating insects. At the same time, these areas hold potential as rehabilitation and ex-situ conservation areas. In turn, these provide multiple benefits to the community and the environment, through increased recreational and aesthetical values and improved ecological connectivity within the urban environment.

We have to:

- a. Continue to maintain gazetted land meant for green cover and water reservoirs within cities.
- b. Support local authorities to increase green and blue spaces as part of the design criteria within commercial area development plans.
- c. Support local authorities to repurpose empty spaces / brownfield areas for urban forests, green lungs, pocket parks, and urban gardens / farms to enhance ecosystem services and support climate change adaptation.
- d. Promote the integration and usage of native species for the urban landscape.
- e. Develop the capacity of local authorities to manage urban and rural biodiversity.
- f. Encourage local authorities to measure and report on urban biodiversity through existing and potential platforms .
- g. Encourage and incentivise property developers to conserve and enhance biodiversity on their land.

Key Indicator:
*By 2030,
biodiversity is
being actively
enhanced in all
local authorities
and townships*



Danau Rimba, PD Forest @ Sg. Menyala,
Port Dickson, Negeri Sembilan



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 4:

BY 2030, BIODIVERSITY CONSERVATION HAS BEEN EFFECTIVELY MAINSTREAMED INTO DEVELOPMENT FRAMEWORKS



Timimbang Forest Reserve, Sabah

WHY IS THIS TARGET IMPORTANT?

Economic development remains a key national priority for Malaysia. Nonetheless, we must ensure that Malaysia's aspirations to become a developed country entails sustainable and efficient utilisation of its land and natural resources. As such, biodiversity conservation must take place together with national development rather than in isolation. Mainstreaming biodiversity into the different sectors and development frameworks remains a crucial aspect of ensuring direct and indirect pressures on biodiversity are thoroughly and effectively addressed.

MEETING THE TARGET

Effective biodiversity mainstreaming requires ingraining the principles of this Policy into various facets of Malaysia's economic sectors. Conservation principles and measures need to be considered and reflected during the development of new development policies, as well as in the revision of our current development plans. At the same time, we must also strengthen the monitoring processes to ensure development is pursued and conducted sustainably without imposing more pressures on biodiversity. Our valuation of biodiversity also needs to be strengthened and further incorporated into our planning frameworks to better reflect the country's economic growth.

Target 4 has 6 Actions

- **ACTION 4.1:**
Strengthen safeguards for biodiversity through the financial sector
- **ACTION 4.2:**
Incorporate biodiversity conservation principles into the infrastructure, commercial, industrial, energy, and health sectors
- **ACTION 4.3:**
Strengthen biodiversity assessment and monitoring processes during project development planning
- **ACTION 4.4:**
Strengthen pollution monitoring and regulation to protect freshwater and marine ecosystems
- **ACTION 4.5:**
Strengthen safeguards to minimise pressures from mining developments
- **ACTION 4.6:**
Strengthen sustainable consumption and production to support biodiversity conservation



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 4:

BY 2030, BIODIVERSITY CONSERVATION HAS BEEN EFFECTIVELY MAINSTREAMED INTO DEVELOPMENT FRAMEWORKS

ACTION 4.1: STRENGTHEN SAFEGUARDS FOR BIODIVERSITY THROUGH THE FINANCIAL SECTOR

Biodiversity underpins virtually all economic activities. However, it remains unaccounted for within our country's Gross Domestic Product (GDP) and an undervalued input of the GDP itself. It is evident that we must develop alternative ways of measuring economic, social, as well as environmental health in order to make properly informed decisions on land-use planning and development.

We need to:

- Develop a national System of Environmental and Economic Accounting (SEEA) framework that acknowledges biodiversity and ecosystem service values in the country's economy.
- Develop and mainstream a Sustainable and Responsible Taxonomy for Biodiversity as a classification instrument to aid responsible investment and financing.
- Develop a framework for biodiversity-related financial disclosure to regulate and support biodiversity reporting and risk assessments by financial sector firms.
- Encourage and incentivise companies to engage with federal agencies and relevant national programmes in adopting their ESG goals that strengthen biodiversity conservation and safeguards.

Key Indicator:
By 2030, biodiversity conservation has been embedded into the country's investment and financing frameworks

ACTION 4.2: INCORPORATE BIODIVERSITY CONSERVATION PRINCIPLES INTO THE INFRASTRUCTURE, COMMERCIAL, INDUSTRIAL, ENERGY, AND HEALTH SECTORS

Biodiversity mainstreaming needs to be continuously instilled in all our sectoral policies. Addressing biodiversity conservation at the policy level can help reduce direct pressures and avoid the need for expensive rehabilitation work at the project level. While each sector has its own mandate and aspirations, we have to continue working together to ensure biodiversity and ecosystem services are valued and managed properly within development.

We need to:

- Ensure that linear infrastructure developments include measures to avoid, minimise, and mitigate habitat fragmentation and wildlife roadkill.
- Strengthen environmental safeguards in the planning and construction of dams and river engineering works.
- Strengthen safeguards to ensure township and commercial developments are sited away from important biodiversity areas and do not incur conversion of terrestrial habitats and coastal reclamation.
- Ensure greenfield industrial developments and operations are sited away from water catchments, forest reserves, rivers, and other important biodiversity areas to avoid habitat loss and degradation.
- Ensure the establishment of large-scale renewable energy production facilities does not incur the clearing of terrestrial habitats or deter/disrupt lake and coastal ecological processes.
- Mandate the need for Marine Mammal Observers (MMOs) on-board seismic exploration vessels and other oil and gas exploration activities within Malaysia's EEZ waters to minimise / mitigate impacts on marine mammals where relevant.
- Develop and mainstream the One Health approach amongst human, animal, and environmental health stakeholders (and other relevant areas of expertise) to address and manage health issues at the human-animal-environment interface, including zoonotic diseases.

Key Indicator:
By 2030, relevant and effective biodiversity safeguards have been embedded into the infrastructure, commercial, industrial, energy, and health sectors



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 4:

BY 2030, BIODIVERSITY CONSERVATION HAS BEEN EFFECTIVELY MAINSTREAMED INTO DEVELOPMENT FRAMEWORKS

**ACTION 4.3:
STRENGTHEN BIODIVERSITY ASSESSMENT AND MONITORING PROCESSES
DURING PROJECT DEVELOPMENT PLANNING**

Our country enforces a myriad of acts, enactments, and regulations to monitor development impacts on the environment. However, impacts towards biodiversity and ecosystem services have remained sorely overlooked in view of other major impacts. We thus need to strengthen impact assessments and monitoring frameworks to include biodiversity as a crucial component in major projects and developments.

We need to:

- a. Incorporate biodiversity risk valuation and risk assessments into feasibility studies and preliminary screening processes to identify potential threats towards biodiversity from proposed developments and guide decision-making.
- b. Strengthen the EIA review process to be more stringent towards ecological and biodiversity impacts, especially at the state level.
- c. Increase post-EIA monitoring and enforcement to ensure environmental mitigation measures are implemented and effective during the construction phase.
- d. Study the feasibility of implementing No Nett Loss (or preferably Nett Gain) approach in the approval of projects that are likely to cause significant loss of biodiversity.

Key Indicator:
By 2030, biodiversity regulatory frameworks are in place and implemented within project development frameworks

**ACTION 4.4:
STRENGTHEN POLLUTION MONITORING AND REGULATION TO PROTECT
FRESHWATER AND MARINE ECOSYSTEMS**

There have been increasing pressures on our freshwater and marine ecosystems due to increased industrial development, resulting in increased pollution loads which are causing serious environmental damage. To address this, we must improve regulations and enhance enforcement to minimise pollution impacts towards these two important and fragile ecosystems.

We need to:

- a. Strengthen legislations to ban single plastic use to reduce microplastic pollution into rivers, specifically at the state and district council levels.
- b. Assess the permissible pollution loads of major river basins and severely contaminated rivers through the Total Maximum Daily Load (TMDL) approach.
- c. Establish pollution monitoring programmes with integrated databases for data collection and dissemination by central agencies.
- d. Commission a long-term study to determine the effects of emerging pollutants on marine and freshwater biodiversity and revise pollution concentration standards accordingly.
- e. Commission a long-term study to determine the effects of noise pollution towards marine and freshwater biodiversity and develop appropriate mitigation measures.

Key Indicator:
By 2030, freshwater and marine pollution levels have improved compared to 2024 levels



GOALS, TARGETS AND ACTIONS

GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 4:

BY 2030, BIODIVERSITY CONSERVATION HAS BEEN EFFECTIVELY MAINSTREAMED INTO DEVELOPMENT FRAMEWORKS

ACTION 4.5:

STRENGTHEN SAFEGUARDS TO MINIMISE PRESSURES FROM MINING DEVELOPMENTS

Mining is expected to experience significant growth in the coming years due to the demand for specific minerals supporting the manufacturing, industry, and technology sectors. Coincidentally, many of the mineral-rich areas are also important biodiversity areas. It is crucial to ensure that future mining activities are planned and executed responsibly and take into consideration remedial steps to conserve or rehabilitate natural areas and biodiversity.

We need to:

- Ensure that all mining projects take into account all relevant legislation and avoid important biodiversity areas including PRF and protected areas.
- Mandate the need for less intrusive mining techniques, specifically in mineral-rich areas which are also important biodiversity landscapes.
- Ensure mining project approvals adopt the No Nett Loss approach and instruct project owners and operators to implement mitigation measures during construction and operational activities.
- Necessitate and incentivise mining owners/ operators to undertake habitat rehabilitation activities upon phased completion of mining operations or the expiration of mining permits.
- Increase monitoring and enforcement to ensure proposed mitigation measures are implemented and to assess their effectiveness.

Key Indicator:
*By 2030,
biodiversity
conservation
principles have
been translated
into implementable
actions within
mining projects*

ACTION 4.6:

STRENGTHEN SUSTAINABLE CONSUMPTION AND PRODUCTION TO SUPPORT BIODIVERSITY CONSERVATION

Consumption and production must balance the needs for economic growth and the livelihoods of the present generation, ensuring they are safeguarded for the benefit of future generations. This requires efficient use of natural resources, minimising over-consumption and waste, and reducing pollution and waste throughout the life cycle of products and services. Unsustainable consumption and production are among the root causes of biodiversity loss, as well as climate change, and increased pollution. These crises threaten both human well-being and biodiversity. There is a dire need to improve understanding and awareness on reducing over-consumption and waste generation to support biodiversity conservation.

We need to:

- Strengthen mainstreaming of the circular economy approach across all segments of society and relevant production sectors to start transitioning towards reducing dependencies on imports and new resources, as well as reducing wastage of production materials.
- Promote lifestyles that encourage sustainable consumption and usage of environment-friendly products to reduce consumption footprints.
- Strengthen policies, legislations, and economic instruments to improve national consumption patterns and reduce over-consumption of natural resources and waste generation.
- Expanding the Supplier Relationship Management (SRM), Extended Producer Responsibility (EPR) and Polluters Pay frameworks to evaluate business supply chains to ensure goods, materials, and services are sustainably sourced and managed to reduce pollution and wastage.

Key Indicator:
*By 2025,
the national
consumption
footprint has been
established and
by 2030, steps
are in place to
reduce excessive
consumption levels*



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 5:

BY 2030, OUR FOREST GOVERNANCE AND MANAGEMENT HAS BEEN STRENGTHENED FOR BIODIVERSITY CONSERVATION



Matang Mangrove Forest Reserve,
Kuala Sepetang, Perak

WHY IS THIS TARGET IMPORTANT?

A large proportion of our terrestrial and aquatic biodiversity lies within the various forest formations that constitute Malaysia's tropical evergreen rainforests, which are renowned to be among the richest and most productive terrestrial ecosystems on Earth. There is also an increasing understanding that forests play an important role in addressing emerging issues such as climate change as well as ensuring water and food security, as well as quality of life. Therefore, upholding good governance and sound management of our forests is crucial for biodiversity conservation, and to honour our commitment to maintain at least 50% of our land area under forest and tree cover, as stated unequivocally in the Malaysia Policy on Forestry.

MEETING THE TARGET

Forest governance, in terms of the process of decision-making, is a critical element for the long-term protection of our forests and the conservation of the biodiversity and ecosystem services they harbour. Despite having comprehensive legislation and strong institutional frameworks, we must strive to continuously improve basic tenets such as participation, transparency, and accountability, in the governance of our forests.

Target 5 has 3 Actions:

- **ACTION 5.1:**
Strengthen forest governance and regulations
- **ACTION 5.2:**
Enhance sustainable forest management
- **ACTION 5.3:**
Leverage technology to enhance forest monitoring and reporting



GOALS, TARGETS AND ACTIONS

GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 5:

BY 2030, OUR FOREST GOVERNANCE AND MANAGEMENT HAS BEEN STRENGTHENED FOR BIODIVERSITY CONSERVATION

ACTION 5.1: STRENGTHEN FOREST GOVERNANCE AND REGULATIONS

Under Article 74(2) of the Federal Constitution, state governments have complete jurisdiction over their respective forest resources, while the Malaysia Policy on Forestry is already in place to provide direction at the national and state levels. Nevertheless, there is still scope to fine-tune key elements in forest governance, in particular to strengthen the degree of permanence of PRF. This is especially pertinent towards maintaining our commitment to maintaining at least 50% of our land area under forest and tree cover.

We need to:

- Develop regulations pertaining to the excision, re-classification or revocation of the status of PRF that incorporates consultation with the public and oversight at the State legislative level.
- Improve the processes involved in awarding all types of concessions in forest reserves, to ensure optimal benefits to the states, while also respecting the rights of IPLCs.
- Develop frameworks to regulate the allocation of long-term forest concessions for biodiversity conservation, including REDD Plus or other carbon projects.

ACTION 5.2: ENHANCE SUSTAINABLE FOREST MANAGEMENT

The majority of our forests are within forest reserves managed under Sustainable Forest Management (SFM), a holistic approach that emphasises multiple uses, to ensure forest activities deliver social, environmental, and economic benefits, in order to balance competing needs and maintain ecosystem functions. The SFM framework provides a strong foundation for biodiversity conservation, incorporating the ecosystem approach, which entails adaptive management to deal with the complex and dynamic nature of ecosystems. While SFM in Malaysia is already of a very high standard, there is always room for improvement, including in relation to biodiversity conservation.

We must:

- Review forest management plans every 5-10 years through a participatory process that considers the inputs of all stakeholders, including NGOs and IPLCs.
- Strengthen the incorporation of the High Conservation Value (HCV) approach in the forestry industry, in line with international best practices.
- Continue supporting forest restoration efforts in all Forest Management Units (FMUs).
- Ensure that forest plantations only constitute a limited portion of the permanent forest estate, and that the impacts of forest conversion on biodiversity and ecosystem services are minimised through appropriate landscape design and management strategies specified in the EIA and or HCV assessment.
- Expand social forestry and co-management approaches in order to improve the socio-economic conditions of IPLCs and enhance the management of forest resources.

Key Indicator:
By 2030, forestry laws and regulations have been reviewed to support biodiversity conservation and contribute to climate change adaptation

Key Indicator:
By 2030, 50% of the forestry sector has been certified under sustainable management schemes (e.g. Malaysian Timber Certification Scheme (MTCS) and Forest Stewardship Council (FSC))



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 5: BY 2030, OUR FOREST GOVERNANCE AND MANAGEMENT HAS BEEN STRENGTHENED FOR BIODIVERSITY CONSERVATION

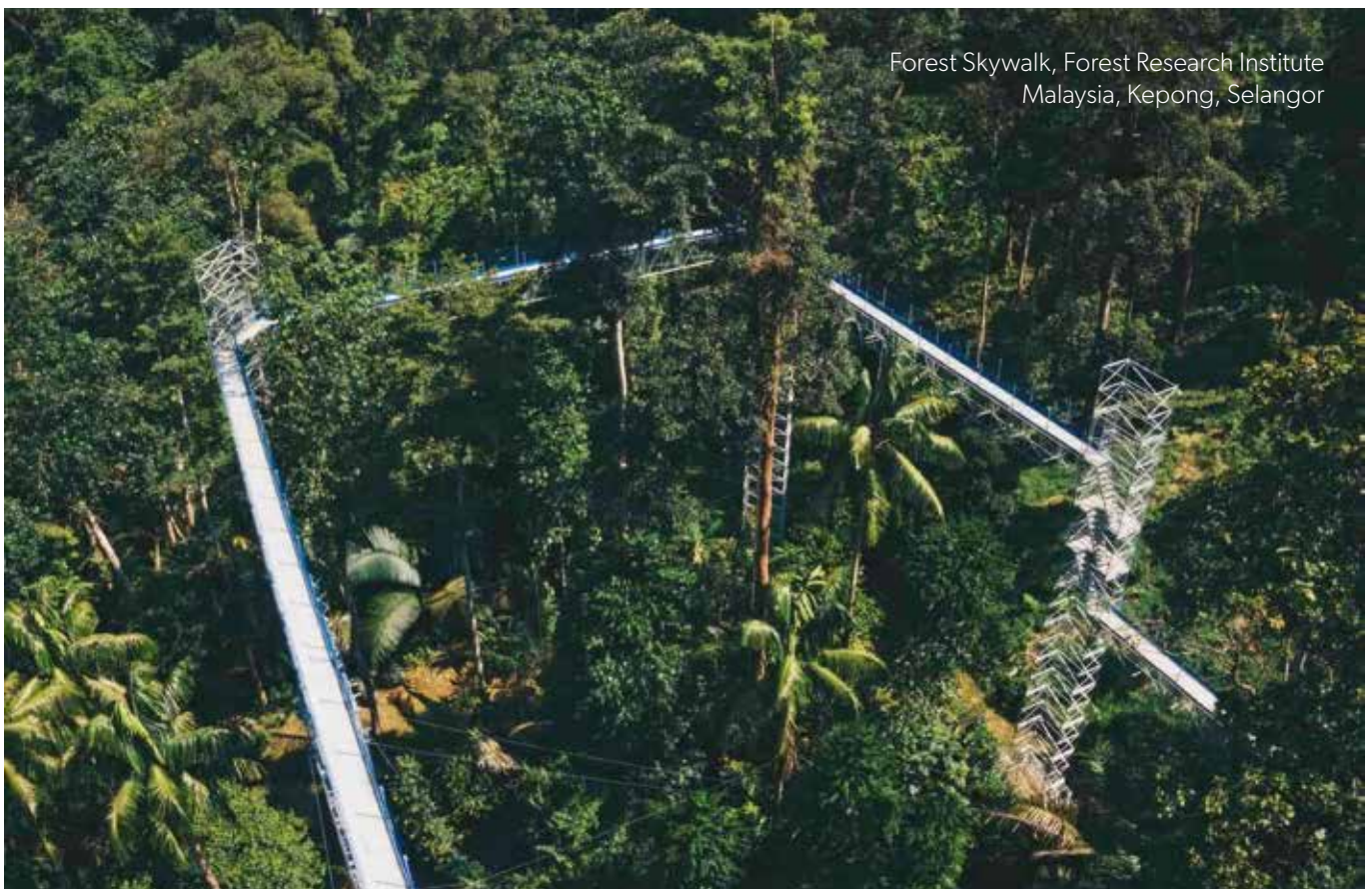
ACTION 5.3: LEVERAGE TECHNOLOGY TO ENHANCE FOREST MONITORING AND REPORTING

The level of accuracy and sophistication offered by remote sensing technology, including Earth observation satellites and LiDar (Light detection and ranging) products, is rapidly increasing. We must be able to harness this technology, to develop tools that help us in planning, managing and reporting our forest ecosystems. For example, remote sensing-based models that allow us to predict the impacts of disturbance on forest ecology or above-ground biomass, would provide critical information for forest planning.

We need to:

- a. Develop remote sensing tools to aid forest ecosystem planning and establish baseline levels on forest carbon/forest reference level (FRL)/forest emission level (FREL) at the national and state levels.
- b. Utilise remote sensing for annual monitoring of forest and tree cover and forest fire incidences.
- c. Encourage independent forest monitoring by civil society, including IPLCs, to complement official monitoring platforms.

Key Indicator:
*By 2030,
technological
capacities for
forest monitoring
have significantly
increased*



Forest Skywalk, Forest Research Institute
Malaysia, Kepong, Selangor



GOALS, TARGETS AND ACTIONS

GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 6:

BY 2030, OUR AGROFOOD, AGRICOMMODITY, AND FISHERIES PRODUCTION ARE MANAGED AND HARVESTED SUSTAINABLY



WHY IS THIS TARGET IMPORTANT?

The agrofood, agricommodities, and fisheries are still one of the core economic sectors of Malaysia, contributing to the country's overall GDP while also providing job opportunities. However, these sectors have a very high demand for resources, in terms of land for plantations, and stock species for fisheries. As such, these sectors have long been viewed as contributing to direct pressures on biodiversity. While we recognise that these sectors need to be sustained, we also need to be more proactive in reducing the impacts towards biodiversity through sustainable management practices. In view of more demand for sustainable agriculture management at the global front, it is also apt that Malaysia endeavours to transition these sectors towards sustainability which seeks to ensure our biodiversity will be effectively conserved.

MEETING THE TARGET

Shifting our agrofood, agricommodities, and fisheries sectors towards sustainability will require changes to management practices and standards. Awareness raising and capacity building will be required, specifically for smallholders and workers. These actions are required so that everyone understands the need for sustainable practices in these sectors that are heavily dependent on land and resource, and how they can play their part. We will also have to reform incentives to ensure that they support biodiversity conservation (directly or indirectly) besides aiding workers. These efforts will help contribute towards long-term conservation initiatives, especially at the landscape and seascape levels.

Target 6 has 4 Actions:

- **ACTION 6.1:**
Strengthen sustainable agrofood and agricommodity practices
- **ACTION 6.2:**
Reduce the impact of fisheries on marine and coastal biodiversity
- **ACTION 6.3:**
Strengthen aquaculture planning and management
- **ACTION 6.4:**
Strengthen genetic diversity conservation of cultivated plants, farmed and domesticated animals, and their wild relatives.



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

**TARGET 6:
BY 2030, OUR AGROFOOD, AGRICOMMODITY, AND FISHERIES PRODUCTION ARE MANAGED AND HARVESTED SUSTAINABLY**

**ACTION 6.1:
STRENGTHEN SUSTAINABLE AGROFOOD AND AGRICOMMODITY PRACTICES**

Our agrofood and agricommodity sectors are among the core economic activities of the country and still contribute significantly to the nation's economic output. At the same time, we must ensure that plantations are planned and managed sustainably as these activities require substantial amounts of land. As such, the future of these sectors will depend on sustainable and effective management of land and plantation practices to reduce pressures towards biodiversity while maximising yields.

We need to:

- a. Strengthen research to increase crop productivity in order to reduce land demand pressures for agrofood and agricommodity expansion.
- b. Encourage companies to adopt No Deforestation, No Peat, No Exploitation (NDPE) policies.
- c. Enhance the use of the High Conservation Value (HCV) approach in farms and plantations.
- d. Review and strengthen environmental regulations to ensure the expansion of agrofood and agricommodity plantations does not encroach into areas of high biodiversity value.
- e. Provide incentives and technical support to agrofood and agricommodity companies and smallholders in achieving certification under relevant sustainability schemes.
- f. Encourage, incentivise, and support plantations to allocate and aggregate fragmented land for ecological corridors across agriculture landscapes.
- g. Conduct targeted capacity building programmes to harmonise agriculture and agricommodity operations with biodiversity conservation efforts, especially in monitoring wildlife movement and minimising human-wildlife conflicts.
- h. Redirect, reform, or eliminate perverse and harmful economic subsidies perverse into beneficial incentives to facilitate the transition towards sustainable agrofood and agricommodity.
- i. Develop an integrated database to collate baseline information from farms and plantations to facilitate long-term analysis on biodiversity in agrofood and agricommodity landscapes.

Key Indicator:
By 2030, the agrofood and agricommodity sectors are contributing towards positive conservation outcomes

**ACTION 6.2:
REDUCE THE IMPACT OF FISHERIES ON MARINE AND COASTAL BIODIVERSITY**

The fisheries industry remains an important economic sector for coastal communities. Fish landings are still important to meet domestic and export demands for seafood. However, declining fish stocks have led to more intensive fishing which will further decimate our fish stocks. As such, there is a dire need to move our fisheries practices to a more sustainable mindset to conserve our fish stocks and sustain the fisheries industry.

We must:

- a. Legislate sustainability standards into fisheries regulations at the State and district levels.
- b. Develop and implement a Sustainable Fisheries Framework that provides policy direction, standards, actions, and enablers to transition Malaysia's fisheries industry towards sustainability.
- c. Expand fishery conservation zones through the seascape management approach to allow for the recovery of commercial fish stocks and other ecosystems.
- d. Develop and implement species-based fisheries management plans (FMPs) that incorporate conservation management interventions such as slow speed zones, restricted fishing gear, seasonal closures, and other restrictions.
- e. Strengthen the enforcement and legislative framework to eliminate illegal, unreported, and unregulated (IUU) fishing such as fish bombing and cyanide fishing.

Key Indicator:
By 2030, dependence on capture fisheries is reduced while production is supported by aquaculture (60% capture fisheries; 40% aquaculture)



GOALS, TARGETS AND ACTIONS

GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 6:

BY 2030, OUR AGROFOOD, AGRICOMMODITY, AND FISHERIES PRODUCTION ARE MANAGED AND HARVESTED SUSTAINABLY

- f. Strengthen awareness and implementation of catch documentation schemes to strengthen the traceability and sustainability of marine capture fisheries and trade, and to curb IUU fishing.
- g. Implement appropriate mitigation techniques and bycatch reduction devices, in particular Turtle Excluder Devices (TED) to reduce bycatch of non-target fish species and marine megafauna.
- h. Deploy an electronic bycatch monitoring system to generate crucial spatial and temporal data on bycatch hotspots in order to develop targeted and efficient management actions.
- i. Provide incentives and technical support to fisheries operators in achieving certification under relevant sustainability schemes.
- j. Redirect, reform, or eliminate perverse and harmful economic subsidies to facilitate a transition towards sustainable fisheries.

ACTION 6.3:

STRENGTHEN AQUACULTURE PLANNING AND MANAGEMENT

The aquaculture industry plays an important role in helping meet domestic and international seafood demands, while decreasing fishing pressures on fish stocks. However, aquaculture farms have also been synonymous with resulting in the conversion of important coastal habitats such as mangroves and peat swamps, which are vital for coastal protection at the onset of climate change. Similar to the fisheries sector, we need to start incorporating a more sustainable approach to manage the needs of the aquaculture industry while also striving to conserve our coastal habitats and biodiversity.

We need to:

- a. Legislate sustainability standards in aquaculture regulations at the State and district levels.
- b. Review and strengthen environmental regulations to ensure the expansion of aquaculture farms does not encroach, convert, and degrade coastal habitats.
- c. Develop and implement a Sustainable Aquaculture Framework that provides policy direction, standards, actions and enablers to transition Malaysia's aquaculture industry towards sustainability.
- d. Increase the adoption level of Fisheries (Inland Fisheries Aquaculture) Rules at the State Level.
- e. Strengthen research advancements to increase aquaculture productivity, maintain ecosystem services and minimise environmental impacts.
- f. Provide incentives and technical support to aquaculture farmers in achieving certification under relevant sustainability schemes.
- g. Redirect, reform, or eliminate perverse and harmful economic subsidies to facilitate a transition towards sustainable aquaculture production.

Key Indicator:
*By 2030, the
aquaculture sector
is contributing
towards positive
conservation
outcomes*



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

**TARGET 6:
BY 2030, OUR AGROFOOD, AGRICOMMODITY, AND FISHERIES PRODUCTION ARE MANAGED AND HARVESTED SUSTAINABLY**

**ACTION 6.4:
STRENGTHEN GENETIC DIVERSITY CONSERVATION OF CULTIVATED PLANTS,
FARMED AND DOMESTICATED ANIMALS, AND THEIR WILD RELATIVES**

The genetic diversity of our cultivated plants, farmed and domesticated animals, and their wild relatives is a genetic vault of important biological resources that supports human lives. However, the conservation of this genetic diversity is vital but often overlooked. We need to continue improving our awareness and knowledge of genetic diversity and strengthen efforts to ensure sustainable utilisation of these resources in terms of food security.

We need to:

- a. Increase awareness of the importance of conserving the genetic diversity of wild relatives of cultivated plants as well as farmed and domesticated animals.
- b. Develop and implement active management actions for the recovery and conservation of the genetic diversity of cultivated plants, farmed and domesticated animals, and their wild relatives.
- c. Incorporate and enforce safeguards into biodiversity prospecting to ensure biological resources in the wild are not depleted.
- d. Ensure conservation and sustainable utilisation of other agricultural biodiversity/genetic resources for food and agriculture (GRFA) including microorganisms and insects, as well as the benefits arising from them are shared equitably with all parties [also see Target 14].
- e. Ensure nutrition, food security, livelihoods, health, and well-being, particularly for vulnerable communities, are secured through sustainable management of agricultural biodiversity.

Key Indicator:
By 2030, all gene and seed banks, as well as in-situ farms, have been optimised to safeguard genetic diversity of cultivated plants, farmed and domesticated animals, and their wild relatives





GOALS, TARGETS AND ACTIONS

GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 7: BY 2030, THE SYNERGIES BETWEEN TOURISM AND CONSERVATION ARE FULLY REALISED



WHY IS THIS TARGET IMPORTANT?

Malaysia's natural habitats are valuable resources for tourism with ecotourism experiencing steady growth as more people are beginning to explore natural areas for recreation and vacation. While it is understandable that more development will be needed to build the tourism sector, we must still endeavour to minimise impacts towards biodiversity.

MEETING THE TARGET

There are potential synergies between tourism and biodiversity conservation that can be leveraged. Ecotourism in particular is defined as travel to natural areas that are being conserved, sustains the well-being of local communities, and involves interpretation and education. These aspects can be leveraged further to utilise tourism as another platform to effectively conserve biodiversity while also continuing the country's development.

Target 7 has 3 Actions:

- **ACTION 7.1:**
Promote tourism development that supports biodiversity conservation
- **ACTION 7.2:**
Facilitate sustainable tourism certification
- **ACTION 7.3:**
Promote community-based tourism and voluntourism



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

**TARGET 7:
BY 2030, THE SYNERGIES BETWEEN TOURISM AND CONSERVATION ARE FULLY REALISED**

**ACTION 7.1:
PROMOTE TOURISM DEVELOPMENT THAT SUPPORTS BIODIVERSITY
CONSERVATION**

Sustainable tourism development requires proper planning to ensure that appropriate infrastructure is established at natural sites and has minimal impacts on the natural environment. At the same time, we must also continue to understand how visitor usage impacts our natural habitats and find ways to minimise these impacts. This will safely ensure that tourism activities properly consider biodiversity conservation needs.

We need to:

- a. Facilitate private investments and concessions that enable responsible and sustainable ecotourism development.
- b. Establish a national community-based ecotourism network to improve collaboration and share best practices between site managers and tourism operators.
- c. Ensure science-based design, planning, management, and maintenance of ecotourism sites to limit the impact of tourism on biodiversity.
- d. Develop and showcase model ecotourism sites that display synergies between ecotourism and biodiversity conservation.
- e. Reposition MPAs as an ecotourism destination that champions conservation.

Key Indicator:
By 2030, tourism sites / resorts have been certified under the Global Sustainable Tourism Criteria (GSTC) or similar schemes that demonstrates effective biodiversity conservation in tourism

**ACTION 7.2:
FACILITATE SUSTAINABLE TOURISM CERTIFICATION**

We want to ensure that our tourism sites have the best management practices and are managed by highly qualified personnel. We must also strive to ensure our tour guides provide high quality interpretation to ensure visitors gain relevant and meaningful knowledge about biodiversity conservation when visiting natural areas. Certification is a mean to ensure these criteria are met to synergise tourism development and biodiversity conservation.

We need to:

- a. Encourage and support tourism operators to participate in recognised sustainable tourism certification schemes.
- b. Develop and implement training programmes and guidelines for tourism managers and operators to meet international tourism standards.
- c. Recognise and leverage existing local guiding programmes to develop local certification schemes.
- d. Review the Green Badge programme to incorporate responsible guiding practices and make it more feasible for guides to achieve and renew the certification.
- e. Expand the Green Badge programme to include marine interpretation skills and activities.

Key Indicator:
By 2030, all guides for nature-based attractions are certified through accredited schemes



GOALS, TARGETS AND ACTIONS

GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 7:

BY 2030, THE SYNERGIES BETWEEN TOURISM AND CONSERVATION ARE FULLY REALISED

ACTION 7.3:

PROMOTE COMMUNITY-BASED TOURISM AND VOLUNTOURISM

There are also other branches of tourism that have yet to be leveraged, which also support biodiversity conservation. Community-based tourism can be used as a platform to provide alternative incomes for IPLCs while also empowering them as active stakeholders. We can also advocate for our conservation efforts through volunteer programmes for tourists and budding conservationists.

We need to:

- a. Engage and empower IPLCs living in and around nature tourism sites as active participants in ecotourism planning and implementation to improve livelihoods and strengthen the protection of sites.
- b. Promote and support community-based tourism for activities such as agro-tourism, birding, caving, and diving.
- c. Develop volunteer placements and internships at ecotourism sites that enable tourists to experience hands-on conservation work.

Key Indicator:

By 2030, the number of IPLCs actively participating in tourism development has increased by 30% compared to 2024 levels





Malaysia is an important country in the East Asian-Australasian Flyway (EAAF), supporting more than 30 species of migratory shorebirds including six globally threatened species, along its coastal mangroves, mudflats, and sandflats during their annual migration.



GOAL 3 **WE HAVE** **SAFEGUARDED** **ALL OUR KEY** **ECOSYSTEMS,** **SPECIES, AND** **GENETIC DIVERSITY**



Area-based conservation, which includes all forms of protected areas and other effective area-based conservation measures (OECMs) remains the ideal way to protect a wide range of species and their habitats in-situ, along with the ecosystems that they constitute. For protected areas to deliver their desired outcomes, they must be ecologically representative, large enough to support viable populations, optimally designed and managed and have the support of and bring benefits to IPLCs.

Protected areas and biodiversity conservation should be integrated into the management of the larger landscapes and seascapes. Ecological connectivity between habitat patches should be maintained, or re-established where required, through a network of functional ecological corridors. Degraded habitats should be nursed back to health through appropriate restoration techniques. Appropriate strategies should be implemented to enable wildlife to co-exist within agriculture and other shared, or multi-use landscapes. These, and other landscape / seascape conservation approaches will serve to strengthen the resilience of our ecosystems, and ultimately the maintenance of the ecosystem services they provide, which are of immense importance to human life as well. At the species level, our rare, threatened or endemic

species, will require extra attention. Dedicated species conservation plans and coordinated actions will be required to avert their extinction and enable the recovery of their populations. Key actions include strengthening monitoring and enforcement to reduce pressures from legal or illegal extractive activities such as commercial fisheries or wildlife poaching, rehabilitating rescued individuals, as well as conducting habitat enrichment activities to bolster their carrying capacity. The genetic diversity of some of our most threatened species that persist within an unviable, isolated population, needs to be actively managed by considering all individuals that remain across their range including both wild and captive as part of the same meta-population. Conservation breeding programmes shall be required, and in some cases through artificial reproductive technologies.

Ultimately, our success in conserving our key ecosystems, species, and genetic diversity depends on our ability to understand and address the root causes of the various pressures that they face. This requires a rigorous scientific foundation, strong political will, and close collaboration among the multitude of stakeholders with roles to play.

Goal 3 has 6 targets:

- **TARGET 8:**
By 2030, at least 20% of terrestrial areas and inland waters, and 10% of coastal and marine areas are conserved through an effectively managed and ecologically representative system of protected areas and OECMs
- **TARGET 9:**
By 2030, threatened natural ecosystems are sustainably managed and degraded ecosystems are restored
- **TARGET 10:**
By 2030, important ecological corridors have been secured and ecosystem resilience is enhanced across terrestrial, freshwater, and marine realms
- **TARGET 11:**
By 2030, targeted management actions are in place to enable the recovery of threatened species
- **TARGET 12:**
By 2030, poaching, illegal harvesting, and illegal trade of flora and fauna are minimised or significantly reduced
- **TARGET 13:**
By 2030, measures are in place for the prevention, eradication, containment, and control of invasive alien species



GOALS, TARGETS AND ACTIONS

GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 8:

BY 2030, AT LEAST 20% OF TERRESTRIAL AREAS AND INLAND WATERS, AND 10% OF COASTAL AND MARINE AREAS ARE CONSERVED THROUGH AN EFFECTIVELY MANAGED AND ECOLOGICALLY REPRESENTATIVE SYSTEM OF PROTECTED AREAS AND OECS

WHY IS THIS TARGET IMPORTANT?

Protected areas, i.e. geographically-defined areas designated or regulated and managed to achieve specific conservation objectives, play a central role in biodiversity conservation and represent our legacy for future generations. Effectively managed protected areas not only safeguard representative ecosystems, species populations and their habitats, they also contribute towards human health and economic security by mitigating the effects of climate change, safeguarding clean water supply, enhancing food security, reducing disaster risk, alleviating poverty, and preserving cultural values, in addition to providing a myriad of other goods and services that healthy ecosystem provide, which society depends on. While Malaysia has a long history and experience in area-based conservation, there is still much scope for protected area expansion across both land and seascapes, with room for improvement in management practices.

MEETING THE TARGET

We must manage our protected areas effectively; based on science, consistent with global standards and rooted in principles of good governance. We also need to expand the coverage of our protected areas across both land and sea, in order to strengthen the representativeness, connectivity and conservation values of these areas.



Timimbang Forest Reserve, Sabah

Target 8 has 5 Actions:

- **ACTION 8.1:**
Strengthen and streamline the governance of our protected areas
- **ACTION 8.2:**
Enhance management effectiveness of our protected areas
- **ACTION 8.3:**
Expand the extent and ecological representativeness of our protected area network
- **ACTION 8.4:**
Identify and recognise OECS
- **ACTION 8.5:**
Increase areas of global importance for biodiversity conservation



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 8:

BY 2030, AT LEAST 20% OF TERRESTRIAL AREAS AND INLAND WATERS, AND 10% OF COASTAL AND MARINE AREAS ARE CONSERVED THROUGH AN EFFECTIVELY MANAGED AND ECOLOGICALLY REPRESENTATIVE SYSTEM OF PROTECTED AREAS AND OECMs

**ACTION 8.1:
STRENGTHEN AND STREAMLINE THE GOVERNANCE OF OUR PROTECTED AREAS**

Malaysia has a long history of creating protected areas leading to a diverse and complex array of legal and institutional arrangements used to establish and govern protected areas across the three regions of Sabah, Sarawak, and Peninsular Malaysia. Irrespective of the different frameworks utilised, we need to ensure that basic principles of good governance, such as transparency, accountability, equity, and inclusiveness, are embedded throughout all of our protected area systems, in order to achieve the desired conservation outcomes and co-benefits.

We need to:

- a. Adopt a national definition for protected areas that is in line with international standards and national circumstances.
- b. Operationalise national and regional Protected Area Working Groups to strengthen and streamline governance and management of our protected areas.
- c. Strengthen and harmonise existing protected area legislation, and create new legislation where required, to meet global best practice standards.
- d. Institutionalise protected area information reporting, including but not limited to gazettelement and de-gazettelement notifications, management plans and management effectiveness assessments through the National CHM.
- e. Update and disseminate the Master List of Protected Areas at least once every five years.

Key Indicator:
*By 2030,
the National
Framework for
Protected Area has
been established
and operationalised*

**ACTION 8.2:
ENHANCE MANAGEMENT EFFECTIVENESS OF OUR PROTECTED AREAS**

"Management effectiveness" is the measure of how well a protected area is being managed, i.e. the extent to which its objectives are met. Key elements of management effectiveness include design and planning (context), management systems (processes), as well as outputs and outcomes. Globally, there has been a significant increase in our understanding of management effectiveness as well as in the availability of the standards, tools and resources available to support this. It is crucial that the management effectiveness of all of our protected areas be enhanced, so that each and every site achieves its full potential and contributes towards conservation in Malaysia.

We need to:

- a. Embed management planning, implementation, monitoring and assessment as part of the management process for every protected area.
- b. Develop a pool of technical support and resources that can be accessed by protected area authorities for management planning, assessment, and other activities.
- c. Conduct management effectiveness assessments on a regular basis and consolidate the findings to identify key areas for improvement at the site and system levels.
- d. Develop collaborative ecosystems and/or formal arrangements that enable IPLCs, NGOs, and the private sector to co-manage, support or participate in protected area management.
- e. Encourage our best managed protected areas to achieve international certification and recognition.
- f. Establish transboundary protected areas and collaboration between neighbouring protected areas across national and state boundaries.

Key Indicator:
*By 2030,
management
plans have been
established /
revised for priority
protected areas*



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 8:

BY 2030, AT LEAST 20% OF TERRESTRIAL AREAS AND INLAND WATERS, AND 10% OF COASTAL AND MARINE AREAS ARE CONSERVED THROUGH AN EFFECTIVELY MANAGED AND ECOLOGICALLY REPRESENTATIVE SYSTEM OF PROTECTED AREAS AND OECMs

**ACTION 8.3:
EXPAND THE EXTENT AND ECOLOGICAL REPRESENTATIVENESS OF OUR
PROTECTED AREA NETWORK**

We need to expand our protected area network across both land and sea, to incorporate further ecosystems and habitats that need protection. We must, for example, increase the coverage of under-represented or threatened ecosystems such as limestone hills, peat swamp forests and seagrass beds, increase prime habitats for endangered species, secure ecological corridors and migratory pathways. In doing so, we need to ensure that these areas are of sufficient size and layout to serve their intended purpose; for instance, large enough to hold viable populations of target species, or wide enough to encompass the full extent of the ecosystems and ecological processes.

We need to:

- a. Identify priority sites for protected area expansion in each state based on key ecological criteria.
- b. Work with state governments and other stakeholders towards the gazettal of the identified priority sites.

Key Indicator:
By 2030, priority sites have been identified with plans in place to be gazetted as protected areas

**ACTION 8.4:
IDENTIFY AND RECOGNISE OTHER EFFECTIVE AREA-BASED CONSERVATION
MEASURES**

The OECMs are geographically defined areas beyond the protected area system. While the main objectives of these areas may not be biodiversity conservation, they are governed and managed in ways that achieve positive and sustained long-term outcomes for the in-situ conservation of biodiversity. OECMs can therefore serve a complementary role to protected areas, contributing to the coherence and connectivity of protected area networks. We must identify, recognise, and support OECMs measures, based on appropriate consultation with relevant governance authorities, landowners and rights owners, stakeholders, and the public.

We need to:

- a. Adopt a national definition for OECMs that is in line with international standards and national circumstances.
- b. Identify sites that qualify as OECMs through national-determined criteria that are of a scientific and technical nature.
- c. Encourage the establishment of OECMs sites through appropriate legal recognition, governance measures, and other relevant frameworks.
- d. Develop appropriate policy, regulatory and management frameworks that secure and recognise Community Conserved Areas (CCAs) across landscapes and seascapes, as part of the OECMs network.

Key Indicator:
By 2030, the national OECMs framework has been established and operationalised

**ACTION 8.5:
INCREASE AREAS OF GLOBAL IMPORTANCE FOR BIODIVERSITY CONSERVATION**

Malaysia is a party to several multilateral environmental agreements and platform pertaining to biodiversity conservation, including the Convention on Wetlands of International Importance, especially Waterfowl Habitat (RAMSAR) and the East Asian-Australasian Flyway Partnership (EAAFP); the UNESCO Man and the Biosphere Programme (MAB) and the ASEAN Heritage Parks (AHP). Under these platforms, a few sites have received recognition as important regional and global biodiversity areas. In order to improve the nation's standing in biodiversity management, more should be done to strengthen the conservation of important biodiversity sites through international recognition.

We need to:

- a. Strengthen efforts to pursue recognition of the global importance of Malaysia's biodiversity conservation areas.
- b. Actively engage with State governments, research institutions, and relevant stakeholders in nominating potential sites.
- c. Enhance management, monitoring and evaluation instruments to maintain and conserve existing areas of international biodiversity interest.
- d. Promote the exchange of knowledge, learn good management practices, optimise and share resources amongst important regional and global biodiversity sites.

Key Indicator:
By 2030, 2 new sites of biological importance are accorded with international recognition



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 9:

BY 2030, THREATENED NATURAL ECOSYSTEMS ARE SUSTAINABLY MANAGED AND DEGRADED ECOSYSTEMS ARE RESTORED



Asian elephant
Elephas maximus

WHY IS THIS TARGET IMPORTANT?

Numerous threatened ecosystems on land and sea remain outside of the protected area network. Such sites face a multitude of disturbances, including conversion for agriculture or aquaculture, infrastructure development, pollution, coastal reclamation, as well as mining and other extractive activities. Similarly, natural habitats located outside of protected areas, that play critical roles in the life cycle of various species, such as breeding or feeding grounds, face the same set of disturbances that lead to their degradation.

The loss and degradation of ecosystems also impair the goods and services that they provide to human populations. When such ecosystem services are affected, we become much more vulnerable to catastrophic events such as flooding, storm surges, landslides, water supply disruptions, and zoonotic diseases; all of which will be exacerbated by climate change.

MEETING THE TARGET

It is important to ensure that all of our ecosystems and habitats are planned and managed sustainably. Threatened ecosystems must be identified and mapped, with threats and management priorities clearly elaborated. We have to ensure that our ecosystems are better managed and their resilience strengthened. We have to prevent, halt, and reverse the degradation of our ecosystems by anthropogenic drivers.

Target 9 has 3 Actions:

- **ACTION 9.1:**
Develop ecosystem mapping and vulnerability classification capabilities
- **ACTION 9.2:**
Restore degraded ecosystems
- **ACTION 9.3:**
Maintain and enhance ecosystem resilience to disturbance



GOALS, TARGETS AND ACTIONS

GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 9:

BY 2030, THREATENED NATURAL ECOSYSTEMS ARE SUSTAINABLY MANAGED AND DEGRADED ECOSYSTEMS ARE RESTORED

ACTION 9.1: DEVELOP ECOSYSTEM MAPPING AND VULNERABILITY CLASSIFICATION CAPABILITIES

Ecosystem vulnerability is the degree to which an ecosystem is susceptible to stress over time and space. It is a function of exposure to disturbance, sensitivity, and adaptive capacity. The identification of threatened ecosystems is an important tool, reference, and guidance for the management and implementation of the landscape approach towards biodiversity conservation.

We must:

- a. Develop maps and standardise methodology to monitor the extent and state of natural ecosystems.
- b. Develop maps and standardise methodology to classify and rank threatened natural ecosystems.
- c. Integrate the outputs of this analysis into land use planning as well as protected area expansion and restoration planning.

Key Indicator:
By 2030, an ecosystem vulnerability map and ranking has been developed for utilisation

ACTION 9.2: RESTORE DEGRADED ECOSYSTEMS

Over-intensive use and exploitation of natural resources have led to the degradation of many of our ecosystems. Depending on their inherent condition and other factors, some of these ecosystems will be able to recover with little or no human intervention, while others will need significant effort to enable their recovery.

We must:

- a. Identify and prioritise sites for restoration, including ecological corridors and natural ecosystems that have been degraded due to anthropogenic or natural stresses, and ensuring these areas are protected.
- b. Facilitate restoration efforts using science-based methodologies appropriate to site-specific conditions and restoration objectives.
- c. Strengthen all processes to ensure that the total costs of mitigation and restoration are borne by the parties responsible for the degradation.
- d. Prioritise collaborative approaches that enable IPLCs, NGOs and the private sector to participate in restoration projects.
- e. Build synergies to collectively assess and enhance national initiatives for restoring degraded ecosystems.

Key Indicator:
By 2030, at least 200,000 ha of degraded sites are being actively restored



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 9:

BY 2030, THREATENED NATURAL ECOSYSTEMS ARE SUSTAINABLY MANAGED AND DEGRADED ECOSYSTEMS ARE RESTORED

ACTION 9.3: MAINTAIN AND ENHANCE ECOSYSTEM RESILIENCE TO DISTURBANCE

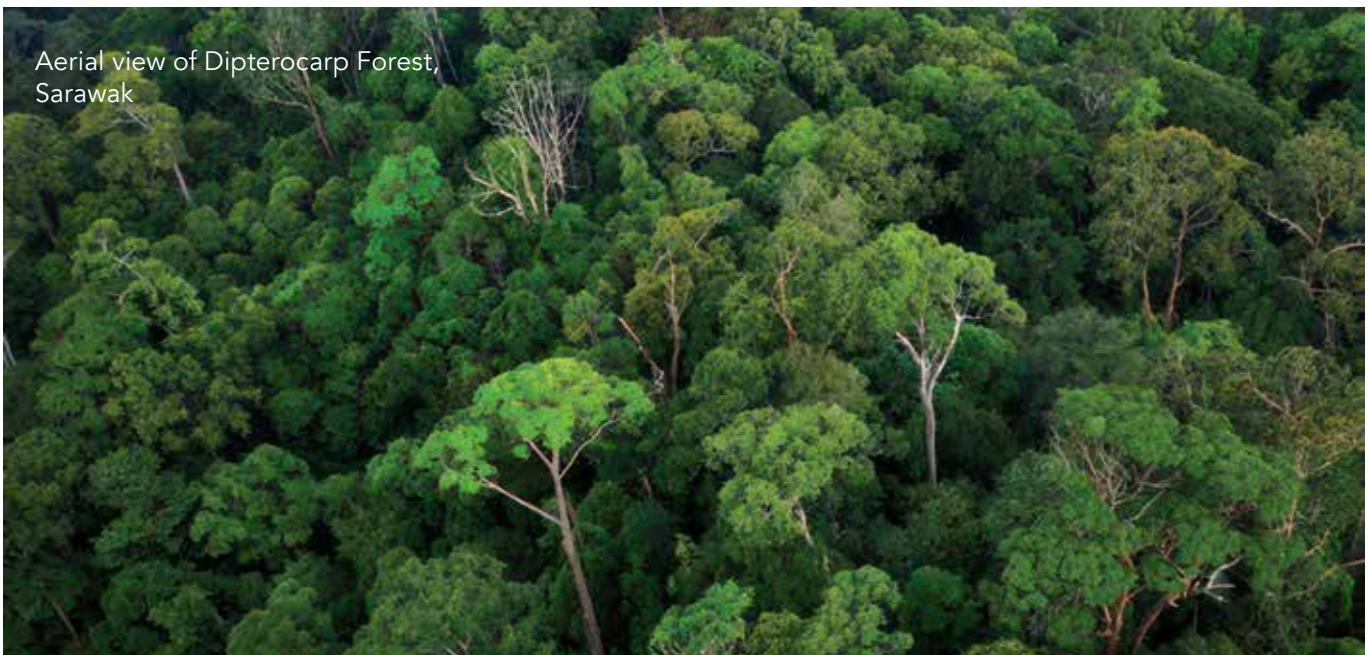
Ecosystem resilience refers to the ability of ecosystems to recover from disturbances. This ability to cope with these disturbances varies due to various factors, such as the characteristics of the disturbance, level of exposure to the disturbance, as well as the inherent sensitivity and adaptive capacity of each ecosystem. In designing sustainable landscapes and adaptive management systems that maximise ecosystem resilience, ecologists would need to consider three key elements of biodiversity which are composition, structure, and processes.

We must:

- a. Enhance landscape ecology research to further develop our understanding of the multi-scale patterns and processes that determine the ecological and spatial resilience of each landscape.
- b. Incorporate spatial resilience factors into the development of the planning, design and management of protection and production landscapes.
- c. Strengthen efforts to monitor and report spatial and temporal changes towards landscapes and seascapes, as well as the impacts of anthropogenic activities and climate change.

Key Indicator:
By 2030, adaptive management actions have been established and implemented to address disturbances in threatened natural ecosystems

Aerial view of Dipterocarp Forest,
Sarawak





GOALS, TARGETS AND ACTIONS

GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 10:

BY 2030, IMPORTANT ECOLOGICAL CORRIDORS HAVE BEEN SECURED AND ECOSYSTEM RESILIENCE IS ENHANCED ACROSS TERRESTRIAL, FRESHWATER, AND MARINE REALMS



Sunbear
Helarctos malayanus

WHY IS THIS TARGET IMPORTANT?

In ecological terms, "connectivity" refers to the degree to which species are able to move freely, and key biological processes such as breeding and seed dispersal, are able to occur unimpeded, across landscapes and seascapes. Unfortunately, our landscapes and seascapes are becoming increasingly fragmented due to development, resulting in habitat fragmentation, or the loss of connectivity. This loss of connectivity has serious implications on biodiversity. When a habitat is fragmented into smaller and smaller patches, the remnant populations within each patch would become increasingly unviable. The gene pool become too limited, making the population vulnerable to inbreeding and disease, ultimately causing local extinction. Maintaining landscape and seascape connectivity is especially crucial in the face of climate change, in order to maximise the likelihood that species are able to adequately shift their geographic ranges in response to changes in temperature or other environmental conditions.

MEETING THE TARGET

We need to design and mitigate future development with biodiversity in mind, to ensure that key conservation landscapes across both the terrestrial and marine realms remain sizeable and connected. We need to maintain and re-establish ecological connectivity between the most important habitats, in particular our protected areas as well as other important sites for biodiversity. Malaysia has made significant progress in landscape and seascape level conservation initiatives such as the CFS, the tri-lateral Heart of Borneo (HoB) initiative and the 6-nation Coral Triangle Initiative (CTI) which aim to integrate biodiversity protection and management across broad landscapes and seascapes.

Target 10 has 3 Actions:

- **ACTION 10.1:**
Strengthen the implementation of the Central Forest Spine (CFS) Master Plan in Peninsular Malaysia
- **ACTION 10.2:**
Strengthen terrestrial connectivity in Sabah and Sarawak
- **ACTION 10.3:**
Strengthen marine ecological connectivity



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 10:

BY 2030, IMPORTANT ECOLOGICAL CORRIDORS HAVE BEEN SECURED AND ECOSYSTEM RESILIENCE IS ENHANCED ACROSS TERRESTRIAL, FRESHWATER, AND MARINE REALMS

**ACTION 10.1:
STRENGTHEN THE IMPLEMENTATION OF THE CENTRAL FOREST SPINE (CFS)
MASTER PLAN IN PENINSULAR MALAYSIA**

The forest complexes that make up the CFS landscape encompass the bulk of Peninsular Malaysia's forest ecosystems and wildlife habitats. The CFS acts as a critical life support system, providing up to 90% of Peninsular Malaysia's water supply. The CFS Masterplan for Ecological Linkages provides a comprehensive framework for enhancing ecological connectivity within and between the four forest complexes. The Masterplan has since been reviewed in terms of implementation strategies, as well as re-prioritising and securing critical corridors for another implementation term.

We need to:

- Secure and manage the primary and secondary linkages identified in the revised CFS Master Plan (PIRECFS 2022).
- Maintain, restore, and enhance structural connectivity within the forest complexes.
- Organise regular CFS conferences and seminars in order to share updates and garner support amongst stakeholders and the general public.
- Upgrade the forest conservation status of linkages to a higher protection status.

Key Indicator:
By 2030, 10 primary corridors under the CFS initiative are being actively protected and managed

**ACTION 10.2:
STRENGTHEN TERRESTRIAL ECOLOGICAL CONNECTIVITY IN SABAH AND SARAWAK**

HoB is a voluntary trans-boundary initiative that aims to conserve and manage approximately 200,000 km² of ecologically inter-connected rainforest that straddles the borders of Brunei Darussalam, Indonesia, and Malaysia. Restoring ecological connectivity is a key component of the HoB initiative.

We need to:

- Secure and manage key ecological corridors in Sabah and Sarawak.
- Maintain, restore, and enhance structural connectivity within the forest complexes.
- Organise an annual HoB conference in order to share updates and garner support amongst stakeholders and the general public.

Key Indicator:
By 2030, there is a 10% increase of protected areas within the HoB

**ACTION 10.3:
STRENGTHEN MARINE ECOLOGICAL CONNECTIVITY**

Connectivity is also important in marine ecosystems, to ensure that the natural movement and migratory patterns of marine species including fish, turtles, and marine mammals (e.g., dolphins and whales), are able to take place unimpeded at various stages of their life or reproductive cycles. If a natural complement of marine biota is to be managed effectively, it is important not just to save species but also to protect their migratory and movement pathways. In expanding MPAs in Malaysia, there is also an urgent need to identify and protect important marine ecological corridors.

We need to:

- Secure and manage the marine ecological corridors off the coast of Peninsular Malaysia.
- Secure and manage marine ecological corridors off the coast of Sabah and Sarawak.
- Organise an annual conference on marine conservation, including protected areas and corridors to share updates and garner support amongst stakeholders and the general public.

Key Indicator:
By 2030, marine ecological corridors are actively protected and managed at the national and transboundary levels





GOALS, TARGETS AND ACTIONS

GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 11:

BY 2030, TARGETED MANAGEMENT ACTIONS ARE IN PLACE TO ENABLE THE RECOVERY OF THREATENED SPECIES



Malayan Tiger
Panthera tigris jacksonii

WHY IS THIS TARGET IMPORTANT?

Many of our native species on both land and sea, continue to face multiple pressures. This includes habitat loss and degradation, over-fishing, poaching, illegal harvesting, IAS and human-wildlife conflict. As a result, many populations have long been on a downward trend. Adding to the severity of this, the impending impacts of climate change, while not yet well known, are likely to be significant. Even slight variations in climactic conditions, including a rise in sea or atmospheric temperatures can lead to complex, multiplying impacts on the phenology and biological cycles of species and ecosystems.

Some species have already become locally extinct, and further extinctions are foreseeable, especially in the case of our most threatened species as well as our endemic species that have only a restricted geographical range. Small, isolated populations are likely to be genetically unviable over the long term, due to low fitness levels as a result of inbreeding. Reversing these downward trends and managing the extinction risk is crucial, especially for species on the brink, that are caught in the extinction vortex.

MEETING THE TARGET

Aside from reducing external pressures from legal or illegal extractive activities such as commercial fisheries or wildlife poaching, the utilisation of evidence-based and scientifically-sound, targeted and coordinated conservation actions is absolutely crucial for the recovery of our most threatened species.

Target 11 has 5 Actions:

- **ACTION 11.1:**
Implement targeted, science-led actions for species conservation
- **ACTION 11.2:**
Adopt a metapopulation approach for our most threatened species
- **ACTION 11.3:**
Enhance technical capacity for ex-situ conservation
- **ACTION 11.4:**
Adopt scientific and co-existence approaches to address human-wildlife conflicts
- **ACTION 11.5:**
Strengthen the conservation of migratory species



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 11:

BY 2030, TARGETED MANAGEMENT ACTIONS ARE IN PLACE TO ENABLE THE RECOVERY OF THREATENED SPECIES

ACTION 11.1: IMPLEMENT TARGETED, SCIENCE-LED ACTIONS FOR SPECIES CONSERVATION

It is important that conservation actions, plans and programmes are developed through consensus with the scientific community and based on the best available science. This would entail strategic and long-term monitoring of biodiversity, done collaboratively to share data and avoid duplication. It is also important that we are able to deploy the best available science and technology in the implementation of conservation actions.

We must:

- a. Enhance collaboration to monitor and share data on threatened species populations using appropriate techniques and technology.
- b. Conduct conservation assessments to develop or update national lists of threatened species.
- c. Study and monitor the impacts of climate change on threatened species.
- d. Formulate, update, and implement science-based conservation action plans for our most threatened species.
- e. Update the National Red Data List for threatened plants and wildlife .

Key Indicator:
*By 2030,
conservation
and recovery
plans for critically
endangered plants
and wildlife are in
place*

ACTION 11.2: ADOPT A METAPOPOPULATION APPROACH FOR OUR MOST THREATENED SPECIES

Our most threatened species that persist within isolated, unviable populations, need to be managed proactively by considering all individuals that remain across their range including both wild and captive as part of a larger metapopulation. Factors such as genetic flow, exchange, and enrichment need to be incorporated when and where necessary.

We must:

- a. Work towards incorporating a metapopulation approach that integrates the management of wild and captive populations.
- b. Carry out science-based and targeted translocations between different populations of threatened species, in order to reduce the risk of inbreeding inherent in small populations.
- c. Establish new populations in habitats that are viable for the particular threatened species, based on criteria such as habitat size, suitability, protection status, and threat levels.

Key Indicator:
*By 2030, targeted
actions to conserve
threatened plants
and wildlife have
been established*



GOALS, TARGETS AND ACTIONS

GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 11:

BY 2030, TARGETED MANAGEMENT ACTIONS ARE IN PLACE TO ENABLE THE RECOVERY OF THREATENED SPECIES

ACTION 11.3: ENHANCE TECHNICAL CAPACITY FOR EX-SITU CONSERVATION

While it may be ideal to conserve species in their natural habitats, we must acknowledge that not all species are guaranteed to persist under current conditions in-situ. Small populations within isolated habitats, may suffer insufficient birth rates due to inbreeding, sub-optimal habitat conditions, a lack of mates, and other factors. In the most extreme cases, conservation breeding programmes will be required, including through artificial reproductive technologies, in order to boost birth rates. Plant and animal genetic and reproductive material must be stored for future use. In short, ex-situ conservation must become a big part of our insurance policy in the coming years.

We must:

- a. Strengthen standards and monitoring to ensure that zoos, wildlife parks, and aquaria safeguard animal welfare and support conservation.
- b. Enhance collaborative conservation breeding programmes where appropriate, using specialised breeding facilities and technology to increase birth rates.
- c. Strengthen national, regional and international cooperation to share resources, technical expertise, and genetic material.
- d. Enhance seed and germplasm gene banks for plants, animals, fungi, and microorganisms.
- e. Enhance the Malaysian network of botanic gardens in terms of their scope and collaborative programmes.
- f. Expand living collections of rare, threatened and endangered plants, to produce planting material for restoration projects.
- g. Enhance trials to bring species of horticultural or medicinal value into cultivation to reduce pressure on wild populations.

Key Indicator:
By 2030, 10 ex-situ conservation centres are actively contributing in species rescue and recovery programmes

ACTION 11.4: ADOPT SCIENTIFIC AND CO-EXISTENCE APPROACHES TO ADDRESS HUMAN-WILDLIFE CONFLICTS

As our own population expands, competition with wildlife for limited space and resources will grow. This is likely to lead to more human-wildlife conflicts, to the detriment of both human and wildlife alike. For humans, the impacts may include damage to crops, livestock, and property, as well as the occasional loss of life. On the other hand, defensive and retaliatory killings as well as other mitigation measures implemented, are liable to have serious long term implications on wildlife populations. We need to find better ways to deal with this complex issue, in order to coexist with wildlife.

We must:

- a. Establish collaborative partnerships between plantation companies, smallholders, IPLCs, and researchers to develop and implement holistic and science-based adaptive management strategies to reduce and mitigate human-wildlife conflicts in agriculture landscapes.
- b. Scale-up outreach and education programmes for key stakeholders including local governments and local communities to reduce and mitigate human-wildlife conflicts in urban areas.
- c. Review relevant legislation to incorporate regulations pertaining to safe, ethical, and humane human-wildlife interactions.

Key Indicator:
By 2030, human-wildlife conflict reduction approaches / strategies have been formulated



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 11:

BY 2030, TARGETED MANAGEMENT ACTIONS ARE IN PLACE TO ENABLE THE RECOVERY OF THREATENED SPECIES

ACTION 11.5: STRENGTHEN CONSERVATION OF MIGRATORY SPECIES

Species migration is an important natural occurrence that enables the use of resources that are only available at a particular place and time. Migratory species can be found in all major groups of animals across land and sea. They typically travel over long distances, often crossing domestic and international boundaries, along their gruelling and perilous journeys. Human activities at various points of their migration pathways have affected many migratory species populations, and conservation measures often require international cooperation.

We must:

- a. Scale-up research and monitoring of migratory species, including their migratory pathways and stopover sites.
- b. Incorporate research and monitoring outputs, and important sites for migratory species into spatial planning and area-based conservation measures.
- c. Review wildlife legislation to ensure that rare, threatened and endangered migratory species are legally protected.
- d. Enhance regional cooperation on migratory species.

Key Indicator:
*By 2030,
identification,
establishment,
and recognition of
migratory sites for
conservation has
increased*



Malayan Pangolin
Manis javanica



GOALS, TARGETS AND ACTIONS

GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 12:

BY 2030, POACHING, ILLEGAL HARVESTING, AND ILLEGAL TRADE OF FLORA AND FAUNA ARE MINIMISED OR SIGNIFICANTLY REDUCED

WHY IS THIS TARGET IMPORTANT?

Wildlife crime is a serious global issue, and Malaysia is not spared from it, being both a source and transit country for trafficked wildlife products. Regional demand exerts poaching pressure on our highly-prized native species such as tigers, pangolins, sun bears, and gaharu, while there is also a significant amount of trade of songbirds such as the white-rumped shama as well as turtle eggs. Domestically, poaching is driven by local markets for wild meat and traditional medicine, as well as the pet and aquarium trade. Seizures by the Royal Malaysian Customs show that our ports are used by international organised crime networks for the transit of high value items that originate from other countries, including ivory and rhino horns as well as reptiles and testudines.

MEETING THE TARGET

Our wildlife protection agencies in Peninsular Malaysia, Sabah, and Sarawak, in collaboration with other law enforcement agencies, as well as international and local NGOs, have made great strides in disrupting poaching and trading networks. However, there is still much room for improvement. Although a significant number of offenders have been arrested and convicted, in most cases those convicted only play minor roles in the criminal networks, whereas the kingpins are rarely brought to justice. Going forward, enhancing coordination, information and skill sharing between the various wildlife protection agencies and other enforcement authorities as well as with other stakeholders, is crucial for success.



Target 12 has 4 Actions:

- **ACTION 12.1:**
Combat poaching and illegal harvesting of wild flora and fauna
- **ACTION 12.2:**
Combat the illegal trade of wild flora and fauna
- **ACTION 12.3:**
Reduce demand through public outreach and behavioural change
- **ACTION 12.4:**
Strengthen legislation and institutional arrangements for species protection



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 12:

BY 2030, POACHING, ILLEGAL HARVESTING, AND ILLEGAL TRADE OF FLORA AND FAUNA ARE MINIMISED OR SIGNIFICANTLY REDUCED

ACTION 12.1:

COMBAT POACHING AND ILLEGAL HARVESTING OF WILD FLORA AND FAUNA

We have to strengthen collaborative efforts in all aspects of monitoring and enforcement, including investigation and prosecution, to minimise the occurrence of poaching or illegal extraction of wild animals, fish, and plants from both land and sea.

We need to:

- a. Expand and strengthen the collaborative ecosystems required for effective patrolling, monitoring, and enforcement within each terrestrial and marine landscape.
- b. Expand and strengthen programmes to hire IPLCs as well as retired police and army personnel as patrollers.
- c. Enhance support for patrollers, in terms of financial compensation and protection, personal safety, as well as training and equipment.
- d. Use appropriate technology, including remote surveillance, monitoring, and reporting tools to enable data-driven and intelligence-led adaptive management of patrolling and enforcement.
- e. Develop investigative and forensics capacities with the Royal Malaysia Police in order to improve the prosecution and conviction rates of poachers and traders.
- f. Revive the ASEAN Wildlife Enforcement Network for Malaysia with a specific focus on combatting poaching and illegal harvesting with neighbouring countries.

Key Indicator:

By 2030, collaborative efforts to combat poaching and illegal harvesting have increased by 50% compared to 2024 levels

ACTION 12.2:

COMBAT THE ILLEGAL TRADE OF WILD FLORA AND FAUNA

We have to strengthen collaborative efforts, building on the combined strengths of a wide range of national and international agencies in order to enhance our technical capacity to effectively tackle international wildlife trafficking syndicates. This includes embarking on an investigation on money laundering across the trade chain.

We need to:

- a. Establish joint engagement platforms with relevant enforcement authorities to develop mitigation measures along all points of the illegal trade chain.
- b. Work with online and social media platforms, telecommunications service providers, and relevant agencies, to adopt a "zero tolerance" policy against the online sale of wildlife and to detect criminals involved in such activities.
- c. Conduct more rigorous assessments of traditional medicine products being imported/licensed, particularly those containing or claiming to contain wildlife products.
- d. Improve the detection of illegal shipments through systematic and regular monitoring using enhanced equipment and techniques.
- e. Conduct intelligence-led and in-depth investigations, into international and locally based operators, as well as money laundering along the trade chains.

Key Indicator:

By 2030, illegal import and export of wild flora and fauna has reduced compared to 2024 levels



GOALS, TARGETS AND ACTIONS

GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 12:

BY 2030, POACHING, ILLEGAL HARVESTING, AND ILLEGAL TRADE OF FLORA AND FAUNA ARE MINIMISED OR SIGNIFICANTLY REDUCED

ACTION 12.3:

REDUCE DEMAND THROUGH PUBLIC OUTREACH AND BEHAVIOURAL CHANGE

Changing the mindsets and behaviour of Malaysian consumers is an important long-term solution to the problem. As long as there is demand for traditional medicine based on wildlife derivatives, turtle eggs, or exotic pets, for example, there will be poaching and trade.

We need to:

- a. Conduct in-depth research to better understand consumer behaviour in order to develop behaviour change approaches to reduce demand.
- b. Work with civil society organisations to harness public participation initiatives to support law enforcement, such as through hotlines or technology applications for reporting suspected incidences of poaching, illegal harvesting, and trafficking;
- c. Collaborate with a range of businesses including restaurants, pet shops, aquarium traders, and traditional medicine practitioners to remove rare, threatened and endangered species and their derivatives from the supply chain.

Key Indicator:
By 2030, the public awareness and understanding of poaching and illegal trade has increased by 20% from 2018 levels

ACTION 12.4:

STRENGTHEN LEGISLATION AND INSTITUTIONAL ARRANGEMENTS FOR SPECIES PROTECTION

The present array of biodiversity legislation and institutional frameworks in Malaysia provide a strong foundation for species protection and conservation. However, there are some systemic issues that still need to be addressed including harmonising wildlife legislation across the three regions and resolving the gaps inherent in the protection of marine species.

We must:

- a. Harmonise and update primary wildlife laws in Peninsular Malaysia, Sabah, and Sarawak, in order to close out any loopholes and to address emerging trends.
- b. Review legislation and institutional frameworks to effectively address the conservation and protection of marine and freshwater biodiversity.
- c. Review other regulations for industries related to the wildlife trade chain.

Key Indicator:
By 2030, relevant laws and regulations have been reviewed to eradicate poaching, illegal trade, and other related crimes



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 13:

BY 2030, MEASURES ARE IN PLACE FOR THE PREVENTION, ERADICATION, CONTAINMENT AND CONTROL OF INVASIVE ALIEN SPECIES



WHY IS THIS TARGET IMPORTANT?

IAS are non-native plants, animals, pathogens, and other organisms that cause severe damage to the ecosystems that they are introduced into. As they may lack natural predators in their new environments, IAS are typically able to multiply and colonise new habitats rapidly. Through competition, predation, or transmission of pathogens, IAS can cause the decline or local extinction of native species and disruption of ecosystem functions, sometimes with serious impacts on ecosystem services and human health. The Nile tilapia (*Oreochromis niloticus*) for example, is an important food fish that has devastated aquatic ecosystems worldwide through unintentional escapes from fish farms. This fast-growing, highly adaptable species that feeds on almost anything, has damaged the ecosystems of many rivers in Malaysia, to the point of driving the local extinction of native fish and invertebrates.

MEETING THE TARGET

Many of our ecosystems, including rivers, lakes, coral reefs, and degraded forest edges have already been affected by IAS. In such cases, we need to prevent the IAS from spreading further, and ultimately, eradicate it from the particular ecosystem. At the same time, safeguards must be strengthened to prevent the further introduction of IAS, including their import, cultivation and release. The actions outlined below are based on the National Action Plan on Invasive Alien Species (NAP IAS) 2021-2025, which provides a framework for the identification, prioritisation, and prevention of the introduction and establishment of IAS in Malaysia.

Target 13 has 3 Actions:

- **ACTION 13.1:**
Improve understanding and public awareness of IAS
- **ACTION 13.2:**
Initiate response plans to contain and eradicate IAS
- **ACTION 13.3:**
Control and prevent the entry and release of IAS



GOALS, TARGETS AND ACTIONS

GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 13:

BY 2030, MEASURES ARE IN PLACE FOR THE PREVENTION, ERADICATION, CONTAINMENT AND CONTROL OF INVASIVE ALIEN SPECIES

ACTION 13.1:

IMPROVE UNDERSTANDING AND PUBLIC AWARENESS OF IAS

It is important that we enhance our scientific understanding of the biology, pathways, and impacts of IAS, as this would enable us to incorporate more effective measures to prevent, detect, monitor, contain and eradicate IAS. An important element in reducing the spread of IAS is public awareness. Despite being a major threat to biodiversity worldwide, IAS is not always highly visible compared to other threats like forest conversion. As such, the release of IAS into natural ecosystems both unintentionally and intentionally continues to occur.

We need to:

- Increase research in all aspects of IAS management including understanding their pathways and ecological impacts and develop technologies to contain and control IAS.
- Educate the public on the threats posed by invasive alien species and the problems caused by smuggling of wild animals and plants, accidental imports, escapes from legitimate enterprises and the pet trade, and pathogen exposure.
- Strengthen information sharing and extension services to stakeholders so that prevention, control, eradication, and mitigation efforts on IAS can be effectively implemented.

Key Indicator:
By 2030, public awareness levels regarding IAS has increased compared to 2024 levels

ACTION 13.2:

INITIATE RESPONSE PLANS TO CONTAIN AND ERADICATE IAS

We need to implement all of the actions outlined in the NAP IAS 2021-2025, as well as monitor and review their implementation. Additional priority must be placed on removing IAS that have already invaded and disrupted our natural ecosystems to safeguard our native species.

We must:

- Establish a formal and transparent mechanism to ensure that all alien species are subject to a rigorous risk assessment.
- Establish response plans and the capacity to contain and eradicate potential invasive species, including pathogens, by at least 50% in 2030.
- Identify the natural ecosystems most affected by IAS and develop collaborative programmes to eradicate IAS from these ecosystems by at least 50% in 2030.
- Strengthen and monitor the implementation of the NAP IAS 2021-2025.

Key Indicator:
By 2030, targeted IAS response plans have been established to guide containment and eradication activities



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 13:

BY 2030, MEASURES ARE IN PLACE FOR THE PREVENTION, ERADICATION, CONTAINMENT AND CONTROL OF INVASIVE ALIEN SPECIES

ACTION 13.3:

CONTROL AND PREVENT THE ENTRY AND RELEASE OF IAS

We need to strengthen our capabilities to control and prevent the entry of IAS through our international borders, and subsequently the release of IAS into our ecosystems. We need to improve the quarantine and inspection facilities and capabilities of border officials, to control and prevent the entry of IAS including noxious plants, plant pests, animals, and fish, as well as microorganisms and pathogens hidden in agricultural produce, food and soils, and the shipping industry.

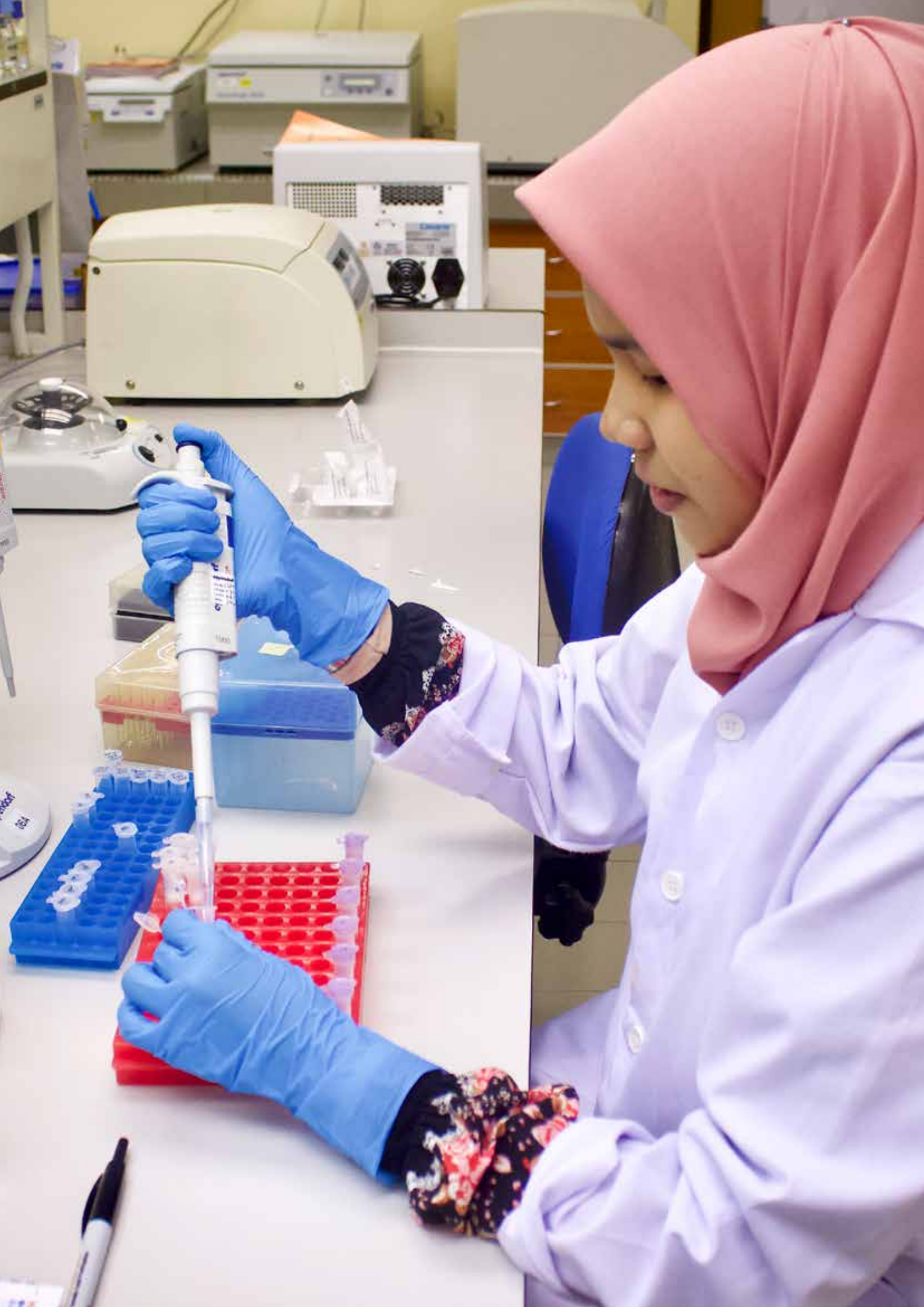
We need to:

- Enhance the enforcement of legislation on the importing, trading, keeping and release of wild animals, fish and plants, and strengthen legislation where necessary.
- Harmonise the list of IAS and enforcement between Peninsular Malaysia, Sabah, and Sarawak.
- Adopt relevant provisions of international conventions that Malaysia is party to in relation to the management and control of IAS, for example the International Maritime Organisation (IMO) and the International Plant Protection Convention (IPPC).
- Enhance quarantine facilities and improve the skills and capabilities of quarantine, customs, and other border officials.

Key Indicator:
By 2030, control measures are in place to prevent the entry of new IAS and plans are in place to minimise the spread of existing IAS in the country

One of IAS examples in Malaysia:
Crow







GOALS, TARGETS AND ACTIONS

GOAL 4 **WE HAVE ENSURED THAT BIODIVERSITY IS USED SAFELY AND THE BENEFITS FROM ITS UTILISATION ARE SHARED EQUITABLY**



While our biological diversity is a freely available resource to be used by all Malaysians, we need to ensure that the benefits derived from its utilisation are shared in a fair and equitable manner. In line with the Nagoya protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilisation, Malaysia has already institutionalised its Access and Benefit Sharing (ABS) Framework through the gazettelement of the Access to Biological Resources and Benefit Sharing Act 2017.

We need to continue working with relevant stakeholders, including the IPLCs, to effectively protect the knowledge, innovations and practices that arise from sustainable use of biological resources. While increasing the documentation of this body of knowledge, we also need to strengthen customary laws, community protocols and other similar unique systems.

Being a party to the CBD and the Cartagena Protocol on Biosafety (CPB), Malaysia is obliged to take necessary measures to prevent or reduce potential adverse impacts from modern biotechnology using the precautionary

principle. Through the implementation of the Biosafety Act 2007, Malaysia has enabled the opportunity to derive the maximum benefit from the potential that modern biotechnology has to offer, while ensuring that a comprehensive biosafety system is in place to ensure prevention and mitigation of any threats of irreversible damage from Living Modified Organisms LMOs and their products.

We also need to ensure that the advancements in modern biotechnology are conducted in a safe manner and do not result in adverse impacts towards our human, plant and animal health, the environment and biological diversity. This entails strengthening our biosafety systems involving all activities related to LMOs and their products by having a holistic and robust impact assessment, effective monitoring and enforcement to ensure biosafety compliance and preparedness for any biosafety emergencies involving LMOs and their products.

Goal 4 has 2 targets:

- **TARGET 14:**
By 2030, Malaysia has enhanced its capacity to implement the ABS Framework to realise the Fair and Equitable Sharing of Benefits Arising from their Utilisation.
- **TARGET 15:**
By 2030, a comprehensive biosafety system is operational to manage the potential and adverse impacts of modern biotechnology on human, plant and animal health, the environment, and biological diversity



GOAL 4

WE HAVE ENSURED THAT BIODIVERSITY IS USED SAFELY AND THE BENEFITS FROM ITS UTILISATION ARE SHARED EQUITABLY

TARGET 14:

BY 2030, MALAYSIA HAS ENHANCED ITS CAPACITY TO IMPLEMENT THE ACCESS AND BENEFIT-SHARING (ABS) FRAMEWORK TO REALISE THE FAIR AND EQUITABLE SHARING OF BENEFITS ARISING FROM THEIR UTILISATION

WHY IS THIS TARGET IMPORTANT?

ABS are a set of rules and principles that govern the use of biological resources including information related to genetic resources such as digital sequence information (DSI), i.e., on how they can be accessed and how users and providers come into a mutual understanding on the fair and equitable sharing of benefits that may arise from their utilisation. ABS is becoming increasingly important in biodiversity conservation because we need to ensure that the methods used to access and utilise biological resources maximise the benefit for everyone, while also conserving these resources. Where biological resources are accessed using traditional knowledge from IPLCs, we must ensure that proper permissions are obtained through Prior Informed Consent (PIC), as well as to share its benefits so that this oral information is not misused for personal gain.

MEETING THE TARGET

As a signatory to the Nagoya Protocol, Malaysia has initiated efforts to establish an ABS framework through the Access to Biological Resources and Benefit Sharing Act 2017. The next phase of work is to fully operationalise our ABS framework requiring extensive capacity building of competent agencies, as well as increasing the general awareness of ABS throughout the country. Furthermore, we will also need to continuously engage with the IPLCs to be active participants in developing our ABS framework.



Target 14 has 2 Actions:

- **ACTION 14.1:**
Enhance awareness and capacities to implement ABS
- **ACTION 14.2:**
Document and protect the traditional knowledge, innovations, and practices of IPLCs



GOALS, TARGETS AND ACTIONS

GOAL 4

WE HAVE ENSURED THAT BIODIVERSITY IS USED SAFELY AND THE BENEFITS FROM ITS UTILISATION ARE SHARED EQUITABLY

TARGET 14:

BY 2030, MALAYSIA HAS ENHANCED ITS CAPACITY TO IMPLEMENT THE ACCESS-BENEFIT SHARING (ABS) FRAMEWORK TO REALISE THE FAIR AND EQUITABLE SHARING OF BENEFITS ARISING FROM THEIR UTILISATION

ACTION 14.1: ENHANCE AWARENESS AND CAPACITIES TO IMPLEMENT ABS

The general awareness of ABS is generally low. In order for our ABS framework to be effective, we must continue to familiarise all stakeholders with the principles of ABS. We must also build the capacities of agencies and IPLCs to implement ABS laws and regulations.

We need to:

- Strengthen institutional and legal capacities to enforce and operationalise the ABS framework at the State level.
- Increase awareness and knowledge of ABS among users and providers of biological resources through targeted outreach programmes, training modules, and digital tools.
- Strengthen the literacy of IPLCs on rights to traditional knowledge to facilitate ABS implementation.
- Establish effective communication channels between regulating agencies and rights-holders in implementing ABS protocols.

Key Indicator:
By 2030, the public awareness levels on ABS has increased compared to 2024 levels

ACTION 14.2: DOCUMENT AND PROTECT THE TRADITIONAL KNOWLEDGE, INNOVATIONS, AND PRACTICES OF INDIGENOUS AND LOCAL COMMUNITIES

Protection of the knowledge, innovations, and practices of IPLCs means that we recognise the rights of these groups towards certain biological resources through customary laws and community protocols. Therefore, clear guidelines are needed to enable external actors to meaningfully engage with the full and effective participation of the respective IPLCs, ensuring that rights-holders are respected, and benefits are returned appropriately.

We need to:

- Enhance documentation of traditional knowledge, innovations, and practices of IPLCs.
- Recognise and support customary laws, community protocols, procedures, and other similar systems that are used by IPLCs.
- Integrate traditional knowledge associated with the utilisation of biological resources of IPLCs into the National CHM.

Key Indicator:
By 2030, registries on traditional knowledge, innovation, and practices have been enriched



GOAL 4

WE HAVE ENSURED THAT BIODIVERSITY IS USED SAFELY AND THE BENEFITS FROM ITS UTILISATION ARE SHARED EQUITABLY

TARGET 15:

BY 2030, A COMPREHENSIVE BIOSAFETY SYSTEM IS OPERATIONAL TO MANAGE POTENTIAL AND ADVERSE IMPACTS OF MODERN BIOTECHNOLOGY ON HUMAN, PLANT AND ANIMAL HEALTH, THE ENVIRONMENT, AND BIOLOGICAL DIVERSITY

WHY IS THIS TARGET IMPORTANT?

Modern biotechnology is rapidly advancing both globally and locally, embracing recent breakthroughs in emerging technologies such as synthetic biology and genome editing. Advancements in these emerging technologies have resulted in its products being commercialised and available in the global market and may enter the Malaysian market. Malaysia has invested substantial resources to continue to use modern biotechnology in various fields of research to develop LMOs and their products. Some of this work has shown significant progress which have advanced from laboratory to field testing. While these advancements obviously have some intended benefits for humans, it is also crucial that LMOs and their products from modern biotechnology and emerging technologies are developed, handled and used safely without causing adverse impacts to the ecosystem and our natural biological resources upon release.

MEETING THE TARGET

We have to ensure that LMOs and their products, including the use of emerging technologies, do not present unacceptable risks to human, animal and plant health, the environment and biological diversity. A robust ex ante risk and socio-economic impact assessment will provide a strong basis for making decisions about LMOs and their products. Proper safeguards are thus required while handling LMOs and products of LMOs. Therefore, it is important to have a strong monitoring and detection biosafety system that is able to ensure biosafety compliance. Preparedness is an important component of a strong biosafety system with the development of adequate responses for any biosafety emergencies involving LMOs and their products supported by a legal framework for liability and redress. We also need to continuously build capacities in compliance monitoring, as well as improve compliance and risk management mechanisms and protocols.



Raffles' pitcher-plant
Nepenthes rafflesiana

Target 15 has 3 Actions:

- **ACTION 15.1:**
Strengthen the enforcement inspection and biosafety compliance
- **ACTION 15.2:**
Strengthen impact assessment of LMOs and their products on human, plant and animal health, the environment, and biological diversity
- **ACTION 15.3:**
Develop adequate responses to biosafety emergencies involving LMOs and their products and mechanisms to address liability and redress



GOALS, TARGETS AND ACTIONS

GOAL 4

WE HAVE ENSURED THAT BIODIVERSITY IS USED SAFELY AND THE BENEFITS FROM ITS UTILISATION ARE SHARED EQUITABLY

TARGET 15:

BY 2030, A COMPREHENSIVE BIOSAFETY SYSTEM IS OPERATIONAL TO MANAGE POTENTIAL AND ADVERSE IMPACTS OF MODERN BIOTECHNOLOGY ON HUMAN, PLANT AND ANIMAL HEALTH, THE ENVIRONMENT, AND BIOLOGICAL DIVERSITY

ACTION 15.1:

STRENGTHEN THE ENFORCEMENT INSPECTION AND BIOSAFETY COMPLIANCE

Malaysia already has well-developed regulatory and enforcement systems in place with various guidelines and protocols to manage potential risks associated with LMOs and their products. However, these systems, guidelines and protocols need to be expanded, updated, and improved in line with the rapid progress of emerging technologies to further safeguard human, plant and animal health, the environment, and biological diversity. Coordination and cooperation between stakeholders are vital to ensure biosafety compliance.

We need to:

- Strengthen coordination and cooperation in relation to the enforcement and regulatory functions of various agencies related to LMOs.
- Strengthen the implementation of regulatory mechanisms and develop procedural guidelines for monitoring and enforcement.
- Incorporate biosafety principles into sectoral policies, particularly in the agriculture and health sectors.
- Increase the number and capacity of laboratories that can detect and identify LMOs and their products.
- Strengthen the network of laboratories for the identification and detection of LMOs and their products.

Key Indicator:
By 2030, a systematic procedure for safe handling, transport, packaging detection, and identification of LMOs and their products is operational

ACTION 15.2:

STRENGTHEN IMPACT ASSESSMENTS OF LMOs AND THEIR PRODUCTS ON HUMAN, PLANT AND ANIMAL HEALTH, THE ENVIRONMENT, AND BIOLOGICAL DIVERSITY

We need to advance our understanding of the impacts of LMOs and their products towards human, plant and animal health, the environment and biological diversity. It is crucial to develop and implement necessary safeguards as precautionary measures. A feasible mechanism for the inclusion of socio-economic considerations in relevant decision making provides a more comprehensive analytical framework. In keeping up with the rapid progress of modern biotechnology and emerging technologies, continuous efforts to enhance capacity and guidance for risk assessment, management and communication is essential.

We need to:

- Enhance capacity and guidance for risk assessment, management, and communication for LMOs and their products resulting from modern biotechnology including emerging technologies such as synthetic biology.
- Increase biosafety related research such as environmental impacts and safety studies for LMOs and their products (including locally developed LMOs and those developed from emerging technologies) to strengthen risk assessment, monitoring, and enforcement activities.
- Establish a mechanism for socio-economic impact assessment and integrate socio-economic considerations into relevant decision-making.

Key Indicator:
By 2030, a comprehensive analytical framework is established that incorporates a robust risk assessment, management, and socio-economic considerations in the decision-making process on applications for release of LMOs and their products



GOAL 4

WE HAVE ENSURED THAT BIODIVERSITY IS USED SAFELY AND THE BENEFITS FROM ITS UTILISATION ARE SHARED EQUITABLY

TARGET 15:

BY 2030, A COMPREHENSIVE BIOSAFETY SYSTEM IS OPERATIONAL TO MANAGE POTENTIAL AND ADVERSE IMPACTS OF MODERN BIOTECHNOLOGY ON HUMAN, PLANT AND ANIMAL HEALTH, THE ENVIRONMENT, AND BIOLOGICAL DIVERSITY

ACTION 15.3:

DEVELOP ADEQUATE RESPONSES TO BIOSAFETY EMERGENCIES INVOLVING LMOs AND THEIR PRODUCTS AND A MECHANISM TO ADDRESS LIABILITY AND REDRESS

We must continue to be prepared for biosafety emergencies involving LMOs and their products at all times. This calls for a high level of emergency preparedness that would enable us to implement response measures that prevent, minimise, contain, and mitigate any damage caused directly or indirectly by LMOs and their products. The damage may be the result of unintentional release or illegal release or unforeseen impacts. A legal framework that incorporates liability and redress will further strengthen the implementation of the response measures required.

We need to:

- a. Develop emergency response plans and establish trained emergency response teams to implement response measures that prevent, minimise, contain, and mitigate any damage caused directly or indirectly by LMOs and their products.
- b. Establish a comprehensive framework and strengthen the legislation to include essential elements of liability and redress for damages resulting from the transfer, handling, release, or use of LMOs or their products.
- c. Enhance capacity and guidance to establish a comprehensive framework for liability and redress for any adverse impacts towards the conservation and sustainable use of biological diversity and human health.
- d. Strengthen the cooperation and coordination in relation to implementation of liability and redress related to LMOs.

Key Indicator:
By 2030, a legal framework to address liability and redress for damage caused by LMOs and their products has been established









GOALS, TARGETS AND ACTIONS

GOAL 5 WE HAVE IMPROVED THE CAPACITY, KNOWLEDGE, AND SKILLS OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY



Kilim Geoforest Park, Langkawi, Kedah

Biodiversity conservation requires the collective efforts of all Malaysians. We must continue to ensure that all stakeholders i.e., the government, civil society, IPLCs, and the private sector, have adequate capabilities, knowledge, access to information, tools, and networks to effectively plan, manage, and monitor biodiversity conservation.

In view of the growing challenges of conserving biodiversity amidst economic development, we need to strengthen the capacities of our government agencies. Cross-agency and cross-sectoral capacity building, mainstreaming, as well as interfacing science and policy all need to be strengthened so that this Policy will truly be an effective guidance document in steering biodiversity conservation in the country.

There is also a growing need to develop and strengthen avenues for more sustainable financing and funding for biodiversity conservation across all levels. Both the Federal and State Governments need to find a common ground to allocate budgets for conservation, despite increasing competition for land and land conversion. We also need to find new financing mechanisms to lessen the burdens on the Federal and State Governments. This will require leveraging the private and financial sectors through incentives and sustainable partnerships.

Goal 5 has 2 targets:

- **TARGET 16:**
By 2030, Malaysia's capacity to implement the Policy and other biodiversity conservation agreements has been significantly strengthened
- **TARGET 17:**
By 2030, there is a significant increase in funds and financial incentives for biodiversity conservation from both government and non-government sources



GOAL 5

WE HAVE IMPROVED THE CAPACITY, KNOWLEDGE, AND SKILLS OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 16:

BY 2030, MALAYSIA'S CAPACITY TO IMPLEMENT THE POLICY AND OTHER BIODIVERSITY CONSERVATION AGREEMENTS HAS BEEN SIGNIFICANTLY STRENGTHENED

WHY IS THIS TARGET IMPORTANT?

Managing our biodiversity is a challenging task. It requires a vast amount of people, knowledge, tools, and resources. We need to recognise that various stakeholders have differing capacities to contribute. At the same time, we still need to find means to build their capacities to better implement and coordinate this Policy and support biodiversity conservation in the long run. An efficient, people-centric and forward-looking, and anchored institutional framework remains crucial to enable everyone to realise the aspirations of this Policy.

MEETING THE TARGET

To meet this Target, we need to re-evaluate the present capacities of the key implementors of this Policy. In particular, we need to strengthen our Federal and State government agencies, departments, and units to effectively implement this Policy. Personnel with specific skills will need to be recruited to undertake the continuous and long-term effort of coordinating and planning with various stakeholders across all segments of society. We also need to strengthen the interface between translating science and research outcomes into effective policy actions.



Target 16 has 5 Actions:

- **ACTION 16.1:**
Strengthen coordination and decision-making at the national and state levels
- **ACTION 16.2:**
Improve the capacities of government agencies to conserve biodiversity
- **ACTION 16.3:**
Strengthen the roles of the legislature and judiciary in biodiversity conservation
- **ACTION 16.4:**
Establish and position centres of excellence to coordinate research, management, and capacity building for biodiversity conservation
- **ACTION 16.5:**
Develop biodiversity-related human resource capacities



GOALS, TARGETS AND ACTIONS

GOAL 5

WE HAVE IMPROVED THE CAPACITY, KNOWLEDGE, AND SKILLS OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 16:

BY 2030, MALAYSIA'S CAPACITY TO IMPLEMENT THE POLICY AND OTHER BIODIVERSITY CONSERVATION AGREEMENTS HAS BEEN SIGNIFICANTLY STRENGTHENED

ACTION 16.1: STRENGTHEN COORDINATION AND DECISION-MAKING AT THE NATIONAL AND STATE LEVELS

This Policy provides guidance to all stakeholders on how to conserve our biodiversity. To ensure its effectiveness, continuous coordination, planning, and decision-making have to take place at both the national and state levels. Platforms need to be established for discussions, reporting, and determining future directions to facilitate smooth implementation at the ground level.

We need to:

- a. Revitalise the National Steering Committee for the NPBD as the central platform for progress reporting, priority setting, and policy direction.
- b. Strengthen the NBR as a platform for collaboration, partnerships, and input provision to the National Steering Committee through better representation from the government, civil society, and private sector.
- c. Strengthen the Meeting of Ministers of the Environment (MEXCOE) as a communication platform for discussing biodiversity conservation and forestry matters at the state executive level.
- d. Strengthen the Thematic Working Groups as the main platforms to coordinate the implementation of this Policy and report on the progress of relevant conservation activities.
- e. Establish a framework for Strategic Environmental Assessments of sectoral policies and plans to ensure that impacts on biodiversity are thoroughly evaluated at the national and state levels.
- f. Establish a continuous channel of capacity building and open communication through relevant agencies on matters related to financing, regulation, and synchronisation between the prioritisation of economic and environmental well-being.
- g. Organise an annual National Biodiversity Conference to bring together all stakeholders to discuss progress in the implementation of this Policy, showcase pioneering projects, foster collaboration and celebrate achievements.

Key Indicator:
*By 2030,
biodiversity
conservation has
been embedded
into the national
and state level
decision-making
framework*



Royal Belum State Park, Perak



GOAL 5

WE HAVE IMPROVED THE CAPACITY, KNOWLEDGE, AND SKILLS OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 16:

BY 2030, MALAYSIA'S CAPACITY TO IMPLEMENT THE POLICY AND OTHER BIODIVERSITY CONSERVATION AGREEMENTS HAS BEEN SIGNIFICANTLY STRENGTHENED

ACTION 16.2: IMPROVE THE CAPACITIES OF GOVERNMENT AGENCIES TO CONSERVE BIODIVERSITY

Conserving our biodiversity requires an extensive set of skills and knowledge. Being at the forefront of society, we need to ensure all our government agencies are well equipped to implement this Policy, as well as plan and initiate conservation plans and programmes. Thus, it is important to continue building the capacities of all related government agencies that are directly or indirectly involved in biodiversity conservation. This includes strengthening specific units or departments by increasing personnel to enable better execution of tasks, as well as improving knowledge and skills on biodiversity.

We need to:

- a. Strengthen the capacities of the Ministry in charge of biodiversity and forestry to enhance its role in coordinating and monitoring the implementation of the Policy.
- b. Review existing capacity gaps of Federal and State agencies to determine personnel and resource requirements to facilitate the implementation of the Policy.
- c. Strengthen the portfolios of environment divisions/units of sectoral agencies at both the Federal and State levels to include biodiversity conservation and management aspects.
- d. Enhance the portfolios of the State Economic Planning Divisions/Units to include biodiversity conservation and management matters.
- e. Incorporate a biodiversity conservation module within the National Institute of Public Administration (INTAN) to improve biodiversity awareness amongst civil servants.

Key Indicator:
By 2030, capacity needs have been prioritised and biodiversity-related capacity modules have been utilised

ACTION 16.3: STRENGTHEN THE ROLES OF THE LEGISLATURE AND JUDICIARY IN BIODIVERSITY CONSERVATION

The legislature and judiciary play important roles in supporting biodiversity conservation across the various regions of Malaysia. Legislators and judicial members serve to develop, improve, and enforce relevant laws that help protect our biodiversity. In order for these members to enact their duties effectively, their awareness and understanding of biodiversity must also be strengthened.

We need to:

- a. Establish a biodiversity parliamentary select committee to serve as a forum for members of the House of Representatives and the Senate, as well as other parties to discuss, research, and submit recommendations to the Parliament or its committees.
- b. Support members of the Federal and State legislatures and the judiciary with information and scientific evidence based on the values of biodiversity.
- c. Conduct targeted outreach programmes to improve awareness among the judiciary and public prosecutors about biodiversity-related offences.

Key Indicator:
By 2030, the biodiversity parliamentary select committee is actively providing support for the Parliament and its committees



GOALS, TARGETS AND ACTIONS

GOAL 5

WE HAVE IMPROVED THE CAPACITY, KNOWLEDGE, AND SKILLS OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 16:

BY 2030, MALAYSIA'S CAPACITY TO IMPLEMENT THE POLICY AND OTHER BIODIVERSITY CONSERVATION AGREEMENTS HAS BEEN SIGNIFICANTLY STRENGTHENED

ACTION 16.4: ESTABLISH AND POSITION CENTRES OF EXCELLENCE TO COORDINATE RESEARCH, MANAGEMENT, AND CAPACITY BUILDING FOR BIODIVERSITY CONSERVATION

Effective coordination requires focal platforms, which can come in the form of institutes or centres. Biodiversity centres have been established worldwide to function as a central base to coordinate various activities including research, outreach, and conservation projects and programmes. As such, it is also crucial for Malaysia to have properly functioning centres to enhance biodiversity conservation.

We need to:

- a. Position the MBC as a focal platform for coordinating and managing biodiversity research, as well as conservation projects and programmes.
- b. Develop the capacities of research institutes and universities as a centre for capacity building and developing specific technical capacities needed for biodiversity conservation.
- c. Establish and strengthen other biodiversity centres as additional supporting institutions to champion biodiversity conservation initiatives.

Key Indicator:
*By 2030, the
MBC has been
established and
operational*

ACTION 16.5: DEVELOP BIODIVERSITY-RELATED HUMAN RESOURCE CAPACITIES

Biodiversity conservation necessitates the skills of very specialised experts, such as taxonomy, wildlife veterinary sciences, and botanists. Besides improving the capacities of government agencies, we also need to allocate resources to develop human resources in specialised fields of biodiversity conservation and ecology to ensure that these streams continue to have sufficient human resource.

We need to:

- a. Strengthen biodiversity related employment opportunities as a viable career pathway for graduates across all genders.
- b. Increase the number of biodiversity personnel and specialists in relevant government agencies to support biodiversity conservation initiatives.

Key Indicator:
*By 2030,
biodiversity
conservation-
related careers have
increased compared
to 2024 levels*



GOAL 5

WE HAVE IMPROVED THE CAPACITY, KNOWLEDGE, AND SKILLS OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 17:

BY 2030, THERE IS A SIGNIFICANT INCREASE IN FUNDS AND FINANCIAL INCENTIVES FOR BIODIVERSITY CONSERVATION FROM BOTH GOVERNMENT AND NON-GOVERNMENT SOURCES



WHY IS THIS TARGET IMPORTANT?

A substantial amount of capital and operational expenditure is required to implement and sustain conservation activities, projects, and programmes effectively, including those related to the implementation of this policy. Conventionally, the bulk of these funds are derived from government budget allocations, supported by multilateral technical assistance and grants from private foundations. While there is justification to increase the government budget allocation, the scope for expansion is severely limited as many other sectors also require a greater allocation, especially in the post-COVID-19 economic recovery scenario. Outside of the conventional sources of funding, performance-based green financing mechanisms are yet to be fully explored and developed. Such mechanisms could provide the impetus for greater private-sector participation, and the impetus for area-based conservation, ecosystem restoration and many other activities.

State governments play a key role in biodiversity conservation, since all matters pertaining to land and forest, (with the exception of the Federal Territories of Kuala Lumpur, Putrajaya and Labuan) lie within their legislative purview, as per the Ninth Schedule of the Federal Constitution. As such, State governments must be provided with sufficient financial incentives, including to offset the opportunity costs associated with setting aside land for conservation.

MEETING THE TARGET

Apart from increasing government budget allocations and conventional sources of funding, we need to develop green financing mechanisms and facilitate greater private sector participation, in order to reduce the present shortfalls in conservation financing. In addition, greater incentives and compensation mechanisms need to be developed, to enable State governments to decouple their economies from activities related to the exploitation of natural resources, and offset the opportunity costs associated with area-based conservation.

Target 17 has 3 Actions:

- **ACTION 17.1:**
Increase public funds available for biodiversity conservation
- **ACTION 17.2:**
Mobilise green conservation financing from the private sector
- **ACTION 17.3:**
Diversify the revenue streams of state governments for biodiversity conservation



GOALS, TARGETS AND ACTIONS

GOAL 5

WE HAVE IMPROVED THE CAPACITY, KNOWLEDGE, AND SKILLS OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 17:

BY 2030, THERE IS A SIGNIFICANT INCREASE IN FUNDS AND FINANCIAL INCENTIVES FOR BIODIVERSITY CONSERVATION FROM BOTH GOVERNMENT AND NON-GOVERNMENT SOURCES

ACTION 17.1:

INCREASE PUBLIC FUNDS AVAILABLE FOR BIODIVERSITY CONSERVATION

We need to substantially increase allocations from the public sector in order to implement activities, plans, and programmes effectively, including this policy. This needs to be done in a concerted manner, through sustained engagements with the relevant financial institutions.

We need to:

- a. Engage with the Ministry of Finance, Bank Negara and relevant development financial institutions to develop a financial resource mobilisation plan for biodiversity conservation.
- b. Strengthen the NCTF to enhance its impact, visibility, and sustainability.

Key Indicator:
By 2030, at least RM500 million has been mobilised for biodiversity conservation through annual public funds

ACTION 17.2:

MOBILISE GREEN CONSERVATION FINANCING FROM THE PRIVATE SECTOR

We need to enhance the opportunities available for the private sector to contribute towards conservation financing. We can do this first by facilitating smart partnerships between the private sector and conservation projects, and second by facilitating the development of innovative green financing mechanisms.

We need to:

- a. Establish the policy, legal, and institutional mechanisms necessary to operationalise the REDD Plus Finance Framework (RFF) at the national and/or sub-national levels.
- b. Utilise the RFF to facilitate funding, the ensuring long-term commitment of stakeholders, transparency in conservation, certification of activities, and central reporting.
- c. Provide the technical support necessary for the State governments to pursue REDD Plus and voluntary forest carbon projects.
- d. Establish the legal and financial mechanisms necessary for the implementation of appropriate Payment for Ecosystem Services (PES) schemes in the Malaysian context.
- e. Engage regulators and financial institutions to develop financial instruments which blend commercial and concessional finance to create investment opportunities that revolve around biodiversity and ecosystem services.

Key Indicator:
By 2030, private financing contributions into national / state conservation trust funds have increased



GOAL 5

WE HAVE IMPROVED THE CAPACITY, KNOWLEDGE, AND SKILLS OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 17:

BY 2030, THERE IS A SIGNIFICANT INCREASE IN FUNDS AND FINANCIAL INCENTIVES FOR BIODIVERSITY CONSERVATION FROM BOTH GOVERNMENT AND NON-GOVERNMENT SOURCES

ACTION 17.3:

DIVERSIFY THE REVENUE STREAMS OF STATE GOVERNMENTS FOR BIODIVERSITY CONSERVATION

There is a need to review the revenue streams of State governments to reduce their level of dependency on natural resources and exploitative activities that lead to biodiversity loss, as well as incentivise biodiversity conservation actions. This remains a crucial task since State governments remain the key custodians of biodiversity across the terrestrial, freshwater, and marine realms.

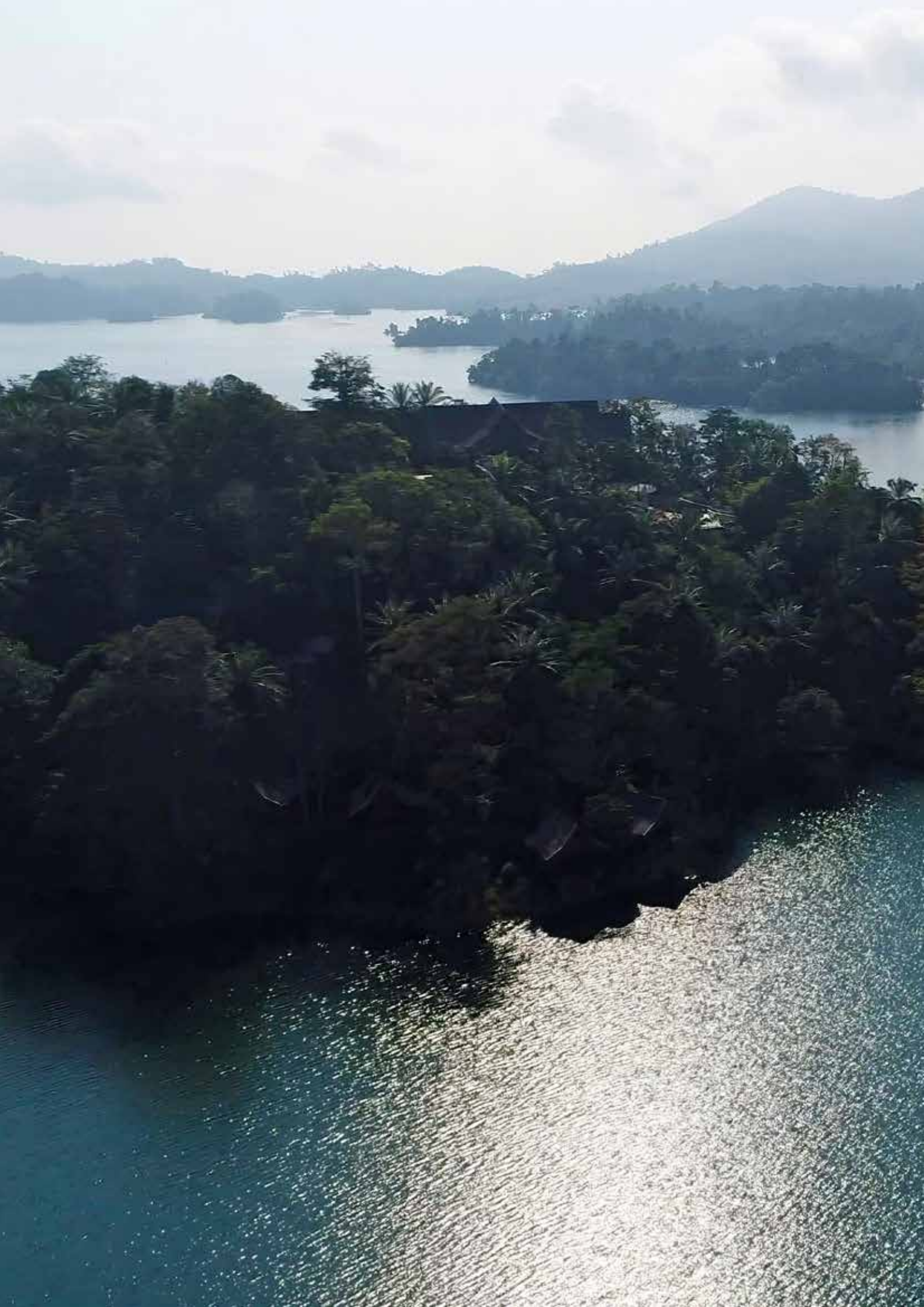
We need to:

- a. Further entrench EFT into legal and institutional frameworks to formalise the mechanism and performance-based criteria.
- b. Study the feasibility of establishing a debt-for-nature swap programme to incentivise conservation actions by State governments.
- c. Re-align the fiscal system to entrench biodiversity conservation and sustainable development as part of the year's budget requirements / allocation.
- d. Encourage State governments to establish their respective sustainable financing task forces, facilitated by Federal institutions and agencies where applicable, to pursue sustainable financing opportunities.
- e. Enhance State government capacities to access international climate funds to pursue biodiversity conservation efforts.

Key Indicator:
By 2030, sustainable financing task forces (or relevant equivalents) have been established in all states and are leveraging on sustainable financing approaches for biodiversity conservation

Batu Punggul, Sabah







SECTION 3 :
IMPLEMENTATION
FRAMEWORK



SECTION 3 : IMPLEMENTATION FRAMEWORK

A RENEWED CALL FOR ACTION

The NPBD 2022-2030 calls for action through a "Whole of Government" and "Whole of Society" approach to protecting and managing Malaysia's biodiversity. As such, political will and continuous engagement of all levels of government and segments of society to be involved in biodiversity conservation will be required. Both the Federal and State Governments will continue to play leading roles in this Policy's implementation. However, wider and stronger partnerships amongst civil society, private sector, IPLCs, academia, and the public remain crucial to ensuring the Policy's success in managing and conserving Malaysia's biodiversity.

ROLES AND RESPONSIBILITIES FOR IMPLEMENTATION

The Policy will continue to provide an implementable framework for stakeholders at all levels. It will continue to inform, guide, empower, and support actions for biodiversity conservation, and will also assist stakeholders in setting out subsequent goals and targets to be achieved. The Policy will also facilitate the identification and formation of partnerships between various stakeholder groups according to their capabilities and circumstances.

In line with the "Whole of Society" approach, the implementation of the Policy will involve various stakeholder groups which have different roles and responsibilities. These roles and responsibilities have been reviewed and redefined for the revised Policy based on the ongoing implementation challenges and lessons learnt in the last four years.

A. FEDERAL GOVERNMENT

The Federal Government will continue to play a leading role in the implementation of this Policy. The Ministry in charge of biodiversity and forestry will continue to function as the lead agency overseeing the Policy's implementation. The core responsibilities of the Ministry are:

- Coordinating the implementation of the Policy among the key Federal ministries;
- Liaising and coordinating the implementation of the Policy's with the State governments;
- Facilitating resource mobilisation for policy implementation;
- Collating the Policy's implementation progress for international and domestic reporting; and
- Supporting the implementation of the State biodiversity plans and strategies.

Coordinating the Policy's implementation is a long-term and continuous process, which requires substantial time and human resource. Given the immense task of coordinating and monitoring the Policy, it is recommended that a dedicated team be established under the Ministry in charge of biodiversity and forestry to monitor the implementation of the Policy, coordinate initiatives, and report on its progress. This team will require qualified personnel with a strong understanding of the technical aspects of biodiversity, Federal-State jurisdictions and the collaborative networks between the government, civil society, academia, and private sector.





IMPLEMENTATION FRAMEWORK

B. STATE GOVERNMENTS

The management of land, water, and forests comes under the jurisdiction of the State Governments and their respective agencies. They are essentially the core implementers of the Policy at the State level.

In order to improve coordination at the State level for the Peninsular Malaysia region, the Policy proposed:

- Expand the portfolios of existing environment units under the State governments (i.e., the State economic planning units/divisions) to include monitoring of biodiversity conservation initiatives and the actions of this Policy;
- Establish biodiversity management units under the State governments to coordinate and monitor state biodiversity conservation initiatives.

The Sabah Biodiversity Centre and Sarawak Ministry of Natural Resources and Urban Development will function as the main coordinating platforms of this Policy for Sabah and Sarawak.

Both alternatives intend to establish focal points for coordination and reporting of the Policy implementation from the State level to the Federal coordinator. This would eventually facilitate better and more regular progress reporting. At the same time, both alternatives will require the recruitment of qualified personnel to serve as focal persons who will oversee the implementation of the Policy at the State level and coordinate initiatives with stakeholders on the ground.

C. PRIVATE SECTOR

The contributions from the private sector towards biodiversity conservation have greatly increased in recent years. As such, they remain key stakeholders to be engaged and partnered with in the implementation of this Policy. The National Biodiversity Roundtable (NBR) is still envisioned as a platform for the private sector to be directly involved in the implementation of the Policy through providing feedback or support in terms of funding, human resources, capacity building and other resources for various actions and activities.

The Policy calls for harnessing the strengths of the private sector through stronger partnerships and more engaging platforms besides the NBR. The role of the MPBB will be strengthened. Besides, the NBR and MPBB platforms, among others will serve as avenues to translate the Policy into collaborative initiatives, as well as reporting on private sector implementation progress. These collaborative platforms are envisioned to be realised through the Thematic Working Groups.

D. CIVIL SOCIETY

Civil society represents another stakeholder group essential to the successful implementation of the Policy. The work by environmental and conservation organisations will still be essential in translating the Policy into meaningful actions, while community-based organisations (CBOs) are well-positioned to facilitate better collaborations with IPLCs enabling more engagement in biodiversity conservation.

The Policy calls for more recognition and support of civil society efforts that are in line with the Policy, as well as the need for working platforms to coordinate efforts and identify implementation gaps and needs. The Thematic Working Groups are also envisioned to function as working platforms for civil society to participate in as part of the Policy's overall implementation.

E. INDIGENOUS PEOPLES AND LOCAL COMMUNITIES

IPLCs have greatly contributed towards biodiversity conservation in recent years. This is mainly through increased efforts to be stewards of ancestral land and urban habitats. The Policy has recognised these efforts and reinforced the need to continue empowering and supporting IPLCs by developing more partnerships and platforms to get them involved in the implementation of this Policy.

F. RESEARCH AND EDUCATION

The research community will continue to provide scientific and technical inputs in the implementation of this Policy. This is to ensure that conservation initiatives and actions are guided by evidence-based for sound justifications. The Thematic Working Groups need to include prominent biodiversity researchers and scientists to facilitate the science-policy interface.

At the same time, educators' involvement in the Thematic Working Groups (e.g., on the involvement of children and youth) as part of the implementation of the Policy needs to be highlighted and strengthened. Educators like teachers and lecturers, are vital assets to increasing the general public's awareness of Malaysia's biodiversity through curriculum and experiential learning.

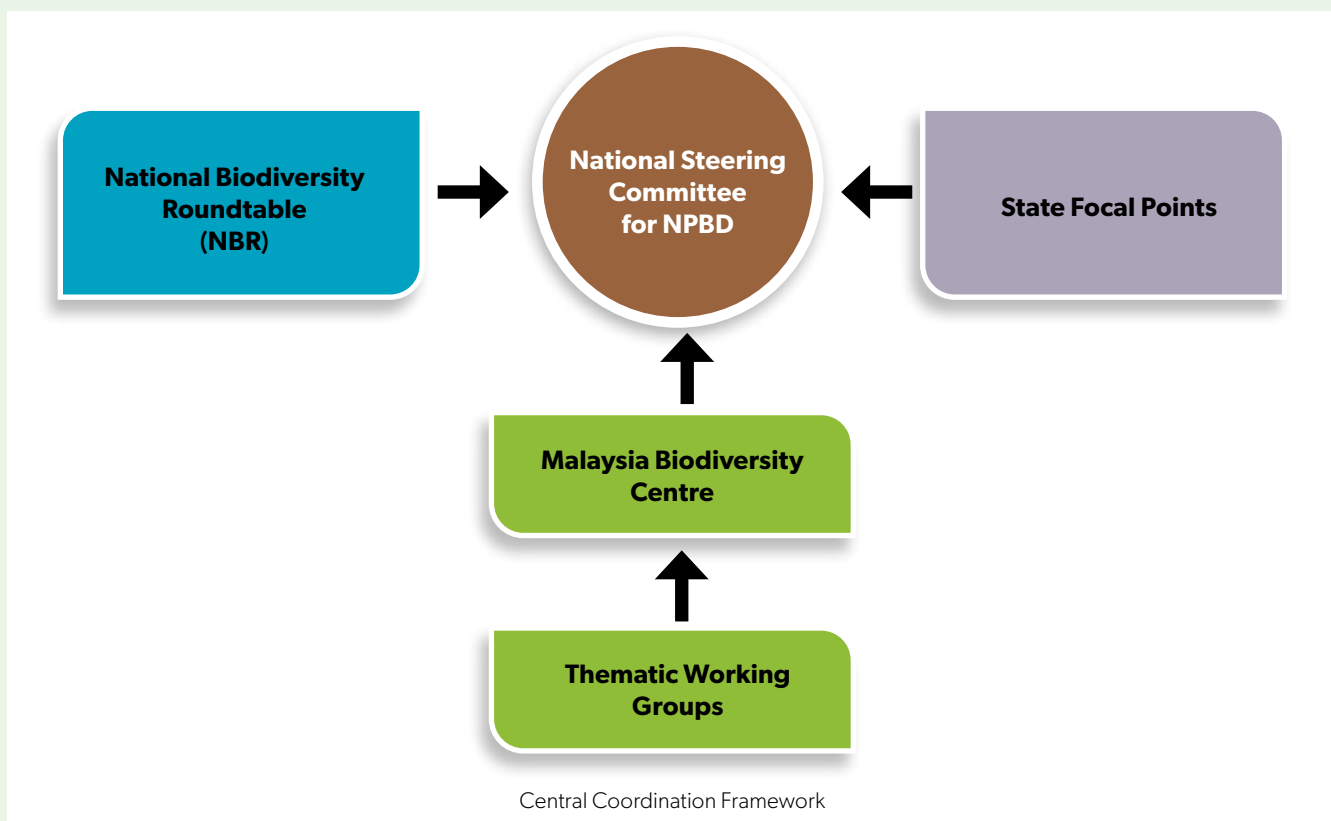
G. GENERAL PUBLIC

The public at large remains an important component in ensuring the effectiveness of this Policy, as well as contributing towards biodiversity conservation collectively. CEPA remains crucial to enlightening and empowering Malaysians on sustainable living and reducing ecological footprints, as well as supporting conservation efforts, through volunteerism or becoming local champions of conservation.



COORDINATING PLATFORMS

To improve the effectiveness of the Policy's implementation, the coordinating platforms have been revised to provide a sense of stability, especially in the event of the restructuring of Federal and State agencies as follows:



- i. The National Steering Committee for the NPBD will remain the central platform in terms of implementation progress reporting and facilitating discussions on biodiversity conservation and management initiatives and strategies. The Committee will be chaired by the Secretary General of the Ministry in charge of biodiversity and forestry, with the participation of relevant ministries and agencies as its members.
 - The State Focal Points will provide inputs in reporting the Policy's progress at the State levels.
 - For the Peninsular Malaysia, the focal points are the State Economic Planning Units/Divisions;
 - The Sabah Biodiversity Centre will represent Sabah; and
 - The Ministry of Natural Resources and Urban Development (MUDeNR) will represent Sarawak.
 - ii. The NBR and State Focal Points will provide technical support and advise to the National Steering Committee for the NPBD;
 - The NBR will continue to serve as a platform for partnerships between all stakeholders to implement the Policy action while providing updates and technical inputs to the National Steering Committee.
 - The State Biodiversity Units (UPENs and BPENs) for the Peninsular Malaysia are proposed to be established as specialised units under the State government offices.
- Both the NBR and State Focal Points will assume the core functions of the State Steering Committees.



IMPLEMENTATION FRAMEWORK

- iii. The lowest coordinating tier comprises the Thematic Working Groups and the MBC. These two platforms are proposed to function as the root platforms for monitoring the Policy's implementation.

There is already a plethora of working groups and platforms coordinating different types of conservation initiatives. Therefore, the proposed division of Thematic Working Groups into various thematic areas aims to provide a more coordinated approach collating progress information. Simultaneously, it will enhance the Ministry in charge of Biodiversity and Forestry role in coordinating the Policy's implementation through targeted streams.

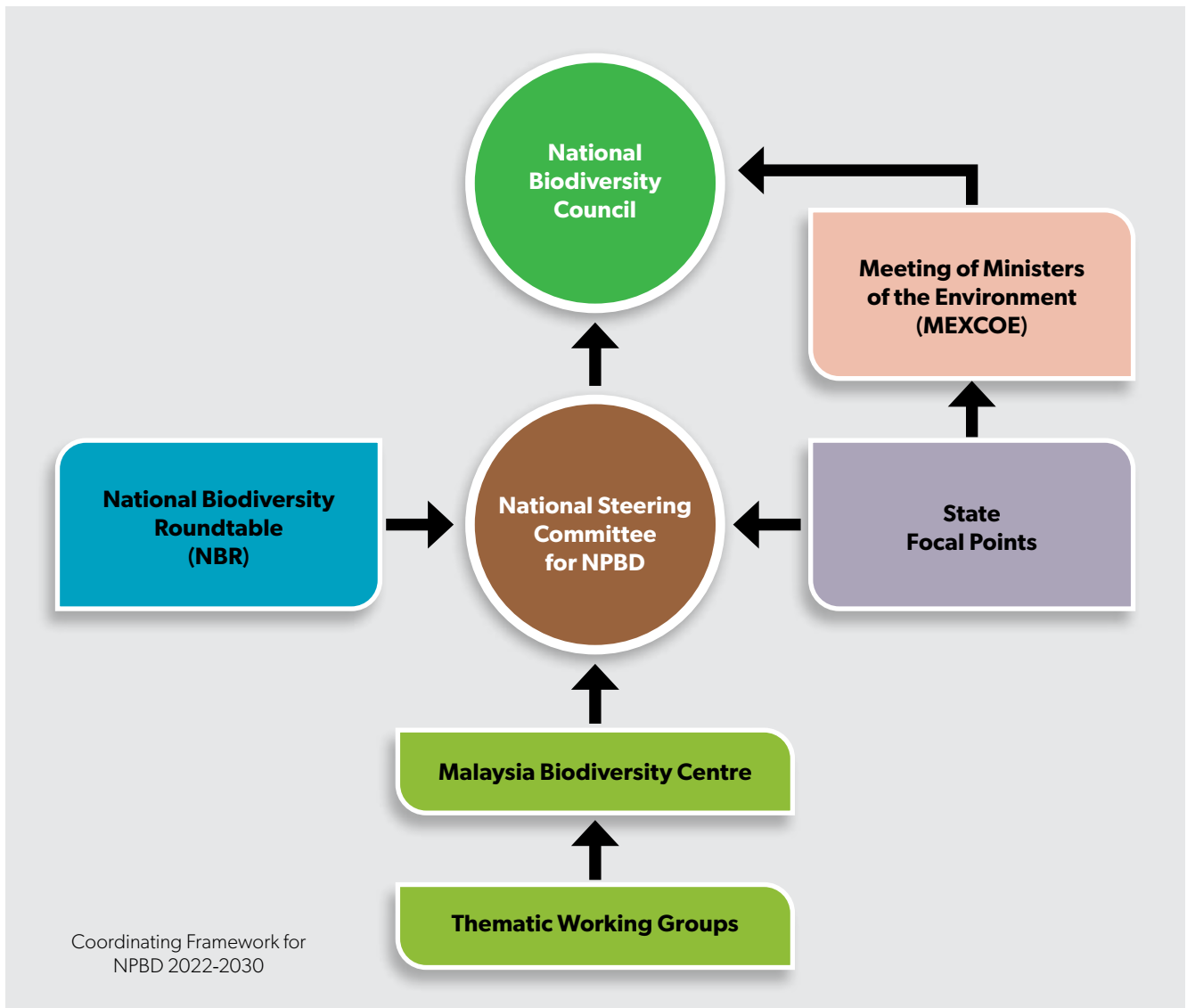
The Working Groups are envisioned to comprise representatives from the private sector, academia, NGOs, CBOs, and government agencies that are involved in programmes, projects, and initiatives relevant to the specific thematic area. Each Working Group will be co-chaired by the Ministry in charge of biodiversity and forestry and selected members from the National Steering Committee, and they are encouraged to meet regularly to discuss progress and coordinate future efforts that are in line with the Policy.

Additionally, the MBC will serve as a centre for monitoring progress and reporting. More specifically, the MBC will play a role in collating long-term research outputs and disseminating them among key stakeholders for decision-making. The MBC will also be another focal

platform for coordinating large scale conservation initiatives and providing periodic progress reports to the higher coordinating platforms. The National Biodiversity Council (NBC) will serve as the highest coordinating platform for high-level coordination and reporting. The NBC will be chaired by the Deputy Prime Minister with members including the respective Federal Ministers related to the environment and biodiversity portfolio and State Menteri Besar/Chief Ministers. The NBC is envisaged to serve as the key platform for strengthening national biodiversity conservation policies and strategies and to oversee the implementation of the NPBD. At the same time, biodiversity-related matters can be discussed at multi-national platforms such as the National Land Council, the National Physical Planning Council, the Environmental Quality Council, the National Development Planning Committee (Jawatankuasa Perancangan Pembangunan Negara) etc. to further mainstream biodiversity into various high-level planning councils and committees. This can improve implementation as well as initiate more conservation projects to support the Policy.

The MEXCOE will be used to facilitate communications between the Federal and State government representatives in charge of natural resources. This meeting will be chaired by the Minister in charge of environment, with members including the respective Ministers responsible for the environment/biodiversity portfolios in Sabah and Sarawak, and their State EXCO counterparts from Peninsular Malaysia.





MONITORING PROGRESS

Monitoring the Policy's continued implementation needs to be done in a more coordinated manner to reduce reporting gaps and leverage on success stories more frequently. An online monitoring system will be used to monitor the targets and indicators of the Policy and the progress of the NPBD 2022-2030 which will be reported every four years to the CBD.

A National Biodiversity Conference is to be organised annually as a platform to bring together all stakeholder groups across Malaysia to discuss the implementation progress of the Policy, while also providing avenues to showcase pioneering projects, foster more collaborations between groups, and recognise and celebrate achievements in biodiversity conservation. The Thematic Working Groups can utilise this annual conference as their annual general meetings, conducting Working Group sessions concurrently during the Conference, or before its official commencement.

The conclusion of the Conference should identify key areas to focus on in the following year, which will be the thematic focus of the subsequent Conference. The progress reports from the Thematic Working Group meetings, as well as lessons learned from projects that are being implemented will be collated systematically by the Ministry in charge of biodiversity and forestry to be reported in the country's subsequent National Report to the CBD, as well as for public awareness.



IMPLEMENTATION FRAMEWORK

REVIEWING THE POLICY

The Policy is to be reviewed every four or five years of its implementation, taking into account the policy's achievements and priorities at the national, state and the global levels, complementing Malaysia's national development plans and national reporting commitments to the CBD, providing implementation updates, and providing directions towards revising the targets and actions of the Policy.

IMPLEMENTATION SUPPORT AND OUTREACH

The Biodiversity Implementation Support (BIS) will help the Ministry in charge of biodiversity and forestry in rolling out the Policy.

The main intended outcomes of the BIS are:

- (i) various elements of the Policy are implemented at the State level;
- (ii) improved mainstreaming of national policy into state development programmes and plans;
- (iii) improved monitoring of policy implementation at both national and state levels; and
- (iv) enhanced awareness and knowledge about the policy amongst the government agencies, civil society, private sector, and the local communities.

These initiatives will be designed to facilitate the implementation of the Policy as well as harnessing the commitment and support of all stakeholders. This includes roadshows and dialogues in various states and economic sectors.

Royal Belum State Park, Perak







IMPLEMENTING AGENCY

GOAL 1

WE HAVE EMPOWERED & HARNESSED THE COMMITMENT OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 1:

BY 2030, MORE MALAYSIANS ARE AWARE OF THE VALUES OF BIODIVERSITY AND THE STEPS THEY CAN TAKE TO CONSERVE AND USE IT SUSTAINABLY

	Action	Lead Agency	Key Partners
1.1	Enhance biodiversity consciousness across all segments of society	Ministry in charge of biodiversity and forestry	MBC, DOE, JKM, DOSM, State's Agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector
1.2	Ingrain biodiversity consciousness within children and youth		Ministry in charge of education, Ministry in charge of youth and sports, Ministry in charge of rural and regional development, MBC, JPSM, DWNP, DOE, FRIM, State's Agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector

TARGET 2:

BY 2030, THE ROLES OF INDIGENOUS PEOPLES AND LOCAL COMMUNITIES, CIVIL SOCIETY, THE PRIVATE SECTOR, AND ACADEMIA IN BIODIVERSITY CONSERVATION HAVE BEEN STRENGTHENED SIGNIFICANTLY

	Action	Lead Agency	Key Partners
2.1	Empower and support indigenous peoples and local communities	Ministry in charge of biodiversity and forestry	JAKOA, DWNP, JPSM, State's Agencies in charge of biodiversity and IPLCs, IPTA/IPTS & CSOs/NGOs
2.2	Develop long-term partnerships with civil society		MBC & CSOs/NGOs
2.3	Harness the strength of the private sector		MBC & Private sector
2.4	Enhance stakeholder participation in the decision-making process		MBC, CSOs/NGOs & Private sector
2.5	Strengthen collaborations with the academic community		MBC & IPTA/IPTS

*For departments/agencies not under the purview of this ministry, any inputs or feedbacks will first go through their respective ministries.

**State focal points refer to State's Economic Planning Unit/Division in Peninsular Malaysia, Sabah Biodiversity Centre (SaBC) in Sabah and Ministry of Natural Resources and Urban Development (MUDeNR) in Sarawak.



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 3:

BY 2030, TERRESTRIAL AND MARINE SPATIAL PLANNING FULLY INCORPORATE ELEMENTS OF BIODIVERSITY CONSERVATION

Action		Lead Agency	Key Partners
3.1	Strengthen biodiversity conservation elements in national, state, and local development plans	Ministry in charge of biodiversity and forestry	MBC, DOE, JKM, DOSM, PLANMalaysia, State's Agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector
3.2	Enhance urban biodiversity conservation		Ministry in charge of education, Ministry in charge of youth and sports, Ministry in charge of rural and regional development, MBC, JPSM, DWNP, DOE, FRIM, PLANMalaysia, State's Agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector

TARGET 4:

BY 2030, BIODIVERSITY CONSERVATION HAS BEEN EFFECTIVELY MAINSTREAMED INTO DEVELOPMENT FRAMEWORKS

Action		Lead Agency	Key Partners
4.1	Strengthen safeguards for biodiversity through the financial sector	Ministry in charge of finance	Ministry in charge of economy, JAKOA, DWNP, JPSM, State's Agencies in charge of biodiversity and IPLCs, IPTA/IPTS, CSOs/NGOs & Bursa Malaysia
4.2	Incorporate biodiversity conservation principles into the infrastructure, commercial, industrial, energy, and health sectors	Ministry in charge of biodiversity and forestry	MBC & Private sector
4.3	Strengthen biodiversity assessment and monitoring processes during project development planning		MBC & Private sector
4.4	Strengthen pollution monitoring and regulation to protect freshwater and marine ecosystems	Ministry in charge of agriculture and food security	MBC, DOE, DOF, PLANMalaysia, CSOs/NGOs & Private sector
4.5	Strengthen safeguards to minimise pressures from mining developments	Ministry in charge of biodiversity and forestry	JMG, JPSM & CSOs/NGOs
4.6	Strengthen sustainable consumption and production to support biodiversity conservation	Ministry in charge of economy	Ministry in charge of biodiversity and forestry, Ministry in charge of finance, State focal point, CSOs/NGOs & Private sector

*For departments/agencies not under the purview of this ministry, any inputs or feedbacks will first go through their respective ministries.

**State focal points refer to State's Economic Planning Unit/Division in Peninsular Malaysia, Sabah Biodiversity Centre (SaBC) in Sabah and Ministry of Natural Resources and Urban Development (MUDeNR) in Sarawak.



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 5:

BY 2030, OUR FOREST GOVERNANCE AND MANAGEMENT HAS BEEN STRENGTHENED FOR BIODIVERSITY CONSERVATION

	Action	Lead Agency	Key Partners
5.1	Strengthen forest governance and regulations	Ministry in charge of biodiversity and forestry	Ministry in charge of plantation and commodities, JPSM, FRIM & State's Agencies in charge of forestry
5.2	Enhance sustainable forest management		Ministry in charge of plantation and commodities, JPSM, FRIM, State's Agencies in charge of forestry & MTCC
5.3	Leverage on technology to enhance forest monitoring and reporting		Ministry in charge of plantation and commodities, JPSM, FRIM & State's Agencies in charge of forestry

TARGET 6:

BY 2030, OUR AGROFOOD, AGRICOMMODITY, AND FISHERIES PRODUCTION ARE MANAGED AND HARVESTED SUSTAINABLY

	Action	Lead Agency	Key Partners
6.1	Strengthen sustainable agrofood and agricommodity practices	Ministry in charge of agriculture and food security	Ministry in charge of biodiversity dan forestry, DOA, MARDI, MPOB, MPOCC, IPTA/IPTS & CSOs/NGOs
6.2	Reduce the impact of fisheries on marine and coastal biodiversity		DOF, IPTA/IPTS, CSOs/NGOs & Private sector
6.3	Strengthen aquaculture planning and management		DOF, DOA, State focal points, & IPTA/IPTS
6.4	Strengthen genetic diversity conservation of cultivated plants, farmed and domesticated animals, and their wild relatives		Ministry in charge of biodiversity dan forestry, JBK, DVS, DOF, DOA, MARDI & IPTA/IPTS

*For departments/agencies not under the purview of this ministry, any inputs or feedbacks will first go through their respective ministries.

**State focal points refer to State's Economic Planning Unit/Division in Peninsular Malaysia, Sabah Biodiversity Centre (SaBC) in Sabah and Ministry of Natural Resources and Urban Development (MUDeNR) in Sarawak.



GOAL 2

WE HAVE SIGNIFICANTLY REDUCED THE DIRECT AND INDIRECT PRESSURES ON BIODIVERSITY

TARGET 7:

BY 2030, THE SYNERGIES BETWEEN TOURISM AND CONSERVATION ARE FULLY REALISED

	Action	Lead Agency	Key Partners
7.1	Promote tourism development that supports biodiversity conservation	Ministry in charge of tourism	Ministry in charge of biodiversity and forestry, Department of National Heritage, State focal points, CSOs/NGOs & IPTA/IPTS
7.2	Facilitate sustainable tourism certification		JPSM & IPTA/IPTS
7.3	Promote community-based tourism and voluntourism		Ministry in charge of youth and sports, Ministry in charge of rural and regional development, JPSM, JAKOA, Department of National Heritage, IPTA/IPTS & CSOs/NGOs

*For departments/agencies not under the purview of this ministry, any inputs or feedbacks will first go through their respective ministries.

**State focal points refer to State's Economic Planning Unit/Division in Peninsular Malaysia, Sabah Biodiversity Centre (SaBC) in Sabah and Ministry of Natural Resources and Urban Development (MUDeNR) in Sarawak.



GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 8:

BY 2030, AT LEAST 20% OF TERRESTRIAL AREAS AND INLAND WATERS, AND 10% OF COASTAL AND MARINE AREAS ARE CONSERVED THROUGH AN EFFECTIVELY MANAGED AND ECOLOGICALLY REPRESENTATIVE SYSTEM OF PROTECTED AREAS AND OECS

Action	Lead Agency	Key Partners
8.1 Strengthen and streamline governance of our protected areas	Ministry in charge of biodiversity and forestry	MBC, DOE, JKM, DOSM, State focal points, State's Agencies in charge of biodiversity and protected areas, IPTA/IPTS, CSOs/NGOs & Private sector
8.2 Enhance management effectiveness of our protected areas		Ministry in charge of education, Ministry in charge of youth and sports, Ministry in charge of rural and regional development, MBC, JPSM, DWNP, DOE, FRIM, State focal points, State's Agencies in charge of biodiversity and protected areas, IPTA/IPTS, CSOs/NGOs & Private sector
8.3 Expand the extent and ecological representativeness of our protected area network		JPSM, DWNP, DOF, State focal points, State's Agencies in charge of biodiversity and protected areas, CSOs/NGOs & Private sector
8.4 Identify and recognise other effective area-based conservation measures		
8.5 Increase areas of global importance for biodiversity conservation		

TARGET 9:

BY 2030, THREATENED NATURAL ECOSYSTEMS ARE SUSTAINABLY MANAGED AND DEGRADED ECOSYSTEMS ARE RESTORED

Action	Lead Agency	Key Partners
9.1 Develop ecosystem mapping and vulnerability classification capabilities	Ministry in charge of biodiversity and forestry	MBC, JPSM, FRIM, DOE, PLANMalaysia, State focal points & Private sector
9.2 Restore degraded ecosystems		MBC, JPSM, FRIM, State focal points, State's agencies in charge of biodiversity, CSOs/NGOs & Private sector
9.3 Maintain and enhance ecosystem resilience to disturbance		JPSM, DWNP, FRIM, State focal points, State's agencies in charge of biodiversity & CSOs/NGOs

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GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 10:

BY 2030, IMPORTANT ECOLOGICAL CORRIDORS HAVE BEEN SECURED AND ECOSYSTEM RESILIENCE IS ENHANCED ACROSS TERRESTRIAL, FRESHWATER, AND MARINE REALMS

Action		Lead Agency	Key Partners
10.1	Strengthen the implementation of the Central Forest Spine (CFS) Master Plan in Peninsular Malaysia	Ministry in charge of biodiversity and forestry	JPSM, DWNP, FRIM, PLANMalaysia, State focal points, State's agencies in charge of biodiversity and forestry, IPTA/IPTS, CSOs/NGOs & Private sector
10.2	Strengthen terrestrial connectivity in Sabah and Sarawak	MUDeNR & KePKAS	Ministry in charge of biodiversity and forestry, State focal points, State's agencies in charge of biodiversity and forestry, IPTA/IPTS, CSOs/NGOs & Private sector
10.3	Strengthen marine ecological connectivity	Ministry in charge of agriculture and food security	Ministry in charge of biodiversity and forestry, DOF, State focal points, State's agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector

TARGET 11:

BY 2030, TARGETED MANAGEMENT ACTIONS ARE IN PLACE TO ENABLE THE RECOVERY OF THREATENED SPECIES

Action		Lead Agency	Key Partners
11.1	Implement targeted, science-led actions for species conservation	Ministry in charge of biodiversity and forestry	Ministry in charge of agriculture and food security, Ministry in charge of science and technology, JPSM, DWNP, FRIM, DOF, State's agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector
11.2	Adopt a metapopulation approach for our most threatened species		Ministry in charge of agriculture and food security, JPSM, DWNP, FRIM, DOF, State focal points, State's agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector
11.3	Enhance technical capacity for ex-situ conservation		JPSM, DWNP, FRIM, DOF, State focal points, State's agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector
11.4	Adopt scientific and co-existence approaches to address human-wildlife conflicts		Ministry in charge of plantation and commodities, DWNP, JKR, State focal points, State's agencies in charge of biodiversity and protected areas, IPTA/IPTS, CSOs/NGOs & Private sector
11.5	Strengthen conservation of migratory species		DWNP, DOF, State focal points, State's agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector

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GOAL 3

WE HAVE SAFEGUARDED ALL OUR KEY ECOSYSTEMS, SPECIES, AND GENETIC DIVERSITY

TARGET 12:

BY 2030, POACHING, ILLEGAL HARVESTING, AND ILLEGAL TRADE OF FLORA AND FAUNA ARE MINIMISED OR SIGNIFICANTLY REDUCED

Action		Lead Agency	Key Partners
12.1	Combat poaching and illegal harvesting of wild flora and fauna	Ministry in charge of biodiversity and forestry	Ministry in charge of agriculture and food security, DWNP, JPSM, DOF, PDRM, ATM, KASTAM, MAQIS, JAKOA, State's agencies in charge of protected areas, CSOs/NGOs & Private sector
12.2	Combat illegal trade of wild flora and fauna		Ministry in charge of agriculture and food security, DWNP, JPSM, DOF, PDRM, ATM, KASTAM, MAQIS, JAKOA, CSOs/NGOs & Private sector
12.3	Reduce demand through public outreach and behavioural change		Ministry in charge of rural and regional development, DWNP, JPSM, DOF, JAKOA, IPTA/IPTS, CSOs/NGOs & Private sector
12.4	Strengthen legislation and institutional arrangements for species protection		AGC, Ministry in charge of agriculture and food security, DWNP, JPSM, DOF, CSOs/NGOs & Private sector

TARGET 13:

BY 2030, MEASURES ARE IN PLACE FOR THE PREVENTION, ERADICATION, CONTAINMENT AND CONTROL INVASIVE ALIEN SPECIES

Action		Lead Agency	Key Partners
13.1	Improve understanding and public awareness of IAS	Ministry in charge of agriculture and food security	Ministry in charge of biodiversity and forestry, MBC, DWNP, DOF, DOA, DVS, IPTA/IPTS, CSOs/NGOs & State's agencies in charge of flora and fauna in Sabah and Sarawak
13.2	Initiate response plans to contain and eradicate IAS		Ministry in charge of biodiversity and forestry, DWNP, KASTAM, MAQIS, DOF, DOA, DVS, IPTA/IPTS, CSOs/NGO & State's agencies in charge of flora and fauna in Sabah and Sarawak
13.3	Control and prevent the entry and release of IAS		Ministry in charge of biodiversity and forestry, DWNP, DOF, DOA, DVS, KASTAM, MAQIS & State's agencies in charge of flora and fauna in Sabah and Sarawak

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GOAL 4

WE HAVE ENSURED THAT BIODIVERSITY IS USED SAFELY AND THE BENEFITS FROM ITS UTILISATION ARE SHARED EQUITABLY

TARGET 14:

BY 2030, MALAYSIA HAS ENHANCED ITS CAPACITY TO IMPLEMENT THE ACCESS-BENEFIT SHARING (ABS) FRAMEWORK TO REALISE THE FAIR AND EQUITABLE SHARING OF BENEFITS ARISING FROM THEIR UTILISATION

Action		Lead Agency	Key Partners
14.1	Enhance awareness and capacities to implement ABS	Ministry in charge of biodiversity and forestry	Ministry in charge of science and technology, MBC, JPSM, DWNP, FRIM, JAKOA, MAQIS, MyIPO, State focal points, State's Agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector
14.2	Document and protect the traditional knowledge, innovations, and practices of indigenous and local communities		Ministry in charge of education, Ministry in charge of youth and sports, Ministry in charge of rural and regional development, MBC, JPSM, DWNP, JAKOA, FRIM, MyIPO, State's Agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector

TARGET 15:

BY 2030, A COMPREHENSIVE BIOSAFETY SYSTEM IS OPERATIONAL TO MANAGE POTENTIAL AND ADVERSE IMPACTS OF MODERN BIOTECHNOLOGY ON HUMAN, PLANT AND ANIMAL HEALTH, THE ENVIRONMENT, AND BIOLOGICAL DIVERSITY

Action		Lead Agency	Key Partners
15.1	Strengthen enforcement inspection and biosafety compliance	Ministry in charge of biodiversity and forestry	JBK, DWNP, JPSM, MAQIS, JAKOA, State's Agencies in charge of biodiversity and IPLCs, IPTA/IPTS & CSOs/NGOs
15.2	Strengthen impact assessment of Living-Modified Organisms (LMOs) and their products on human, plant and animal health, the environment, and biological diversity		MBC, JBK & CSOs/NGOs
15.3	Develop adequate responses to biosafety emergencies involving Living-Modified Organisms (LMOs) and their products and mechanisms to address liability and redress		MBC, JBK & Private sector

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GOAL 5

WE HAVE IMPROVED THE CAPACITY, KNOWLEDGE, AND SKILLS OF ALL STAKEHOLDERS TO CONSERVE BIODIVERSITY

TARGET 16:

BY 2030, MALAYSIA'S CAPACITY TO IMPLEMENT THE POLICY AND OTHER BIODIVERSITY CONSERVATION AGREEMENTS HAS BEEN SIGNIFICANTLY STRENGTHENED

Action		Lead Agency	Key Partners
16.1	Strengthen coordination and decision-making at the national and state levels	Ministry in charge of biodiversity and forestry	MBC, DOE, JKM, DOSM, State focal points, State's Agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector
16.2	Improve the capacities of government agencies to conserve biodiversity		Ministry in charge of education, Ministry in charge of youth and sports, Ministry in charge of rural and regional development, MBC, JPSM, DWNP, DOE, FRIM, State focal points, State's Agencies in charge of biodiversity, IPTA/IPTS, CSOs/NGOs & Private sector
16.3	Strengthen the roles of the legislature and judiciary in biodiversity conservation		AGC, Ministry in charge of agriculture and food security & State focal points
16.4	Establish and position centres of excellence to coordinate research, management, and capacity building for biodiversity conservation		MBC, State focal points, State's agencies in charge of biodiversity & IPTA/IPTS
16.5	Develop biodiversity-related human resource capacities		MBC, JPA & IPTA/IPTS

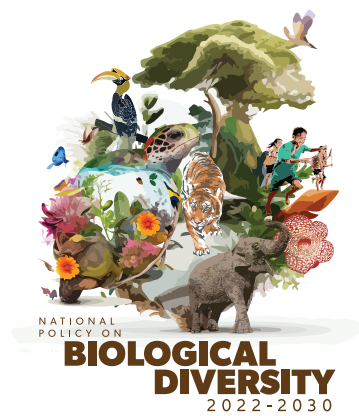
TARGET 17:

BY 2030, THERE IS A SIGNIFICANT INCREASE IN FUNDS AND FINANCIAL INCENTIVES FOR BIODIVERSITY CONSERVATION FROM BOTH GOVERNMENT AND NON-GOVERNMENT SOURCES

Action		Lead Agency	Key Partners
17.1	Increase public funds available for biodiversity conservation	Ministry in charge of biodiversity and forestry	Ministry in charge of finance, MBC, CSOs/NGOs, Bursa Malaysia, Bank Negara & Private sector
17.2	Mobilise green conservation financing from the private sector		Ministry in charge of economy, Ministry in charge of finance, Ministry in charge of plantation and commodities, Bursa Malaysia, & Private sector
17.3	Diversify the revenue streams of state governments for biodiversity conservation	Ministry in charge of finance	Ministry in charge of economy, Ministry in charge of biodiversity and forestry, CSOs, NGOs & Private sector

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This policy is prepared by the Ministry of Natural Resources
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